2004

Missouri MC+ Managed Care Program

External Quality Review

Report of Findings

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TABLE OF CONTENTS

LIST OF ACRONYMS VII
GLOSSARY AND OPERATIONAL DEFINITIONS IX
LIST OF TABLES XII
LIST OF FIGURES XIV
EXECUTIVE SUMMARY 1
Introduction 1
Preparation for the 2004 External Quality Review 2
Preparation with the State Medicaid Agency 2
Preparation of MC+ MCOs 3
Development of Worksheets, Tools, and Rating Criteria 4
Validation of Performance Improvement Projects 5
Strengths 6
Areas for Improvement 6
Recommendations 7
Validation of Performance Measures 7
Strengths 8
Areas for Improvement 8
Recommendations 9
Encounter Data Validation 10
Strengths 11
Areas for Improvement 11
Recommendations 12
MC+ MCO Compliance with Managed Care Regulations 12
Strengths 13
Areas for Improvement 13
Recommendations 14
SECTION ONE: VALIDATION OF PERFORMANCE IMPROVEMENT PROJECTS 15
Definition 15
Purpose and Objectives 16
Technical Methods 16
Time Frame and Selection 17
Preparation of MC+ MCOs 17
Procedures for Data Collection 17
Analysis 19
Findings 20
Step 1: Selected Study Topics 20
Step 2: Study Questions 21
Step 3: Study Indicators 23
Step 4: Study Populations 23
Step 5: Sampling Methods 24
Step 6: Data Collection Procedures 24
Step 7: Improvement Strategies 25
Step 8: Data Analysis and Interpretation of Study Results 25
Step 9: Validity of Improvement 25
Step 10: Sustained Improvement 26
Statewide Performance Improvement Project 28
Conclusions 29
Strengths 29
Areas for Improvement 30
Recommendations 30
SECTION TWO: VALIDATION OF PERFORMANCE MEASURES 31

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Definition **31**
Purpose and Objectives **31**
Technical Methods **31**
HEDIS 2004 Adolescent Immunization Status, Combination #1 32
HEDIS 2004 Adolescent Well-Care Visits 33
HEDIS 2004 Use of Appropriate Medications for People with Asthma 34
Methods of Calculating Performance Measures 35
Time Frame 36
Procedures for Data Collection 36
Findings **47**
HEDIS 2004 Adolescent Immunization Status, Combination #1 49
HEDIS 2004 Adolescent Well-Care Visits 67
Submission of measures to the State 84
HEDIS 2004 Use of appropriate Medication for People with Asthma 88
Conclusions **103**
Strengths 103
Areas for Improvement 104
Recommendations 105
SECTION THREE: VALIDATION OF ENCOUNTER DATA 108
Definition **108**
Purpose and Objectives **108**
Technical Methods **110**
Time Frame 110
Procedures for Data Collection 110
Analyses 112
Findings 114
Conclusions 137
SECTION FOUR: MC+ MCO COMPLIANCE WITH MANAGED CARE REGULATIONS 141
Purpose and Objectives **141**
Technical Methods **141**
Planning Compliance Monitoring Activities 141
Obtaining background information from the State Medicaid Agency 143
Document review 144
Conducting Interviews 144
Collecting Accessory Information 145
Analyzing and Compiling Findings 145
Reporting to the State Medicaid Agency 145
Compliance ratings 145
Findings **146**
Enrollee Rights and Protections 146
Quality Assessment and Performance Improvement: Structure and Operation Standards 153
Quality Assessment and Performance Improvement: Measurement and Improvement 156
Grievance Systems 159
Follow-Up **161**
Conclusions **163**
Strengths 163
Areas for Improvement 164
Recommendations 166

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COMMUNITY CARE PLUS 167
Performance Improvement Projects 167
Methods 167
Findings 168
Strengths 171
Areas for Improvement 172
Recommendations 172
Validation of Performance Measures 173
Methods 173
Findings 173
Strengths 178
Areas for Improvement 179
Recommendations 179
Validation of Encounter Data 180
Findings 180
Strengths 185
Areas for Improvement 186
Recommendations 186
MCO Compliance with Managed Care Regulations 186
Methods 186
Findings 188
Strengths 194
Areas for Improvement 194
Recommendations 195
MERCY HEALTH PLAN 197
Performance Improvement Projects 197
Methods 197
Findings 198
Strengths 202
Areas for Improvement 202
Recommendations 202
Validation Of Performance Measures 203
Methods 203
Findings 204
Strengths 209
Areas for Improvement 209
Recommendations 210
Validation of Encounter Data 210
Findings 210
Strengths 216
Areas for Improvement 216
Recommendations 216
MCO Compliance with Managed Care Regulations 217
Methods 217
Findings 219
Strengths 224
Areas for Improvement 225
Recommendations 225
HEALTHCARE USA 227
Performance Improvement Projects 227
Methods 227
Findings 228
Strengths 231
Areas for Improvement 232
Validation Of Performance Measures 232

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Methods 232
Findings 233
Strengths 237
Areas for Improvement 238
Recommendations 238
Validation of Encounter Data 239
Findings 239
Strengths 244
Areas for Improvement 244
Recommendations 245
MCO Compliance with Managed Care Regulations 245
Methods 245
Findings 246
Strengths 252
Areas for Improvement 252
Recommendations 253
MISSOURI CARE 254
Performance Improvement Projects 254
Methods 254
Findings 255
Strengths 259
Areas for Improvement 259
Recommendations 260
Validation Of Performance Measures 260
Methods 260
Findings 261
Strengths 266
Areas for Improvement 266
Recommendations 267
Validation of Encounter Data 267
Findings 267
Strengths 273
Areas for Improvement 273
Recommendations 273
MCO Compliance with Managed Care Regulations 274
Methods 274
Findings 275
Strengths 280
Areas for Improvement 281
Recommendations 281
FAMILY HEALTH PARTNERS 282
Performance Improvement Projects 282
Methods 282
Findings 283
Strengths 288
Areas for Improvement 288
Recommendations 288
Validation Of Performance Measures 289
Methods 289
Findings 290
Strengths 295
Areas for Improvement 296
Recommendations 296
Validation of Encounter Data 296
Findings 296

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Strengths 303
Areas for Improvement 303
Recommendations 304
MCO Compliance with Managed Care Regulations 304
Methods 304
Findings 305
Strengths 311
Areas for Improvement 312
Recommendations 312
FIRSTGUARD 313
Performance Improvement Projects 313
Methods 313
Findings 314
Strengths 317
Areas for Improvement 317
Recommendations 317
Validation Of Performance Measures 318
Methods 318
Findings 319
Strengths 323
Areas for Improvement 324
Recommendations 324
Validation of Encounter Data 325
Findings 325
Strengths 330
Areas for Improvement 330
Recommendations 331
MCO Compliance with Managed Care Regulations 331
Methods 331
Findings 332
Strengths 337
Areas For Improvement 338
Recommendations 338
BLUE ADVANTAGE PLUS 339
Performance Improvement Projects 339
Methods 339
Findings 340
Strengths 344
Areas for Improvement 344
Recommendations 345
Validation Of Performance Measures 345
Methods 345
Findings 346
Strengths 349
Areas for Improvement 350
Recommendations 350
Validation of Encounter Data 350
Findings 350
Strengths 356
Areas for Improvement 356
Recommendations 357
MCO Compliance with Managed Care Regulations 357
Methods 357
Findings 358
Strengths 364

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Areas for Improvement 365
Recommendations 365
APPENDICES 367
Appendix 1: CY 2004 External Quality Review Process 367
Appendix 2: Preparation of MC+ MCOs 369
Appendix 3: Validation of Performance Improvement Projects 379
Appendix 4: Validation of Performance Measures 403
Appendix 5: Validation of Encounter Data 407
Appendix 6: Medical Record Review 449
Appendix 7: MC+ MCO Compliance with Managed Care Regulations 463

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LIST OF ACRONYMS

BA+	Blue Advantage Plus
BHO	Behavioral Health Management Organization
CAHPS	Consumer Assessment of Health Plans Survey
CCP	Community Care Plus
CDC	Centers for Disease Control and Prevention
Chi-square	A statistical test that is used to examine the probability of a change or difference in rates is due to chance.
CI	Confidence Interval
CMHC	Community Mental Health Center
CMS	Centers for Medicare and Medicaid Services, U.S. Department of Health and Human Services
CPT	Current Procedural Terminology
CY	Calendar Year
DHHS	U.S. Department of Health and Human Services
DHSS	Missouri Department of Health and Senior Services
DMS	Division of Medical Services, Missouri Department of Social Services
EPSDT	Early, Periodic Screening, Diagnosis and Treatment
EQR	External Quality Review
EQRO	External Quality Review Organization
FFS	Fee-for-Service
FG	FirstGuard
FHP	Family Health Partners
HCUSA	HealthCare USA
HCY	Healthy Children and Youth, the Missouri Medicaid EPSDT program
HEDIS	Health Plan Employer Data and Information Set
HIPAA	Health Insurance Portability and Accountability Act
HIS	Health Information Systems
HMO	Health Maintenance Organization

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ICD-9	International Classification of Diseases, Ninth Revision, Clinical Modification, World Health Organization
ICN	Individual Control Number
ISCA	Information Systems Capability Assessment
LPHA	Local Public Health Agency
LRA	Lead Risk Assessment Guide, Healthy Children and Youth Program
MBE	Minority-owned Business Enterprise
MC+	The name of the Missouri Medicaid Program
MC+ MCOs	Managed Care Organizations for the Missouri Medicaid Program
MCO	Managed Care Organization
MDI	Missouri Department of Insurance
MHP	Mercy Health Plan
MMIS	Medicaid Management Information System
MOHSAIC	Missouri Health Strategic Architectures and Information Cooperative, Missouri Department of Health and Senior Services Public Health Immunization Registry
NCPDP	National Council for Prescription Drug Program
NCQA	National Committee for Quality Assurance
N.S.	Not significant, indicating that a statistical test does not result in the ability to conclude that a real effect exists.
NSF/CMS 1500	National Standard Format/ Center for Medicare and Medicaid Services Form 1500
PCP	Primary Care Physician
PIHP	Prepaid Inpatient Health Plan
PIP	Performance Improvement Project
PRO	Peer Review Organization
QA & I	Quality Assessment and Improvement Advisory Group
QI/UM Coordinator	Quality Improvement/Utilization Management Coordinator.
SMA	State Medicaid Agency, the Missouri Department of Social Services, Division of Medical Services
SPHA	State Public Health Agency, the Missouri Department of Health and Senior Services
UB-92	Universal Billing Form 92

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GLOSSARY AND OPERATIONAL DEFINITIONS

Administrative Method	The Administrative Method of calculating HEDIS Performance Measures requires the MCO to identify the denominator and numerator using transaction data or other administrative databases. The Administrative Method outlines the collection and calculation of a measure using only administrative data, including a description of the denominator (i.e., the entire eligible population), the numerator requirements (i.e., the indicated treatment or procedure) and any exclusions allowed for the measure.
Accuracy (Match) Rate	The ratio of identical or correct information in the medical record and the SMA relative to the number of encounters that took place.
Accuracy of a data field	The extent to which an encounter claim field contains the correct type of information (e.g., numeric, alpha, alpha numeric) in the proper format (e.g., mm/dd/yyyy for date field).
Accuracy of the State encounter claims database	The extent to which encounters are being submitted for 100 percent of the services that are provided. [1]
Commission (or surplus encounter claim)	An encounter that is represented in the SMA encounter claims database but not the medical record; or a duplicate encounter.
Completeness of a data field	The extent to which an encounter claim field contains data (either present or absent).
Confidence interval or level	The range of accuracy of a population estimate obtained from a sample
Encounter data	"Encounter data are records of health care services that have been provided to patients." [2]

[1] Medstat (1999). A Guide for States to Assist in the Collection and Analysis of Medicaid Managed Care Data: Second Edition

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Error	An error in coding or recording an encounter claim.
Fault (Error) Rate	The ratio of missing and erroneous records relative to the total number of encounters that took place[3]. The rate at which the SMA encounter claims data does not match the medical record or the MCO paid encounter claims data (the converse of match rate).
Hybrid Method	Hybrid Method requires the MCO to identify the numerator through both administrative and medical record data. The MCO reports a rate based on members in the sample who are found through either administrative or medical record data to have received the service identified in the numerator.
Interrater reliability (IRR)	A method of addressing the internal validity of a study by ensuring that data are collected in a consistent manner across data collectors.
Omission (or missing encounter claim)	An encounter that occurred but is not represented in the State encounter claims database.
Paid claim	An encounter claim that has been paid by the MCO.
Probability sample	A sample in which every element in the sampling frame has a known, non-zero probability of being included in a sample. This produces unbiased estimates of population parameters that are linear functions of the observations from the sample data[4].
Random sample	Selection of sampling units from a sampling frame where each unit has an equal probability of selection.

[2] Medstat (1999).: A Guide for States to Assist in the Collection and Analysis of Medicaid Manged Care Data. Medstat: Santa Barbara. Second Edition
[3] Centers for Medicare and Medicaid Services (2002). Validating Encounter Data: A protocol for use in conducting Medicaid External Quality Review activities, Final Protocol, Version 1.0, U.S. Department of Health and Human Services.
[4] Levy, P.S., Lemeshow, S. (1999). Sampling of Populations: Methods and Applications, Third Edition. John Wiley and Sons: New York.

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Reasonableness of a data field	The extent to which an encounter claim field represents a valid value (e.g., an actual procedure code, actual birth date); also referred to as validity of the data.
Reliability	The consistency of findings across time, situations, or raters.
Sampling frame	The population of potential sampling units that meet the criteria for selection (e.g., Medical encounter claim types from January 1, 2004 through March 31, 2004).
Sampling unit	Each unit in the sampling frame (e.g., an encounter).
Simple sample	Selection of sampling units from one sampling frame.
Unpaid claim	All unpaid and denied claims from the MCO; All claims not paid by the MCO either through capitation or through other payment methodology.

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LIST OF TABLES

Table 1. Performance Improvement Project Validation Findings by MC+ MCO. 22
Table 2. Summary of Performance Improvement Project Validation Ratings by Item, All MC+ MCOs. 27
Table 3. Validity and Reliability of Performance Improvement Project Results. 28
Table 4. HEDIS 2004 Technical Specifications for Adolescent Immunization Status, Combination #1. 32
Table 5. HEDIS 2004 Technical Specifications for Adolescent Well-Care Visits. 33
Table 6. HEDIS 2004 Technical Specifications for Use of Appropriate Medications for People with Asthma. 34
Table 7. HEDIS 2004 Software, Vendors, and Auditors for the HEDIS 2004 Measures. 48
Table 8. Summary of Method of Calculation Reported and Validated by MC+ MCOs. 48
Table 9. Audit Designations from NCQA-Certified Auditors. 48
Table 10. Data Integration and Control Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 50
Table 11. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 52
Table 12. Denominator Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 54
Table 13. Data Submission for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 57
Table 14. Medical Record Validation for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 62
Table 15. Impact of Medical Record Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 62
Table 16. Numerator Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 63
Table 17. Sampling Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 65
Table 18. Final Data Validation for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 66
Table 19. Data Integration and Control Findings, HEDIS 2004 Adolescent Well-Care Visits Measure. 69
Table 20. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Adolescent Well-Care Visits Measure. 71
Table 21. Denominator Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure. 73
Table 22. Data Submission for HEDIS 2004 Adolescent Well-Care Visits Measure. 76
Table 23. Impact of Medical Record Findings, HEDIS 2004 Adolescent Well-Care Visits Measure. 81
Table 24. Medical Record Validation for HEDIS 2004 Adolescent Well-Care Visits Measure. 81
Table 25. Numerator Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure. 83
Table 26. Sampling Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure. 85
Table 27. Final Data Validation for HEDIS 2004 Adolescent Well-Care Visits Measure. 86
Table 28. Data Integration and Control Findings, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure. 89
Table 29. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure. 91
Table 30. Denominator Validation Findings, HEDIS 2004 Use of Appropriate Medications for People

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with Asthma Measure. 93
Table 31. Data Submission and Final Data Validation for HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure. 96
Table 32. Numerator Validation Findings, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure. 98
Table 33. Summary of Attachment Ratings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure. 99
Table 34. Summary of Attachment Ratings, HEDIS 2004 Adolescent Well-Care Visits Measure. .. 100
Table 35. Summary of Attachment Ratings, HEDIS 2004 Use of Appropriate Medication for People with Asthma Measure. 100
Table 36. Summary of EQRO Final Audit Ratings, HEDIS 2004 Performance Measures.... 101
Table 37. Encounter Data Validation of Critical Fields, All MC+ MCOs, Medical Claim Type. 117
Table 38. Encounter Data Validation of Critical Fields, All MC+ MCOs, Inpatient Claim Type. 119
Table 39. Encounter Data Validation of Critical Fields, All MC+ MCOs, Outpatient Hospital Claim Type.... 121
Table 40. Encounter Data Validation Samples and Medical Record Submission Rate.... 130
Table 41. Procedure Validation Rate. 131
Table 42. Diagnosis Validation Rate. 133
Table 43. Subpart C: Enrollee Rights and Protections.... 148
Table 44. Subpart D: Quality Assessment and Performance Improvement: Access Standards. 152
Table 45. Subpart D: Quality Assessment and Performance Improvement: Structure and Operation Standards.... 155
Table 46. Subpart D: Quality Assessment and Performance Improvement: Measurement and Improvement.... 158
Table 47. Subpart F: Grievance Systems. 160
Table 48. Summary of MC+ MCO Compliance with Medicaid Managed Care Regulations.... 161

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LIST OF FIGURES

Figure 1. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status, Combination #1, Eligible Members. 55
Figure 2. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status, Combination #1. 58
Figure 3. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status Rates, Combination #1, Administrative Rate Only. 59
Figure 4. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status Rates, Combination #1, Hybrid Rate Only. 60
Figure 5. Rates Reported by MC+ MCOs and Validated by EQRO, HEDIS 2004 Adolescent Immunization Status, Combination #1. 67
Figure 6. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Eligible Members. 74
Figure 7. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits Rates. 77
Figure 8. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Administrative Rate Only. 78
Figure 9. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Hybrid Rate Only. 79
Figure 10. Rates Reported by MC+ MCOs and Validated by EQRO, HEDIS 2004 Adolescent Well-Care Visits. 87
Figure 11. MC+ Managed Care Program HEDIS 2004 Use of Appropriate Medications for People with Asthma, Eligible Members. 94
Figure 12. MC+ Managed Care Program HEDIS 2004 Use of Appropriate Medications for People with Asthma Rates. 97
Figure 13. Medical Encounters Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004. 123
Figure 14. Dental Encounters per 1,000 Members, January 1, 2004 – March 31, 2004. 124
Figure 15. Home Health Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004. 125
Figure 16. Inpatient Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004. 126
Figure 17. Outpatient Hospital Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004. 127
Figure 18. Pharmacy Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004. 128
Figure 19. Proportion of Claim Types per MC+ MCO, January 1, 2004 –March 31, 2004. 129
Figure 20. Encounter Data Procedure Validation Rate, January 1, 2004 – March 31, 2004. 132
Figure 21. Encounter Data Diagnosis Validation Rate, January 1, 2004 – March 31, 2004. 134

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EXECUTIVE SUMMARY

Introduction

The United States Department of Health and Human Services (DHHS), Centers for Medicare and Medicaid Services (CMS) requires an annual, independent external evaluation of State Medicaid Managed Care programs by an External Quality Review Organization (EQRO). External Quality Review is the analysis and evaluation by an approved EQRO of aggregate information on quality, timeliness, and access to health care services that MCOs and their contractors furnish to recipients of Medicaid managed care services. The Centers for Medicare and Medicaid Services (42 CFR §433 and §438; Medicaid Program, External Quality Review of Medicaid Managed Care Organizations) rule specifies the requirements for evaluation of Medicaid managed care programs. The present report summarizes the findings of the first year of implementation of the mandatory activities for External Quality Review of the MC+ Managed Care Program in Missouri as conducted by Behavioral Health Concepts, Inc., a PRO-Like Entity certified by CMS to conduct External Quality Review (EQR) in all U.S. states and territories.

The four mandatory protocols were implemented: 1) Validating Performance Improvement Projects;[5] 2) Validating Performance Measures;[6] 3) Validating Encounter Data;[7] and 4) MCO Compliance with Managed Care Regulations.[8] Two performance improvement projects (PIPs) at each MC+ MCO that were underway during the preceding 12 months were validated through a combination of self-selection and EQRO review, with final selection by the State Medicaid Agency (SMA; Missouri Department of Social Services, Division of Medical Services; DMS). The three performance measures validated were HEDIS 2004 measures of Adolescent Immunization Status, Combination #1, Adolescent Well-Care Visits, and the Use of Appropriate Medications for People with Asthma. Validation of encounter data examined the completeness, accuracy, and reliability of

[5] Department of Health and Human Services. Centers for Medicare and Medicaid Services (2002). Validating Performance Improvement Projects: A protocol for use in Conducting Medicaid External Quality Review Activities, Final Protocol, Version 1.0, May 1, 2002. Washington, D.C.: Author.
[6] Department of Health and Human Services. Centers for Medicare and Medicaid Services (2002). Validating Performance Measures: A protocol for use in Conducting Medicaid External Quality Review Activities, Final Protocol, Version 1.0, May 1, 2002. Washington, D.C.: Author.
[7] Department of Health and Human Services. Centers for Medicare and Medicaid Services (2002). Validating Encounter Data: A protocol for use in Conducting Medicaid External Quality Review Activities, Final Protocol, Version 1.0, May 1, 2002. Washington, D.C.: Author.
[8] Department of Health and Human Services. Centers for Medicare and Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR §400, 430, et al., Final Protocol, Version 1.0, February 11, 2003. Washington, D.C.: Author.

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specific fields in the SMA database; and the extent to which paid claims in the SMA were represented in the medical records of MC+ Managed Care Members. The EQRO conducted all protocol activities, with the exception of the MCO Compliance with Managed Care Regulations Protocol. The SMA conducted these activities and requested the EQRO to review them (Compliance Review Analysis). Given that the mandatory protocols represented a major change in the scope and direction of the EQR, the EQRO invested substantial efforts in planning, advising, and preparing the SMA and MC+ MCOs to prepare for the rapid development and implementation cycle.

Preparation for the 2004 External Quality Review

PREPARATION WITH THE STATE MEDICAID AGENCY

Effective July 1, 2004 the State of Missouri contract for the External Quality Review of the MC+ Managed Care Program (State of Missouri Contract No: C301154001, Amendment No.: 006) was revised to comply with federal requirements for states to contract with an external, independent entity to implement the mandatory protocols for External Quality Review. The Figure in Appendix 1 illustrates the SMA's plan for the implementation of the EQR. Regularly scheduled monthly meetings with the SMA were canceled by the SMA in June 2004 due to the end of the previous contract cycle. The first monthly meeting for planning the scope of work, technical methods and objectives, and analyses was held by the SMA on September 19, 2004. Meetings were held with the SMA and the EQRO on September 14, 2004, September 24, 2004, October 15, 2004, October 22, 2004, November 5, 2004, November 29, 2004, December 16, 2004, January 18, 2005, February 16, 2005, March 9, 2005, April 14, 2005, and May 11, 2005. Meetings scheduled for October 1, 2004 and October 5, 2004 were canceled by the SMA. The April 13, 2005 teleconference meeting was rescheduled by the EQRO in favor of a face-to-face meeting on April 14, 2005 to present and discuss preliminary findings. Additional meetings and teleconference calls were conducted as needed between SMA and EQRO personnel.

At the first meeting in September 2004, a draft plan and questions for clarification were prepared, presented, and discussed by the EQRO for each of the mandatory protocols. During the month of September, the EQRO clarified the SMA's objectives for each of the protocols, developed data requests for the SMA, prepared detailed proposals for the implementation and analysis of data for each protocol, and prepared materials for SMA review. Written proposals for each protocol were submitted on September 10, 2004 by the EQRO for SMA for review, discussion, revision, and

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approval. By November 5, 2004, the EQRO had negotiated with the SMA the data request for State encounter data to be validated. Draft medical record review protocols were submitted to the SMA on September 24, 2004. All protocols were revised, finalized and submitted to the SMA by October 2004.

PREPARATION OF MC+ MCOS

During October 2004, preparation of MC+ MCOs for the implementation of the 2004 EQRO was conducted by the EQRO Project Director and personnel. First, the EQRO Project Director contacted the primary contact person, the Quality Improvement Manager/Utilization Management Coordinator (QI/UM) or Medicaid Plan Administrator at each MC+ MCO to discuss the protocols, scope of work, data and information to be requested, and the estimated amount of time needed for MC+ MCOs to fulfill requests. This information was used to establish timelines for submission of requests for information and data to the EQRO. The EQRO Project Director and personnel conducted orientation to the protocols and discussions with MC+ MCOs at the October 21, 2004 meeting of the MC+ Managed Care All-Plan Meeting; and the October 28, 2004 meeting of the MC+ Managed Care Quality Improvement and Advisory (QA & I) Group.

At the suggestion of the MC+ MCOs and the request of the SMA, 2-hour teleconference calls were arranged with each MC+ MCOs' personnel and vendors to provide additional orientation to the protocols and the EQRO processes. The EQRO Project Director arranged the dates of the teleconference calls with MC+ MCO QI/UM Coordinators or Medicaid Plan Administrators. A detailed presentation, tentative list of data requests, and the proposals approved by the SMA were sent to MC+ MCOs prior to the teleconference orientation sessions. MC+ MCOs were requested to have all personnel involved in fulfilling the requests or in implementing activities related to the protocols (e.g., performance improvement projects to be validated, performance measures to be validated, encounter data requested) present at the teleconference calls. The orientation presentation is contained in Appendix 2. An SMA representative attended all conference calls and received minutes of the meetings taken by the EQRO upon completion of all the calls. Conference calls with EQRO and MC+ MCO personnel occurred between October 18, 2004 through October 29, 2004. To avoid confusion and the inundation of many requests at once, the requests for information from MC+ MCOs were implemented in a staged approach from November 8, 2004 through December 6, 2004. All communications (letters, general and specific instructions) were submitted for review, revision, and approval by the SMA prior to sending them to the MC+ MCOs.

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DEVELOPMENT OF WORKSHEETS, TOOLS, AND RATING CRITERIA

The EQRO Project Director, Research Associate, Assistant Project Director, a health services researcher, and a healthcare provider were responsible for the development of all worksheets and tools used for the EQRO. The EQRO Project Director revised the worksheet (Attachment B) of the Validating Performance Improvement Project Protocol to add detail for several items that were specific to the MC+ Managed Care Program. This was translated into a database by the Senior Research Associate and provided to the SMA.

For the Validating Encounter Data Protocol, the EQRO Project Director developed the data analytic plan in collaboration with the SMA and revised methods and procedures based on the content, quality and format of data provided by the SMA and MC+ MCOs. The SMA selected the fields to validate for completeness, accuracy, and reliability of paid claims submitted by MC+ MCOs. The EQRO developed definitions of all field parameters for review, revision, and approval by the SMA. Encounter data critical field parameters were submitted to the SMA on January 14, 2005 for review and approval (received April 5, 2005).

Input was obtained on the Validating Performance Measures Protocol worksheets by a Senior Research Analyst with experience calculating performance measures for hospitals, a health management information specialist, and a research assistant. The health information specialist and research assistant were also trained physicians.

The SMA had already conducted the activities of the MC+ MCO Compliance with Managed Care Regulations Protocol through the state contract compliance monitoring process and the work of the EQRO involved the review and evaluation of this information (see Medicaid Program; External Quality Review of Medicaid Managed Care Organizations of 2003, CFR §438.58). The state contract for EQRO requires the EQRO to review the SMA's activities with regard to the Protocol, however, additional policies and documents were requested prior to and during the on-site visits with MC+ MCOs when information was incomplete or unclear. To facilitate the review of compliance with federal regulations, the EQRO Project Director developed a cross-walk between the SMA contract requirements for Medicaid managed care and the federal Medicaid Managed Care Regulations.

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An expert in MC+ Medicaid Managed Care Program policy and programming reviewed and refined the tool in collaboration with the MC+ Managed Care Program consultant who has participated in the EQRO for the past three years. Feedback on inconsistencies between the Medicaid Managed Care contract and federal requirements was provided immediately to the SMA. The SMA did not have a rating system for the Protocol, so one was developed by the EQRO for SMA review and finalization of ratings based on EQRO findings. A rating system was proposed by the EQRO and approved by the SMA in January 2005. The SMA requested the EQRO to provide ratings, to be reviewed and finalized by the SMA. The SMA was provided with the tool for review and approval on January 21, 2005. The SMA provided state compliance review information to be reviewed by the EQRO for all MC+ MCOs by February 25, 2005. The EQRO staff and the consultant reviewed all available materials and met with SMA staff for two full days on February 8 and 9, 2005 to clarify SMA comments and compliance ratings; and identify issues for follow-up at site visits. Final ratings were provided by the SMA on April 19, 2005.

The following sections summarize the aggregate findings and conclusions for each of the mandatory protocols. The full report is organized according to each protocol and contains detailed descriptions of the technical methods, objectives, findings, and conclusions (strengths, areas for improvement, and recommendations). The full report provides MCO to MCO comparisons and individual MC+ MCO summaries for each protocol.

Validation of Performance Improvement Projects

For the Validating Performance Improvement Projects (PIP) Protocol, there were two PIPs that were underway during the previous 12 month period validated at each MC+ MCO, for a total of 14 PIPs validated. Eligible PIPs for validation were identified by the MC+ MCOs, SMA, and the EQRO. PIPs are to be aimed at studying the effectiveness of clinical or non-clinical interventions that improve processes highly associated with healthcare outcomes, and/or healthcare outcomes themselves. They are to be carried out over multiple re-measurement periods to measure improvement, the need for continued improvement, or stability in improvement as a result of an intervention. Under the State contract for Medicaid Managed Care, MC+ MCOs are required to have two active PIPs. This was the first year of implementation of the PIP Protocol, and specific

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feedback and technical assistance was provided to each MC+ MCO by the EQRO during the site visits for improving study methods, data collection, and analysis. MC+ MCOs have been moving from a quality improvement and monitoring approach to one revolving around the evaluation of quality improvement activities and interventions.

STRENGTHS

1. Across MC+ MCOs, there were strengths noted in the identification of processes and outcomes in need of improvement, the calculation of measures of healthcare processes and outcomes, and in the interventions designed to improve the outcomes of care for MC+ Members.
2. Four of the 14 PIPs were rated as credible and valid approaches to determining the effectiveness of interventions.
3. One PIP was identified as a Best Practice for the Improving Care for Asthmatics, as the results showed demonstrable, statistically significant improvement in healthcare outcomes for MC+ Members.
4. Three of the four credible PIPs were underway, but were designed with the potential to produce credible and valid findings for the identification of additional Best Practice approaches to delivering healthcare to MC+ Members.
5. MC+ MCOs possess the clinical expertise for designing sound interventions, identifying measures for evaluating the interventions, and identifying barriers to implementing interventions.
6. MC+ MCOs were responsive to and engaged in the process of EQRO technical assistance for PIP development and expressed interest in additional technical assistance.

AREAS FOR IMPROVEMENT

1. Areas for improvement included the need for the development of logic models on which to base study design, data collection, and analyses for evaluating the effectiveness of interventions as well as statistical significance testing for supporting claims of effectiveness. It is critical that there is a logical link between the study questions, measures of implementation, measures of outcomes, and analysis of findings to address directly the problem(s) or issue(s) identified.
2. PIPs should be ongoing, active projects evaluating aspects of the quality improvement program at each MC+ MCO and should be monitored on at least a quarterly basis for identification of barriers to implementation of the intervention and data collection. Several MC+ MCOs appeared to develop PIPs in response to the EQRO validation process rather than having active projects in place.

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RECOMMENDATIONS

1. The implementation of valid, credible PIPs will require additional training, consultation, and technical assistance for MC+ MCOs in the development and planning of PIPs, and in data analysis. It is recommended that the SMA support MC+ MCO efforts in obtaining consistent technical assistance from a qualified healthcare services evaluator. The EQRO provided technical assistance to the QA & I Advisory Group and on-site during the MC+ MCO site visits; and provided references for logic model development and healthcare evaluation methods to the MC+ Managed Care Program. Additional hands-on workshops for PIP development are recommended.
2. The MC+ MCOs have used various forms and formats for submitting PIPs for SMA and EQRO review. There is no specific format required or preferred by the EQRO or SMA at the present time, and it is the EQROs recommendation that MC+ MCOs use the format that best meets individual MCO needs. The National Committee for Quality Assurance (NCQA) Quality Improvement Activity (QIA) Form provides good structure for the calculation and reporting of measures, but does not include areas for all aspects of PIPs. Some MC+ MCOs effectively used this format, but need to modify it to include all PIP elements (e.g., study question, specific sources of data, interpretation of study findings, and identification of barriers to implementation).
3. The implementation of a statewide PIP is scheduled for 2007. It is recommended that study topic development and planning for implementation begin one year prior to implementation, to identify issues in data submission, aggregation, and analysis across MC+ MCOs. It is recommended that the meta-analytic study or multi-site evaluation design be implemented and coordinated by an external entity with no relationship or investment in any of the MC+ MCOs and with experience in conducting such evaluations.
4. Suggested topics for statewide PIPs that appear to apply to all MC+ MCOs include the management of members with asthma, the identification and treatment of lead poisoning, and the identification of high risk pregnancies. Of the PIPs validated, three addressed the treatment of asthma and four addressed blood lead level screening or treatment. Given that these studies have been underway for at least twelve months and MC+ MCOs have begun to collect data, these will serve as a foundation for the planning of a statewide PIP. The Best Practice for Improving Care for Asthmatics may also be a viable and successful approach to a statewide PIP. This has a basis and rationale for widespread implementation. It is recommended that these topics be considered by the SMA and the MC+ QA & I Advisory Group.

Validation of Performance Measures

The Validating Performance Measures Protocol requires the validation or calculation of three performance measures at each MC+ MCO by the EQRO. The measures selected for validation by the SMA were measures that are required to be submitted by MC+ MCOs annually, and by the State Public Health Agency (SPHA; Missouri Department of Health and Senior Services; DHSS) for all Health Maintenance Organizations (HMOs) operating in the State of Missouri. They were: 1) HEDIS 2004 Adolescent Immunization Status, Combination #1; 2) HEDIS 2004 Adolescent Well-Care Visits; and 3) HEDIS 2004 Use of Appropriate Medications for People with Asthma. There are detailed specifications for the calculation of these measures that were developed by the NCQA, a

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national accrediting organization for managed care organizations. The EQRO examined the information systems, detailed algorithms, MC+ MCO extract files, medical records, and data submissions provided to the SPHA to conduct the validation activities of this protocol. The data reported to the SPHA are based on MC+ MCO performance during 2003. MC+ MCOs were given an opportunity to review and correct the data presented to the SPHA; and were provided with the opportunity to review EQRO findings for comment and correction.

STRENGTHS

1. MC+ MCOs have strong management information systems for the documentation and payment of services to providers and the tracking of member information. These systems and the processes for performance measure calculation are well documented and MC+ MCOs retain qualified personnel for the programming of data specifications to calculate performance measures.
2. Five of the seven MC+ MCOs incorporated external data (State Public Health Immunization Registry; the Missouri Health Strategic Architecture and Information Cooperative; MOHSAIC) to capture immunizations delivered outside the MC+ MCO for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure.
3. All MC+ MCOs produced the HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure in a manner that was Substantially Compliant with the specifications.
4. Four of the seven MC+ MCOs had significantly higher rates than the average for all MC+ MCOs on the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure. The rates were higher than the National Commercial and Medicaid rates for this measure.
5. One of the two MC+ MCOs that were Fully Compliant with the calculation of the HEDIS 2004 Adolescent Immunization Status, Combination # 1 measure had a rate higher than the National Commercial and Medicaid rates for this measure.
6. Four of the seven MC+ MCOs employed NCQA-certified software for the rate calculation process, which requires passing test file procedures by NCQA for accurate and valid programming and calculation of the specifications.
7. In response to the EQRO exit interview comments and preliminary findings for this Protocol, several MC+ MCOs developed corrective action plans for improving the process of documentation, rate calculation, oversight, and staff training for the calculation of performance measures.

AREAS FOR IMPROVEMENT

1. The HEDIS 2004 Adolescent Immunization Status Combination #1 measure was not able to be validated for five of the seven MC+ MCOs, and thus is not a valid measure of the effectiveness of the MC+ Managed Care Program for this service to adolescents.
2. The HEDIS 2004 Adolescent Well-Care Visits Measure was not able to be validated for three of the seven MC+ MCOs, and thus is not a valid measure of the effectiveness of the MC+ Managed Care Program for this service.

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3. There was substantial error in the calculation of the Adolescent Immunization Status, Combination #1 and the Adolescent Well-Care Visits measures. Some error was related to the medical record submission rate, while some was due to the lack of compliance with measure methodology and specifications. If all of the medical records had been submitted, it is possible that these measures would have been validated for more MC+ MCOs. The Adolescent Immunization Status, Combination #1 measure is a complex measure to calculate, requiring expertise in the specifications for the measure as well as the programming of multiple events and integration of multiple data sets.
4. In many cases, there was limited organizational knowledge of the process of calculating measures. This was related to personnel turnover and the use of vendors for various aspects of claims administration and the rate calculation process.
5. There was limited ability to provide data extract files in a standard format for validation. MC+ MCOs had difficulty providing the numerator and denominator extract files for validation, making it difficult to identify and validate eligible members and conduct sampling for the validation process. Attempts were made to provide orientation, specifications, and technical assistance for numerator and denominator extract files for EQRO validation. There were limitations in the medical record validation process as a result of difficulty identifying hybrid numerator hits in the MC+ MCO extract files.
6. One MC+ MCO that did not use NCQA-certified software was found to have used the incorrect measurement year for the Adolescent Well-Care Visits measure, indicating the utility of this software.
7. There was variability in the implementation of the Hybrid Method, and few MC+ MCOs provided medical record review tools and/or manuals to assess whether medical record reviews are conducted in a similar manner across MC+ MCOs. The EQR validation used the same criteria for numerator events across all MC+ MCOs in the validation process. In addition, not all MC+ MCOs reviewed all of the medical records sampled for the Hybrid Method of calculation.

RECOMMENDATIONS

1. It is recommended that the SMA use measures of MC+ Managed Care Program performance only after the validity of the measure can be established for all MC+ MCOs. This would include the HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures based on this evaluation. The validity of the Adolescent Immunization Status, Combination #1 measure should be improved through the incorporation of the State Public Health Immunization Registry (Missouri Health Strategic Architecture and Information Cooperative; MOHSAIC) data, proper implementation of the Hybrid Method, and reliable medical record review procedures.
2. It is recommended that the SMA discontinue the validation of performance measures that are Substantially or Fully Compliant with State standards using the Validation of Performance Measures Protocol. For measures the SMA wishes to use as measures of program performance, continue to validate them until all MC+ MCOs come into Full or Substantial Compliance for the calculation of the measures. The Adolescent Immunization Status and Adolescent Well-Care Visits measures should be revalidated for the HEDIS 2006 reporting year or later, as the measures have already been calculated for the HEDIS 2005 reporting year by MC+ MCOs without the benefit of the present validation and recommendations.

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3. For other measures requiring retrospective data more than one year prior to the measurement year (e.g., the Adolescent Immunization Status measure), the SMA should require the Hybrid Method of validation and the use of all possible external data sources to ensure completeness and validity of the data used for the measurement of performance.
4. If the SMA validates HEDIS measures in the future, the SMA should revise the Information System Capability Assessment (ISCA) to reduce duplication with the HEDIS Baseline Assessment Tool (BAT). The EQRO provided to the SMA a written summary of areas of overlap between the two tools based on the BAT. Future revisions should be focused on the purpose of the encounter data validation and performance measure validation processes to be used by the EQRO and the SMA.
5. MC+ MCOs should develop internal expertise in the calculation of performance measures, the submission of required performance measures for Missouri, and for the MC+ Managed Care Program.
6. MC+ MCOs should document policies, procedures, processes, and responsibilities of personnel and vendors involved in calculating and reporting HEDIS measures for the MC+ Managed Care Program. This should include vendor oversight and review of files and data produced to calculate the measures.
7. Whenever possible, MC+ MCOs should use NCQA-certified software or vendors who use NCQA-certified software to calculate measures and identify errors in programming and extracting data for the calculation of performance measures.
8. Performance measure calculation for MC+ MCOs should be conducted with the benefit of external reporting, such as is done through the reporting process of HEDIS measures to the SPHA for HEDIS measures. For example, Mental Health Indicators should be compiled by an entity external to the MC+ MCOs with the requisite technical expertise to ensure consistent, valid collection of data across MC+ MCOs for comparison and program evaluation purposes.
9. Duplication across Mental Health Indicators and HEDIS measures should be reduced as much as possible to avoid confusion about what is being measured.
10. The SMA should consider validating the HEDIS measures of 7-day and 30-day Follow-up After Psychiatric Hospitalization. Given the complexity of multiple event measures, the SMA should also consider validating MC+ MCO calculation of the HEDIS Childhood Immunization Status measure.
11. Performance measures reported across MC+ MCOs should be conducted by a qualified entity external to the MC+ MCOs.

Encounter Data Validation

Encounter claims data are used by SMAs to conduct rate setting and quality improvement evaluation. Before SMA encounter claims data can be used, it is necessary to establish the extent to which the data for critical fields (e.g., diagnosis and procedure codes, units and dates of service, member and provider identifiers) are complete (there is information in each field), accurate (the information is of the right size and type), and valid (the data represent actual dates or procedure and diagnosis codes). Several critical fields for each of six claim types (Medical, Dental, Home Health,

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Inpatient, Outpatient, Hospital, and Pharmacy) were identified by the SMA and examined by the EQRO for completeness, accuracy, and validity using an extract file from SMA paid encounter claims. To examine the extent to which the SMA encounter claims database was complete (the SMA encounter claims database represents all claims paid by MC+ MCOs), the level and consistency of services was evaluated by examining the rate of each of six claim types for each MC+ MCO. Another method of comparing the representativeness (or completeness) of the SMA encounter claims database is to compare data in the SMA encounter claims database to the medical records of members. This was examined for a random sample of medical records for each MC+ MCO, comparing the diagnosis and procedure codes in the SMA encounter claims database with documentation in MC+ Member medical records. The completeness of the SMA paid encounter claims was to be compared with MC+ MCO records of paid and unpaid claims. This analysis was unable to be conducted due to MC+ MCO data submission issues.

STRENGTHS

1. The majority of critical fields evaluated for each of the six encounter claim types were accurate, complete, and valid.
2. The Pharmacy, Dental, and Home Health critical fields contained valid data for the analysis of paid encounter claims.
3. Of the medical records received for review, there was a match rate of 70.9% for procedures and 73.8% for diagnoses with the data in the SMA encounter claims extract file.

AREAS FOR IMPROVEMENT

1. The examination of the completeness, accuracy and validity of SMA encounter claims data was not able to assess the level of representativeness of the SMA encounter claims database relative the claims paid by MC+ MCOs.
2. The EQRO was able to validate 53.3% of procedures and 55.4% of diagnoses from the medical records. This was related to the rate of submission of medical records for review and the inability to validate records not received. This is also lower the expected rate of 70%.
3. Medical records that did not have diagnosis or procedure codes that matched those in the SMA encounter claims database were in error primarily due to missing or illegible data.
4. MC+ MCOs were not able to produce paid and unpaid claims in valid formats for encounter data validation to assess the completeness of paid claims as represented in the SMA encounter claims database or to identify omission and commission errors related to encounter data submission.
5. Comparison data from other SMAs with similar programs and encounter claim types and who have validated their data is needed to evaluate the completeness of the MC+ Managed Care Program encounter claims database.

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6. The volume and consistency of services across MC+ MCOs and claim types were highly variable, with no patterns across MC+ Managed Care Regions observed.

RECOMMENDATIONS

1. The SMA Dental, Home Health, and Pharmacy encounter claim types should be compared with MC+ MCO paid and unpaid encounters once a format for MC+ MCO submission is identified.
2. MC+ MCOs should explore potential reasons for variation in claim types and in the proportion of each claim type to all claim types.
3. It is recommended that the SMA add edits for invalid encounter claims data for specific fields in the Medical, Inpatient, and Outpatient Hospital claim types.
4. It is recommended that MC+ MCOs emphasize to providers the importance of documentation of diagnostic and procedural information in the medical record.
5. It is recommended that the SMA and MC+ MCOs identify valid and consistent file layouts for paid and unpaid encounter claim extract files to be validated.
6. It is recommended that the SMA identify comparative data from other states regarding encounter claim rates for each claim type.
7. Additional methods for assessing the completeness of the SMA encounter claims database for the MC+ Managed Care Program should be employed, such as examining the dates of service and submission of each claim type on a monthly basis over the course of one year.

MC+ MCO Compliance with Managed Care Regulations

The purpose of the protocol to monitor MCO Compliance with Managed Care Regulations was to provide an independent review of MC+ MCO activities and assess the quality outcomes of timeliness and access to the services provided by the MC+ MCOs. The protocol used two main sources of information to determine compliance with the federal regulations. They were document review and interviews with MC+ MCO personnel. This combination of information was designed to provide the SMA with a better understanding of organizational performance at each MC+ MCO.

The policy and practice in the operation of each MC+ MCO was evaluated against the seventy (70) regulations related to operating a Medicaid managed care program. The regulations were grouped into three main categories: Enrollee Rights and Protections, Quality Assessment and Improvement, and Grievance Systems. The category of Quality Assessment and Improvement was subdivided into three subcategories: Access Standards, Structure and Operation Standards, and Measurement and Improvement. Initially, the SMA reviewed each MC+ MCOs' policy to determine compliance with the requirements of the MC+ Medicaid Managed Care Contract. These determinations and their

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application to the requirements of the federal regulations were assessed. Additional document review occurred when the MC+ MCO policy submission did not meet MC+ Medicaid Managed Care contract requirements, or where clarification was necessary. A set of interview questions specific to each MC+ MCO was developed to elicit information that validated organizational practice and that explored issues not fully addressed in the documents.

STRENGTHS

1. Four MC+ MCOs Met or Partially Met all applicable federal regulations and related State compliance requirements for Medicaid managed care.
2. MC+ MCOs demonstrated a strength in compliance with federal regulations for grievance and appeals processes and procedures. This is likely due to concerted SMA efforts to ensure MC+ MCO compliance with regulations.
3. Across MC+ MCOs, an investment in the development of programs was observed that often exceeded the strict requirements of the MC+ Medicaid Managed Care contract. The MC+ MCOs used their resources to ensure that MC+ Members had access to quality healthcare services.
4. MC+ MCOs incorporated methods of quality assessment and program improvement into their daily operations.
5. Across MC+ MCOs, there was adherence to the policy and practice for operating grievance and appeals systems. Six of the seven MC+ MCOs exhibited substantial compliance with all required policies. All MC+ MCOs described how they used data gathered from the grievance and appeals process to generate program improvements.
6. MC+ MCOs were responsive and cooperative with the EQRO process by submitting available materials and data despite personnel changes, limited resources, and first year EQRO implementation planning and issues.

AREAS FOR IMPROVEMENT

1. A consistent area for improvement for the MC+ MCOs was monitoring, development, and timely submission of policies to ensure compliance with the MC+ Medicaid Managed Care contract and with the federal Medicaid Managed Care Regulations. The quality of practice observed at several of the MC+ MCOs was overshadowed by their inability to produce required policies or complete the submission and approval process.
2. The MC+ MCOs all voiced concerns about problems they encountered. Two prominent examples were the difficulties encountered in enrolling specific specialties into their network, and their challenge to maintain accurate member contact information. The MC+ MCOs all provided examples that exhibited depth in the area of creative problem solving. It would appear that with an effort to combine this resourcefulness they could find a common resolution to some of their shared problems.
3. All the MC+ MCOs maintain health information systems that can provide a wealth of data regarding their MC+ Members. There was not consistent utilization of this information to assist in development of quality initiatives that could enhance program development.

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4. During the process of the EQRO, there were a number of HIPAA violations in the submission of encounter data (sending aspects of the limited data set via email and fax when specifically requested by the EQRO not to do so) and lack of security of medical records (Protected Health Information).

RECOMMENDATIONS

1. It is recommended that MC+ MCOs prioritize submission of documents used for member communication of rights such as the Member Handbook, Marketing and Educational Materials, and dissemination plans.
2. It is recommended that the SMA update contract language to be consistent with federal regulations [438.10(f)(5)]. Specific feedback was provided to the SMA by the EQRO upon discovery of areas of incongruence.
3. MC+ MCOs should address concerns regarding access to specialty services for dental, behavioral health, orthopedic, neurological, and other specialties known to be in short supply. The use of utilization data, monitoring indicators, and surveys is recommended to examine and evaluate on a quarterly basis the needs of MC+ Members with Special Health Care Needs.
4. The SMA should develop a compliance protocol tool and rating system for the Compliance Protocol. A model was developed and proposed by the EQRO and approved by the SMA for use in the present evaluation. The SMA should revise this tool and develop criteria for rating each item based on the findings of the present year. This should be supplied to and reviewed with the EQRO prior to the initiation of validation of compliance activities.
5. MC+ MCOs should conduct routine review and revision of internal policies and procedures annually or when contract revisions occur, and submit revisions to the SMA for review and approval.
6. MC+ MCOs should implement HIPAA training for policies and procedures at orientation for new staff and at least annually for all staff.
7. It is recommended that the SMA make available to the MC+ MCOs the tool completed by the EQRO for this Protocol to facilitate program compliance.
8. To facilitate timely and accurate submissions of MC+MCO information to the EQRO, it is recommended that the SMA provide to the EQRO all final protocols, worksheets, rating systems and criteria to be used, data, and content areas to be reviewed no later than November 30 in the EQRO cycle.

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SECTION ONE: VALIDATION OF PERFORMANCE IMPROVEMENT PROJECTS

Definition

A Performance Improvement Project (PIP) is defined by the Centers for Medicare and Medicaid Services (CMS) as "a project designed to assess and improve processes, and outcomes of care…. that is designed, conducted and reported in a methodologically sound manner." The Validating Performance Improvement Projects Protocol specifies that the EQRO conduct three activities in the validation of two PIPs at each MCO that have been initiated, are underway, were completed during the reporting year, or some combination of these three stages. The State Medicaid Agency (SMA; the Department of Social Services, Division of Medical Services; DMS) elected to examine projects that were underway during the preceding 12 months. Criteria for identification as a PIP that are outlined in the CMS protocols include the following:

- PIPs need to have a pre-test, intervention, and post-test
- PIPs need to control for extraneous factors
- PIPs need to include an entire population
- Pilot projects do not constitute a PIP
- Satisfaction studies alone do not constitute a PIP
- Focused studies are not PIPS; A focused study is designed to assess processes and outcomes on one-time basis, while a PIP is to improve processes and outcomes of care over time.

The State of Missouri contract for Medicaid Managed Care (RFP NO. B3Z03182, Contract Amendment 002, 08/25/2003) describes the following requirements for MC+ MCOs in conducting PIPs:

> *Performance Improvement Projects: The health plan must conduct performance improvement projects that are designed to achieve, through ongoing measurements and intervention, significant improvement, sustained over time, in clinical care and nonclinical care areas that are expected to have a favorable effect on health outcomes and member satisfaction. The health plan must report the status and results of each project to the state agency as requested. The performance improvement projects must involve the following:*
>
> - *Measurement of performance using objective quality indicators.*
> - *Implementation of system interventions to achieve improvement in quality.*
> - *Evaluation of the effectiveness of the interventions.*
> - *Planning and initiation of activities for increasing or sustaining improvement.*
> - *Completion of the performance improvement project in a reasonable time period so as to generally allow information on the success of performance improvement projects in the aggregate to produce new information on quality of care every year.*
> - *Performance measures and topics for performance improvement projects specified by CMS in consultation with the state agency and other stakeholders.*

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Purpose and Objectives

The purpose and objectives of the present review were to evaluate the soundness and results of PIPs implemented by MC+ MCOs; to ensure that MC+ MCOs carry out at least two PIPs each year, with examination of the stability or variability in change over multiple years; and to determine the best approach to a statewide project in the future.

Technical Methods

There are three evaluation activities specified in the protocol for Validating Performance Improvement Projects. Activity One consists of ten steps:

Activity One: Assessing the MCOs /PIHP's Methodology for Conducting the PIP

1. Step One: Review the selected study topic(s)
2. Step Two: Review the study question(s)
3. Step Three: Review selected study indicator(s)
4. Step Four: Review the identified study population
5. Step Five: Review sampling methods (if sampling was used)
6. Step Six: Review the MCOs/PIHP's data collection procedures
7. Step Seven: Assess the MCOs/PIHP's improvement strategies
8. Step Eight: Review data analysis and interpretation of study results
9. Step Nine: Assess the likelihood that reported improvement is "real" improvement
10. Step Ten: Assess whether the MCO/PIHP has sustained its documented improvement

Activity Two (Verifying PIP Study Findings) is optional, and involves auditing PIP data. Activity Three (Evaluate Overall Reliability and Validity of Study Findings) involves the judgment of whether the results and conclusions drawn from the PIP are valid and reliable. Activities One and Three were conducted by the EQRO.

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TIME FRAME AND SELECTION

Two projects that were underway during the preceding 12 months at each MC+ MCO were selected for validation. The projects to be validated were reviewed with MC+ MCO QI/UM Coordinators, SMA staff, and other MC+ MCO staff throughout the month of October 2004. The intent was to identify projects which were mature enough for validation (i.e., planned and in the initial stages of implementation), yet still underway during calendar year 2004. During the process of submission, one MC+ MCO requested and was granted the request to change one PIP submitted for validation.

PREPARATION OF MC+ MCOS

All MC+ MCOs were contacted directly by the EQRO Project Director between September 15, 2004 and October 13, 2004 to discuss the implementation of the 2004 EQR. Technical assistance was provided to MC+ MCOs at the quarterly MC+ Managed Care Program Quality Assessment and Improvement Advisory (QA & I) Advisory Group meeting sponsored by the SMA on October 28, 2004. Additional technical assistance and orientation to the Validating Performance Improvement Projects Protocol was provided at the quarterly MC+ Managed Care Program QA & I Advisory Group meeting on January 19, 2005 and at the quarterly MC+ Managed Care Program All-Plan Meeting on October 21, 2004 (see Appendix 3). The January presentation included the definition of a PIP, elements of the protocol, and a sample PIP incorporating all elements of the Protocol. Further, MC+ MCOs were provided with individual orientation to the Validating Performance Improvement Projects Protocol and the EQR implementation through individual two-hour teleconference calls with each MC+ MCO and personnel involved in the implementation and conduct of PIPs. These occurred between October 18, 2004 and October 29, 2004. Letters and specific instructions were sent to MC+ MCOs on November 8, 2004 for PIP documentation to be submitted by November 23, 2004 (see Appendix 2).

Procedures for Data Collection

The evaluation involved review by the Senior Research Associate and EQRO Project Director of all materials submitted by MC+ MCOs including, but not limited to the materials listed below. During the orientation teleconference calls, MC+ MCOs were strongly encouraged to review Attachment B

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to the Validating Performance Improvement Projects Protocol and ensure they included information, documents, tools, and any other information necessary for evaluation based on this tool.

- Narrative descriptions
- Problem identification
- Hypotheses
- Evaluation Questions
- Description of Intervention(s)
- Methods of sampling, measurement
- Planned Analyses
- Sample tools, measures, surveys, etc.
- Baseline data source and data
- Cover letter with clarifying information
- Overall analysis of the validity, reliability of each study
- Scaled scoring system if desired by the State
- Evaluate the results of the PIPs, not just the methods

The EQRO Project Director met with personnel responsible for planning, conducting, and interpreting the findings of PIPs during site visits conducted between March 1, 2005 and March 23, 2005. This review focused on findings of projects submitted at the end of 2004. MC+ MCOs were requested to be prepared to review databases and any data collection forms not submitted with the original request. One hour was scheduled during the on-site visits to conduct follow-up questions, review databases and provide technical assistance to MC+ MCOs regarding the planning, implementation, and credibility of findings from PIPs. In addition to individual clarifying questions regarding each PIP, the following questions were used to gather more information regarding the PIPs during the on-site interviews:

- Who was the Project Leader?
- How was the topic identified?
- How was the study question determined?
- What were the findings?
- What was the intervention?
- What was the time period of the study?
- Was the intervention effective?
- How do you know?
- Why or why not?
- What does the MCO want to study or learn from their PIPs?

All PIPs were evaluated by a Senior Research Associate with three years of experience conducting the EQR in Missouri and with six years of data analysis and research experience. In addition, projects were reviewed and followed-up on-site by the EQRO Project Director, with final ratings based on all information obtained from MC+ MCO submissions and site visits. Minimum qualifications for PIP reviewers are described in the training materials developed by the EQRO for the evaluation of MC+ Managed Care Program PIPs. Below is an excerpt from the Instructions to Reviewers developed by the EQRO.

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Reviewers must be trained by the EQRO Project Director prior to conducting reviews. The EQRO Project Director will review and finalize all comments, ratings, and recommendations. As part of this process, qualified reviewers must develop familiarity with the CMS Protocol for Validating Performance Improvement Projects, the Objectives and Technical Methods for the Validation of Performance Improvement Projects (PIPs), and the operational definitions provided in this Protocol. Qualified reviewers must have a minimum of a Bachelor's degree in a health or human services related field, with three to five years of professional experience conducting healthcare, policy, or program evaluation and research.

ANALYSIS

All PIPS submitted by MC+ MCOs prior to the site visits were reviewed using an expanded version of the checklist for conducting Activities One, Steps 1 through 10; and Activity Three (Judgment of the Validity and Reliability of the PIPs) of the Validating Performance Improvement Projects Protocol Attachment B (see Appendix 3). Because specific criteria may not have been applicable for projects that were underway at the time of review, a specific item may not have applied in a particular case. Criteria were rated as "Met" if the item was applicable to the PIP, if there was documentation addressing the item, and if the item could be deemed Met based on the study design. The proportion of items rated as "Met" was compared to the total number of items that were applicable for the particular PIP. Given that some PIPs were underway in the first year of implementation, it was not possible to judge the interpretation of study results, validity of improvement, or sustained improvement (Steps 8-10). The final evaluation of the validity and reliability of studies underway were based on the potential for the studies to produce credible findings. Detailed recommendations and suggestions for improvement were made for each item as deemed appropriate, and are presented in the individual MC+ MCO summaries. Although an item may have been met, suggestions and recommendations may have been provided as technical assistance for future improvement. The following are the general definitions developed for evaluating each criteria.

Met:	Credible, reliable, and valid methods for the item were documented.
Partially Met :	Credible, reliable, or valid methods were implied or able to be established for part of the item.
Not Met:	The study did not provide enough documentation to determine whether credible, reliable, methods were employed; errors in logic were noted; or contradictory information was presented or interpreted erroneously.
Not Applicable:	Only to be used in Step 5, when there is clear indication that the entire population was included in the study and no sampling was conducted; or in Steps 8 through 10 when the study period was underway for the first year.

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Findings

Below are the PIPs identified for validation at each MC+ MCO.

Community Care Plus	Emergency Room Utilization
	Twenty-Four Hour Provider Access Monitor
Mercy Health Plan	Improving Quality of Life of Members Living with Asthma
	High Risk Pregnancy
HealthCare USA	Member Reminder Initiative
	School-Based Program Participation 2004
Missouri Care	Increasing Appropriate Childhood Immunization Practices
	Increasing Blood Lead Testing by PCPs
Family Health Partners	Emergency Room Utilization
	Lead
FirstGuard	Identification of MC+ Children with Elevated Blood Lead Level
	Improving Asthma Medication Management
Blue Advantage Plus	Lead Testing Improvement Project
	Improving Care for Asthmatics

STEP 1: SELECTED STUDY TOPICS

Study topics should be selected through data collection and analysis of comprehensive aspects of member needs, care, and services; address a broad spectrum of key aspects of member care and services; and include all enrolled populations without excluding certain members. Four of the 14 PIPs addressed blood lead level toxicity; three addressed care for members with asthma; two addressed preventive care (participation in school-based program and immunizations); two addressed non-clinical areas (provider access monitoring and member reminders); two addressed emergency room utilization; and one addressed high risk pregnancies. Tables 1 and 2 show the ratings for each item and PIP by MC+ MCO. Six of the 14 PIPs (42.9%) provided data demonstrating the extent of the need and rationale for the PIP, discussed literature supporting the activities to be undertaken, and provided benchmark comparison data (see Table 2, Step 1.1). MC+ MCOs addressed a broad spectrum of key aspects of member care and services (9 of the 14 PIPs, 64.3%, Met this criteria and 3 Partially Met this criteria; Step 1.2). Clinical and nonclinical interventions were identified and aspects of enrollee care and services that were related to the identified problem

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were described. One study was focused on emergency room utilization alone, which is considered too narrow a scope for a PIP. Utilization or cost issues may be examined through a PIP, but should not be the sole focus of the study. There were few descriptions of the member populations targeted for intervention in the PIPs. Because the MC+ MCOs vary widely in the member populations they serve (e.g., other state Medicaid managed care members, commercial members, or Medicare members), it was not possible to determine the extent to which the PIP identified, addressed, and measured the needs of the MC+ Managed Care Program population. In addition, PIPs should specifically indicate whether all enrolled populations within the MC+ Managed Care Program were included in the interventions. Finally, age and demographic characteristics should be described. One (Increased Blood Level Testing by PCPs) of the 14 PIPs (7.1%) Met this criteria (Step 1.3).

STEP 2: STUDY QUESTIONS

Study questions are statements in the form of a question that describe the potential relation between the intervention, the intended outcome, and the direction of the relation. They should be specific enough to suggest the study methods and the outcome measures. Although specific statements were rarely provided in the form of a question, it was possible to identify the intended question and purpose of the study for six of the 14 (42.9%) PIPs (Step 2.1). For some, the study purpose identified was not consistent with the remainder of the PIP (the target population, interventions, measures, or methods).

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Table 1. Performance Improvement Project Validation Findings by MC+ MCO.

Step	Item	MC+ MCO													
		CCP		MHP		HCUSA		MOCare		FHP		FG		BA+	
		Emergency Room Utilization	Twenty-Four Hour Provider Access Monitor	Improving Quality of life of Members Living with Asthma	High Risk Pregnancy	Member Reminder Initiative	School-Based Program Participation 2004	Increasing Appropriate Childhood Immunization Practices	Increasing Blood Lead Testing by PCPs	Emergency room utilization	Lead	Identification of MC+ Children with Elevated Blood Lead Level	Improving Asthma Medication Management	Lead Testing Improvement Project	Improving Care for Asthmatics
Step 1: Selected Study Topics	1.1	0	0	2	2	1	0	2	2	NA	1	1	1	2	2
	1.2	0	1	2	2	2	2	2	2	0	2	1	1	2	2
	1.3	0	0	1	1	1	0	0	2	1	1	1	1	1	1
Step 2: Study Questions	2.1	0	0	0	0	2	2	2	2	2	2	0	0	0	0
Step 3: Study Indicators	3.1	1	1	2	2	1	2	1	1	2	1	2	1	2	2
	3.2	0	1	2	2	1	2	1	1	0	1	0	1	2	1
Step 4: Study Populations	4.1	0	0	1	1	1	0	1	1	1	0	1	1	1	1
	4.2	1	1	2	2	0	1	0	1	1	0	1	1	NA	1
Step 5: Sampling Methods	5.1	NA	0	NA	NA	0	1	0	NA	NA	NA	NA	NA	NA	NA
	5.2	NA	0	NA	NA	NA	2	0	NA	NA	NA	NA	NA	NA	NA
	5.3	NA	0	NA	NA	NA	NA	0	NA	NA	NA	NA	NA	NA	NA
Step 6: Data Collection Procedures	6.1	0	1	2	2	1	0	0	0	2	1	2	NA	2	2
	6.2	0	2	1	1	1	0	2	2	1	2	1	2	2	2
	6.3	0	0	1	1	1	0	0	0	1	0	1	1	2	2
	6.4	0	1	1	1	1	0	1	NA	NA	NA	NA	NA	NA	0
	6.5	0	0	0	0	0	0	2	2	0	1	0	0	0	0
	6.6	1	1	1	1	1	0	0	0	0	1	0	0	2	1
Step 7: Improvement Strategies	7.1	1	1	2	2	2	2	1	1	0	0	0	0	2	2
Step 8: Analysis and Interpretation of Study Results	8.1	0	0	NA	NA	0	0	0	1	0	NA	0	0	0	0
	8.2	0	1	NA	NA	0	0	1	1	1	NA	2	2	1	2
	8.3	0	0	NA	NA	0	1	1	1	0	NA	1	0	1	2
	8.4	0	1	NA	NA	0	NA	0	0	0	NA	0	0	0	2
Step 9: Validity of Improvement	9.1	0	1	NA	NA	0	NA	0	0	2	NA	2	2	2	2
	9.2	0	0	NA	NA	0	NA	0	0	0	NA	0	1	NA	2
	9.3	0	0	NA	NA	1	NA	0	0	1	NA	0	1	NA	2
	9.4	0	0	NA	NA	0	NA	0	0	0	NA	0	0	NA	2
Step 10: Sustained Improvement	10	0	0	NA	NA	NA	NA	NA	NA	NA	NA	1	1	NA	2
Number Met		0	1	7	7	3	6	5	6	4	3	4	3	10	15
Number Partially Met		4	11	6	6	11	3	7	8	7	7	9	11	4	5
Number Not Met		20	15	2	2	10	11	14	8	10	4	10	8	4	4
Number Applicable		24	27	15	15	24	20	26	22	21	14	23	22	18	24
Rate Met		0.0%	3.7%	46.7%	46.7%	12.5%	30.0%	19.2%	27.3%	19.0%	21.4%	17.4%	13.6%	55.6%	62.5%

Note: Rate Met = Number Met/Number Applicable; 2 = Met; 1 = Partially Met ; 0 = Not Met; NA = Not Applicable; Item refers to the Protocol specifications.

Source: BHC, Inc., 2004 External Quality Review Performance Improvement Project Validation.

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STEP 3: STUDY INDICATORS

All PIPs either Met or Partially Met the criteria for defining and describing the calculation of study indicators. Half (50%) of the PIPs Met the criteria for using objective, clearly defined, measurable indicators while half Partially Met the criteria (Step 3.1). The calculation of measures was described and explained. In some cases, when well-known measures were used (e.g., Health Employer Data Information Set; HEDIS; Consumer Assessment of Health Plans Survey; CAHPS), there was little or no description of the methods (e.g., Administrative or Hybrid Method) and formulas for calculating the measures. Again, because MC+ MCOs vary in their method of calculation, details regarding the measures and methods of calculating them should be included in PIPs. Four of the 14 PIPs (28.6%) identified at least one study indicator that was related to health or functional status; or to processes of care strongly associated with outcomes (Step 3.2). The link between the intervention and the outcomes measured by the PIP should be made explicit in the narrative.

STEP 4: STUDY POPULATIONS

None of the PIPs Met the criteria for clearly defining all the MC+ Managed Care Program Members to whom the study question(s) and indicator(s) were relevant (Step 4.2). Ten of the 13 PIPs (71.4%) Met the criteria for defining the study populations. When applicable, it should be clearly stated that no specific populations (e.g., 1115 Waiver, 1915b Waiver, children in state custody, children served by the consent decree, children with special health care needs) were excluded from the PIP. Otherwise, the selection criteria should clearly describe the MC+ Managed Care Member populations included in the PIP and their demographic characteristics. Two of the 13 PIPs (15.4%) described data collection approaches indicating that data for all members to whom the study question applied were collected (Step 4.2). There was some misunderstanding of sampling (e.g., "The sample size was determined by how many people we were able to contact during the quarter being measured") and the difference between a sample and a population ("all eligible members were sampled"). Most of the time, there were vague or ambiguous descriptions that made it difficult to determine how data were collected and how participants were identified. For example, it was not clear whether "all high volume PCPs" included family practitioners, OB/GYNs, internists, and/or specialists chosen as PCPs. There were some exclusions of members that appeared to be related to measure specification (e.g., only HEDIS-eligible members). Although measures of convenience (those calculated already for other purposes) are acceptable and encouraged, the interventions

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themselves should not exclude members based on the length of eligibility or service status. The limitation of measures (e.g., applicable to only eligible members) should be described in the PIP methods.

STEP 5: SAMPLING METHODS

Four PIPs actually employed sampling techniques, while others used the term to refer to an entire population studied. None of the four PIPs for which sampling was conducted described the population, sampling techniques, rationale, or confidence intervals and margins of error to be used in measurement. The type of sample (e.g., convenience, random) sampling methods (e.g., simple, cluster, stratified) should be described.

STEP 6: DATA COLLECTION PROCEDURES

Six of the 13 PIPs (46.2%) described the data to be collected with adequate detail and description of the units of measurement used (Step 6.1). Seven of the 14 (50.0%) PIPs clearly specified the sources of data (e.g., claims, members, providers, medical records) for each measure (Step 6.2). Some MC+ MCOs used the National Committee for Quality Assurance (NCQA) Quality Improvement Activity (QIA) Form to write PIPs, which provides a structure for reporting measures and data sources. However, when there is more than one source of data, it is important that the MC+ MCO specifically state the sources of data for each measure. Two of the seven PIPs (14.3%) clearly described systematic and reliable methods of data collection (Step 6.3). In most cases, the data collection procedures were not described. It was not possible to judge the reliability or credibility of a PIP without sufficient detail regarding data collection processes, procedures, or frequency. Of the eight PIPs that used some source of survey or data collection tool, none were able to fully ensure that consistent, accurate data were able to be collected over time (Step 6.4). However, five Partially Met this criteria. Few MC+ MCOs provided instruments for review. One PIP indicated that "the database" provided for accurate data collection. When using surveys, medical records, or telephone protocols for data collection, it is important to provide the tool for review, discuss the piloting of the tool, and discuss training and interrater reliability for the recording of information on the tool. Standard provider and consumer surveys provide manuals describing the characteristics of instruments that should be incorporated into the narrative of the PIP. Two PIPs (14.3%) included a complete data analysis plan, while one Partially Met the criteria for specifying a plan (Step 6.5). This should be developed prior to the implementation of the PIP based on the study questions, expected relation between the intervention(s) and outcome(s) being measured (i.e. independent and

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dependent variables), the method(s) of data collection, and the nature of the data (e.g., nominal, ordinal, scale). One of the 14 (7.1%) PIPs identified in the narrative the personnel and qualifications of personnel involved in the design, implementation, data analysis, and interpretation of the PIP (Step 6.6). Although MC+ MCO staffs interviewed on-site were knowledgeable about the PIPs and methods, the PIP evaluation team qualifications and roles were rarely described in PIP materials.

STEP 7: IMPROVEMENT STRATEGIES

Six of the 14 (42.9%) of the PIPs identified reasonable interventions to address the barriers identified through data analysis and quality improvement processes undertaken. The nature of identification of the barriers, a description of barriers, and a plan for addressing barriers should be described.

STEP 8: DATA ANALYSIS AND INTERPRETATION OF STUDY RESULTS

None of the 11 PIPs that had conducted analyses did so according to the data analysis plan (Step 8.1). Only two PIPs described any data analysis plan against which to determine if the plan was implemented. Of the 11 PIPs that presented baseline or re-measurement data, three (27.3%) presented numerical findings accurately and clearly (Step 8.2). In some instances, data were presented in formats different from those described in the calculation of measures (e.g., presenting percents in graphic format while the description of the calculation of measures indicated rates per 1,000). Five PIPS Partially Met this criteria. Axis labels and units of measurement should be reported in Tables and in Figure legends. The data year for benchmark data should also be labeled. Of the eleven PIPs that presented at least one re-measurement period, one (9.1%) indicated the re-measurement period for all of the measures identified in the study (Step 8.3). Of the ten PIPs describing the findings, one (Improving Care for Asthmatics; 11.1%) described the extent to which the intervention was effective (Step 8.4).

STEP 9: VALIDITY OF IMPROVEMENT

Five of the ten PIPs (50.0%) with re-measurement points used the same method at re-measurement as the baseline measurement (Step 9.1). One PIP described the use of different measures from baseline than re-measurement. As discussed with MC+ MCOs during site visits, this is acceptable as long as the rationale and limitations are described. If possible, the baseline measure should be recalculated consistent with the re-measurement method to ensure validity of reported improvement and comparability of measurement over time. The same source of measures should also be used at re-measurement points. Two PIPs employed statistical significance testing to

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document quantitative improvements in care (Improving Asthma Medication Management and Improving Care for Asthmatics; Step 9.2). One showed statistically significant improvement over multiple re-measurement points and the other showed stability on the first re-measurement. One of nine (11.1%) PIPs reporting improvements had face validity, meaning that the reported improvement is judged to have been related to the intervention applied (Step 9.3). There was little to no discussion or interpretation of findings by MC+ MCOs. After reporting findings, there should be some interpretation as to whether the intervention or some other factors may have accounted for improvement, decline, or lack of change (Step 9.4). Then, barriers should be identified and addressed for the next cycle of the PIP, or reasons for discontinuing the PIP should be described.

STEP 10: SUSTAINED IMPROVEMENT

Of the five PIPs examining multiple measurement points over time, only two (40.0%) PIPs used statistical significance testing to demonstrate improvement. One PIP showed statistically significant improvement over several measurement points. Across all MC+ MCOs, the range in proportion of criteria that were Met for each PIP validated was 0.0% through 62.5%. Across all PIPs validated statewide, 25.5% of criteria were met. All sources of available data were used to develop the ratings for the PIP items. However, EQRO comments were developed based on the written documentation and presentation of findings. For at least three MC+ MCOs, it appeared that PIP materials and narratives were developed in a short time frame in response to the EQRO request for information. In other cases, there was not enough information provided to validate the PIPs, but on-site interviews revealed in-depth knowledge of the PIPs. PIPs are to be ongoing, with periodic re-measurement points. At least quarterly re-measurement is recommended to provide timely feedback to the MC+ MCO regarding the need to address barriers to implementation. MC+ MCO personnel involved in PIPs had extensive experience in clinical service delivery, quality improvement, and monitoring activities, but not the requisite experience in designing valid evaluation studies using sound data collection and analysis methods. This requires technical expertise in health services research and/or program evaluation design. The development of a logic model describing the interventions, short-, intermediate-, and long-term goals and measures, and an analytic plan at the outset of a project are key aspects of implementing a project that will reliably identify the impact of an intervention.

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Table 2. Summary of Performance Improvement Project Validation Ratings by Item, All MC+ MCOs.

Step	All MC+ MCOs					
	Item	Number Met	Number Partially Met	Number Not Met	Total Number Applicable	Rate Met
Step 1: Selected Study Topics	1.1	6	4	3	13	46.2%
	1.2	9	3	2	14	64.3%
	1.3	1	9	4	14	7.1%
Step 2: Study Questions	2.1	6	0	8	14	42.9%
Step 3: Study Indicators	3.1	7	7	0	14	50.0%
	3.2	4	7	3	14	28.6%
Step 4: Study Populations	4.1	0	10	4	14	0.0%
	4.2	2	8	3	13	15.4%
Step 5: Sampling Methods	5.1	0	1	3	4	0.0%
	5.2	1	0	2	3	33.3%
	5.3	0	0	2	2	0.0%
Step 6: Data Collection Procedures	6.1	6	3	4	13	46.2%
	6.2	7	5	2	14	50.0%
	6.3	2	6	6	14	14.3%
	6.4	0	5	3	8	0.0%
	6.5	2	1	11	14	14.3%
	6.6	1	7	6	14	7.1%
Step 7: Improvement Strategies	7.1	6	4	4	14	42.9%
Step 8: Analysis and Interpretation of Study Results	8.1	0	1	10	11	0.0%
	8.2	3	5	3	11	27.3%
	8.3	1	5	5	11	9.1%
	8.4	1	1	8	10	10.0%
Step 9: Validity of Improvement	9.1	5	1	4	10	50.0%
	9.2	1	1	7	9	11.1%
	9.3	1	3	5	9	11.1%
	9.4	1	0	8	9	11.1%
Step 10: Sustained Improvement	10.1	1	2	2	5	20.0%
Number Met		**74**	**99**	**122**	**295**	**25.1%**

Note: Percent Met = Number Met/ Number Applicable; Item refers to the Protocol specifications.
Source: BHC, Inc., 2004 External Quality Review Performance Improvement Project Validation.

Table 3 shows a summary of the final audit rating assessing the level of confidence in the credibility or potential credibility of PIP findings based on the current status of the projects. Two of the 14 PIPs produced highly credible findings partly as a result of conducting statistical significance testing and demonstrating the significance of change or stability over re-measurement points. The proportion of items met for each PIP may not correspond with the final ratings. This is due to the fact that although discrete criteria may have been met (e.g., specifying the calculation of measures), the overall study design may not have appropriately incorporated the measures or the measures may not have been valid indices of the intervention(s). The final audit ratings were based on the entire project design and implementation.

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Table 3. Validity and Reliability of Performance Improvement Project Results.

PIP Name	Rating
Member Reminder Initiative	Low Confidence
School-Based Program Participation 2004	Low Confidence
Increasing Appropriate Childhood Immunization Practices	Low Confidence
Increasing Blood Lead Testing by PCPs	Low Confidence
Emergency Room Utilization	Low Confidence
Lead	Low Confidence
Improving Quality of life of Members Living with Asthma	Moderate Confidence
High Risk Pregnancy	Moderate Confidence
Emergency Room Utilization	Not Credible
Twenty-Four Hour Provider Access Monitor	Not Credible
Identification of MC+ Children with Elevated Blood Lead Level	Low Confidence
Improving Asthma Medication Management	Low Confidence
Lead Testing Improvement Project	High Confidence
Improving Care for Asthmatics	High Confidence

Note: Not Credible = There is little evidence that the study will or did produce results that could be attributed to the intervention(s); Low Confidence = Few aspects of the PIP were described or performed in a manner that would produce some confidence that findings could be attributed to the intervention(s); Moderate Confidence = Many aspects of the PIP were described or performed in a manner that would produce some confidence that findings could be attributed to the intervention(s); High Confidence = The PIP study was conducted or planned in a methodologically sound manner, with internal and external validity, standard measurement, and data collection practices, and appropriate analyses to calculate that there is a high level of confidence that improvements were a result of the intervention. A 95% to 99% level of confidence in the findings was or may be able to be demonstrated.
Source: BHC, Inc., 2004 External Quality Review Performance Improvement Project Validation.

STATEWIDE PERFORMANCE IMPROVEMENT PROJECT

A second objective of the EQRO with regard to PIPs was to obtain input from MC+ MCOs on the implementation of a statewide PIP. There has been some discussion in the MC+ Quality Assessment and Improvement (QA & I) Advisory Group about the SMAs desire to implement a statewide PIP for MC+ Members. At the time of the EQRO, there were plans to implement a project in 2007, but no specific topic or plan for implementation had been identified.

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It may be appropriate to identify a statewide PIP topic based on the topics chosen by MC+ MCOs for PIPs. All three of the Western Region MC+ MCOs had lead poisoning identification or treatment as PIPs underway during the previous 12 months, but it was reported that lead poisoning was less of a concern in the Eastern Region, with maternity issues presenting a greater concern. There were three MC+ MCOs across the Eastern and Western MC+ Regions that identified the treatment of asthma for PIPs. One of these PIPs was identified as a Best Practice and the other demonstrated moderate potential for producing credible findings.

Conclusions

Based on the PIP validation process, at least four MC+ MCOs (Mercy Health Plan, Family Health Partners, First Guard and Blue Advantage Plus) had active and ongoing PIPs as part of their quality improvement program. The following summarizes the strengths, areas for improvement, and recommendations based on the findings of the Validation of Performance Improvement Projects activity.

STRENGTHS

1. There was good topic identification and good intervention development for PIPs. MC+ MCO personnel were well qualified to identify study topics, areas in need of improvement, and interventions to address barriers to quality of care and health outcomes.
2. MC+ MCOs implemented interventions aimed at key aspects of enrollee care and services, such as medication management, risk identification and stratification for various levels of care, monitoring provider access, blood lead level screening, and preventive care.
3. The descriptions of studies and intended purposes were often clear and relevant to the rationale and problem identified.
4. Study indicators were well-defined and methods for calculating them were detailed.
5. Study designs specified the data to be collected and the sources of data for each measure.
6. Quality improvement strategies were appropriate and relevant.
7. The same methods and measures over re-measurement periods were used.
8. The Improving Care for Asthmatics PIP was underway for several re-measurement periods and identified statistically significant improvement in healthcare outcomes over re-measurement periods. This PIP meets criteria as a Best Practice, and the intervention should be shared with other MC+ MCOs to assist with the improvement of healthcare outcomes for all MC+ Members with asthma.
9. Additional PIPS (Improving the Quality of Life of Members Living with Asthma, Lead Testing Improvement Project, and High Risk Pregnancy) were judged to be likely or highly likely to produce credible and valid findings to identify Best Practices.

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10. MC+ MCO personnel were attentive and responsive to technical assistance for the implementation of PIPs and presented goals or plans for improving the process in the future.
11. MC+ MCOS instituted personnel and/or role changes to improve the focus and expertise of personnel responsible for PIP implementation.

AREAS FOR IMPROVEMENT

1. Study questions, although implied, were not stated in many of the PIPs. The study question frames the purpose, intended outcomes, goals, and methods for the study.
2. There were two PIPS that were focused almost exclusively on cost and/or utilization, and one that appeared to be focused on improving documentation of care alone. PIPs should directly address the outcomes of care on health or functional status.
3. Data analysis plans were not described in most of the PIPs. The method of data collection and compilation is often dependent on the plan for data analysis. A plan should be developed prior to conducting a PIP, and modified as needed to be able to test for significant in improvement or stability of performance on the outcome measures over time. Data analyses could not be evaluated without a description of the plan.
4. There was limited technical expertise at MC+ MCOs for designing methodologically sound evaluation studies, conducting sampling and statistical analysis, and interpreting findings.
5. There were PIPs underway or ongoing that resulted in the potential for credible findings.
6. Although it appears that many MC+ MCOs conduct PIPs on an ongoing basis as part of their quality improvement program, at least three MC+ MCOs appeared to have developed or conducted PIPs in response to the request by the EQRO for materials.

RECOMMENDATIONS

1. It is recommended that MC+ MCOs obtain additional training, assistance and expertise for the design, statistical analysis, and interpretation of PIP findings.
2. In the design of PIPs, MC+ MCOs need to use generally accepted practices for program evaluation to conduct PIPs. In addition to training on the development of PIPs and on-site technical assistance, references to the CMS protocol, "Calculating Performance Measures" were provided by the EQRO to each MC+ MCO along with references on logic model development, health services evaluation methods, and health statistics (see Appendix 3).
3. PIPs should be conducted on an ongoing basis, with at least quarterly measurement of some indices to provide data about the need for changes in implementation, data collection, or interventions.
4. It is recommended that a statewide PIP be identified by the SMA and the MC+ QA & I Group for planning and implementation one year prior to the planned implementation. The topic should be chosen based on the present study findings and current topic identification of MC+ MCOs as important processes that are likely to affect a broad segment of the population and key healthcare outcomes. Asthma treatment and management appears to be an important topic with interventions that have been shown to be effective with MC+ Members.

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SECTION TWO: VALIDATION OF PERFORMANCE MEASURES

Definition

The Validating Performance Measures Protocol requires the EQRO to validate three performance measures at each MC+ MCO, as selected by the State Medicaid Agency (SMA; the Missouri Department of Social Services, Division of Medical Services; DMS). The three performance measures validated by the EQRO were the HEDIS 2004 measures of Adolescent Immunization Status, Combination #1; Adolescent Well-Care Visits; and the Use of Appropriate Medications for People with Asthma (Combined Rate). Protocol activities involved the review of the data management processes of the MC+ MCO, evaluation of algorithmic compliance with performance measure specifications, and verification of either the entire set or a sample of the performance measures to confirm that the reported results are based on accurate service information.

Purpose and Objectives

The objectives for validating performance measures were to evaluate the accuracy of Medicaid performance measures reported by, or on behalf of, MC+ MCOs; and determine the extent to which MC+ MCO-specific performance measures calculated by MC+ MCOs (or by entities acting on behalf of MC+ MCOs) followed specifications established by the SMA and the State Public Health Agency (SPHA; Missouri Department of Health and Senior Services; DHSS) for the calculation of the performance measure(s).

Technical Methods

The reliable and valid calculation of performance measures is necessary for calculating statewide rates, comparing MC+ MCO performance with other MC+ MCOs, and for comparing State and MC+ MCO performance with national benchmark data for Medicaid managed care and/or Commercial Managed Care Organization (MCO) members to evaluate program effectiveness and access to care. State of Missouri requirements for MC+ MCO performance measurement and reporting were reviewed. The Missouri Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) contains provisions requiring all Health Maintenance Organizations (HMOs) operating in the State of Missouri to submit to the State SPHA member satisfaction survey findings and quality indicator data in formats conforming to the National

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Committee for Quality Assurance (NCQA) Health Employer Data Information Set (HEDIS) Data Submission Tool (DST) and all other HEDIS Technical Specifications[9] for performance measure descriptions and calculations. Additionally, the State of Missouri contract for Medicaid Managed Care (B3Z03182; Revised Attachment 6, Quality Improvement Strategy, 08/13/2003) stipulates that MC+ MCOs will follow instructions of the SPHA for submission of HEDIS measures. The three measures selected by the SMA for validation were required to be calculated and reported by MC+ MCOs to both the SMA and the SPHA for MC+ Managed Care Members. The HEDIS 2004 Technical Specifications were reviewed for each of the three measures and are summarized below (see Tables 4, 5, and 6).

HEDIS 2004 ADOLESCENT IMMUNIZATION STATUS, COMBINATION #1

The following is the general definition of the Adolescent Immunization Status measure and the specific parameters for the Combination #1 measure, an Effectiveness of Care measure as identified by NCQA.

> *The percentage of enrolled adolescents who turned 13 years old during the measurement year, who were continuously enrolled for 12 months immediately prior to their 13th birthday and who had a second dose of MMR, three hepatitis B and one VZV by the member's 13th birthday. The measure also calculates two separate combination rates. Combination #1 consists of adolescents who received the second MMR and three hepatitis B vaccinations as specified above.*

Table 4. HEDIS 2004 Technical Specifications for Adolescent Immunization Status, Combination #1.

Product lines:	Medicaid and commercial (report each product line separately).
Age:	Adolescents who turn 13 years old during the measurement year (2003).
Continuous enrollment:	Twelve months prior to the member's 13th birthday.
Allowable gap:	No more than one gap in enrollment of up to 45 days during the 12 months prior to the 13th birthday. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not continuously enrolled).
Anchor date:	Enrolled on the member's 13th birthday.
Benefit:	Medical.
Event/diagnosis:	None.
Denominator:	The eligible population.
Numerators: **Administrative Method:**	MMR CPT: 90707, 90710; ICD-9:99.48 Measles CPT:CPT: 90705, 90708; ICD-9:055*, 99.45 Mumps CPT:90704, 90709; ICD-9:072*, 99.46 Rubella CPT:90706, 90708, 90709; ICD-9:056*, 99.47

[9] National Committee for Quality Assurance (2003). HEDIS 2004, Volume 2: Technical Specifications. Washington, D.C.: NCQA.

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Table 4. HEDIS 2004 Technical Specifications for Adolescent Immunization Status, Combination #1 - Continued.

Hybrid Method:	Hepatitis B CPT:90723, 90740, 90743**, 90744, 90746, 90747, 90748; ICD-9:V02.61*, 070.2*, 070.3* For immunization information obtained from the medical record, the MCO may count members where there is evidence that the antigen was rendered from: a note indicating the name of the specific antigen and the date of the immunization, or a certificate of immunization prepared by an authorized health care provider or agency including the specific dates and types of immunizations administered
Measles, Mumps, Rubella (MMR):	A second dose of MMR by the member's 13th birthday. To be compliant, a member must have received either: one MMR on or between the member's 4th and 13th birthdays, or two MMRs on or between the member's 1st and 4th birthdays.
Hepatitis B (Hep B):	Three hepatitis B vaccinations with different dates of service by the member's 13th birthday. The MCO may count a member compliant if the member received the complete two-dose hepatitis B regimen identified by CPT code 90743. Members are also compliant if they receive one dose of the two-dose regimen (90743) and two other doses of hepatitis B.
Combination #1:	Adolescents who received the second MMR and three hepatitis B vaccinations as specified above.
Exclusion (optional):	Adolescents who had a contraindication for a specific vaccine may be excluded from the denominator for all antigen rates and the combination rates. The denominator for all rates must be the same. The MCO that chooses to exclude contraindicated adolescents may do so only for those adolescents where the administrative data does not indicate that the contraindicated immunization was rendered. The exclusion must have occurred by the member's 13th birthday. The MCO should look for contraindications as far back as possible in the member's history and may use the contraindications and codes in Table E2-B (see HEDIS Technical Specifications) to identify allowable exclusions.

Source: National Committee for Quality Assurance (2003). HEDIS 2004, Volume 2: Technical Specifications. Washington, D.C.: NCQA.

HEDIS 2004 ADOLESCENT WELL-CARE VISITS

The following is the definition of the Adolescent Well-Care Visits measure, an Access to Care measure, as defined by the NCQA.

> *The percentage of enrolled members who were 12–21 years of age and continuously enrolled during the measurement year and who had at least one comprehensive well-care visit with a primary care practitioner or an OB/GYN practitioner during the measurement year.*

Table 5. HEDIS 2004 Technical Specifications for Adolescent Well-Care Visits.

Product lines:	Medicaid and commercial (report each product line separately).
Ages:	12–21 as of December 31 of the measurement year (2003).
Continuous enrollment:	The measurement year (2003).
Allowable gap:	Members who have had no more than one gap in enrollment of up to 45 days during the measurement year. To determine continuous enrollment for a Medicaid member for who enrollment is verified monthly the member may not have more than a 1-month gap in coverage (i.e., a member whose coverage lapses for 2 months [60 days] is not considered continuously enrolled).
Anchor date:	Enrolled as of December 31 of the measurement year.
Benefit:	Medical.
Event/diagnosis:	None.

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Table 5. HEDIS 2004 Technical Specifications for Adolescent Well-Care Visits - Continued.

Denominator:	A systematic sample drawn from the MCO's eligible population. The MCO may reduce its sample size using the current year's administrative rate or the prior year's audited, product-line-specific rate.
Numerators:	At least one comprehensive well-care visit with a primary care practitioner or an OB/GYN practitioner during the measurement year, as documented through either administrative data or medical record review. The primary care practitioner does not have to be the practitioner assigned to the member. The MCO may count services that occur over multiple visits toward this measure as long as all services occur within the time frame established in the measure.
Administrative Method:	CPT Codes: 99383–99385, 99393- 99395 ICD-9-CM Codes: V20.2, V70.0, V70.3, V70.5, V70.6, V70.8, V70.9
Hybrid Method:	Documentation in the medical record must include a note indicating a visit to a primary care practitioner or OB/GYN practitioner, the date on which the well-care visit occurred, and evidence of all of the following: a health and developmental history (physical and mental) a physical exam health education/anticipatory guidance.

Source: National Committee for Quality Assurance (2004). HEDIS 2004, Volume 2: Technical Specifications. Washington, D.C.: NCQA.

HEDIS 2004 USE OF APPROPRIATE MEDICATIONS FOR PEOPLE WITH ASTHMA

The following is the definition of the Use of Appropriate Medications for People with Asthma measure, an Effectiveness of Care measure as defined by NCQA.

> *The percentage of enrolled members 5–56 years of age during the measurement year who were identified as having persistent asthma during the year prior to the measurement year and who were appropriately prescribed medication during the measurement year.*

Table 6. HEDIS 2004 Technical Specifications for Use of Appropriate Medications for People with Asthma.

Product lines:	Medicaid and commercial (report each product line separately).
Ages:	5–56 by December 31 of the measurement year (2003). For each product line, the measure should be reported for each of three age stratifications (based on age as of December 31 of the measurement year; 2003) and as a combined rate: 5–9 year-olds 10–17 year-olds 18–56 year-olds combined rate. The combined rate is the sum of the three numerators divided by the sum of the three denominators.
Continuous enrollment:	The measurement year and the year prior to the measurement year (2003).
Allowable gap:	No more than one gap in enrollment of up to 45 days during each year of continuous enrollment. To determine continuous enrollment for a Medicaid beneficiary for whom enrollment is verified monthly, the member may not have more than a 1-month gap in coverage during each year of continuous enrollment year.
Anchor date:	Enrolled as of December 31 of the measurement year (2003).
Benefits:	Medical. Pharmacy during the measurement year (2003).
Event/diagnosis:	Persistent asthma. To identify all members with persistent asthma, the MCO should use all applicable coding schemes to count members that meet the criteria listed below: Acute inpatient: CPT Codes: 99221-99223, 99231-99233, 99238, 99239, 99251-99255, 99261-99263, 99291, 99292; UB-92 Revenue Codes: 10X–16X, 20X–22X, 987 ED services: CPT Codes: 99281-99285, 99288; UB-92 Revenue Codes: 45X, 981 Outpatient visit : CPT Codes: 99201-99205, 99211-99215, 99217-99220, 99241-99245, 99271-99275; UB-92 Revenue Codes: 456, 510, 515-517, 520, 521, 523, 526, 76X, 770, 779, 982, 983, 988

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Table 6. HEDIS 2004 Technical Specifications for Use of Appropriate Medications for People with Asthma – Continued.

Step 1:	Identify members as having persistent asthma who, during the year prior to the measurement year (2002), had any of the following: at least one Emergency Department (ED) visit based on the visit codes below with asthma (ICD-9 code 493) as the principal diagnosis at least one acute inpatient discharge based on the visit codes below, with asthma as the principal diagnosis at least four outpatient asthma visits based on the visit codes in Table E14-A, with asthma as one of the listed diagnoses and at least two asthma medication dispensing events* at least four asthma medication dispensing events* (i.e., an asthma medication was dispensed on four occasions).
Step 2:	For a member identified as having persistent asthma because of at least four asthma medication dispensing events, and leukotriene modifiers were the sole asthma medication dispensed, the member must: meet any one of the other four criteria, or have at least one diagnosis of asthma in any setting in the year prior to the measurement year.
Exclusion:	The MCO may exclude from the eligible population all members diagnosed with emphysema and chronic obstructive pulmonary disease (COPD) any time on or prior to December 31 of the measurement year, as identified by the following codes: Emphysema ICD-9 Codes: 492, 506.4, 518.1, 518.2; COPD ICD-9 Codes: 491.2, 493.2-493.22, 496 491.20, 491.21, 492.0, 492.8, 496, 518.1, 518.2, 506.4

Source: National Committee for Quality Assurance (2004). HEDIS 2004, Volume 2: Technical Specifications. Washington, D.C.: NCQA.

METHODS OF CALCULATING PERFORMANCE MEASURES

According to HEDIS technical specifications, there are two methods of calculating performance measures: 1) the Administrative Method and 2) the Hybrid Method. The Adolescent Immunization Status, Combination #1 and the Adolescent Well-Care Visits measures permit the MCO to calculate the percentages (also referred to as rates) using either the Administrative Method or the Hybrid Method. The Use of Appropriate Medications for People with Asthma measure is required to be calculated using the Administrative Method.

The Administrative Method involves examining claims and other databases (administrative data) to calculate the number of members in the entire eligible population who received a particular service (e.g., immunizations, well-care visits, or medication). The eligible population is defined by the HEDIS technical specifications. Those cases in which administrative data show that the member received the service(s) examined are considered "hits", or "administrative hits." The HEDIS technical specifications provide acceptable administrative codes for identifying an administrative hit.

The Hybrid Method entails the selection of a random sample of members from the eligible population during the measurement year. For the Hybrid Method, administrative data are examined to select members eligible for the measure and to identify the number of members who received

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the service(s) as evidenced by a claim submission or through external sources of administrative data (e.g., State Public Health Agency Vital Statistics or Immunization Registry databases). Those cases in which there are no administrative data indicating that the member received the service or all of the services required to be an "administrative hit" are identified for medical record review. Documentation of all or some of the services in the medical record in combination with administrative data is considered a "hybrid hit."

Administrative hits and hybrid hits are summed to form the numerator of the rate of members receiving the service of interest (e.g., immunizations, well-care visit, and medication). The denominator of the rate is represented by the eligible population or those sampled from the eligible population. A simple formula of dividing the numerator into the denominator produces the rate reported to the SMA and the SPHA, expressed in percentages. There are a number of other specifications for sampling, oversampling, replacement, and treatment of contraindications for services that are further explained in the HEDIS 2004 Technical Specifications: Volume 2[10] to which the interested reader is referred.

TIME FRAME

According to the HEDIS technical specifications, the time frame for including members in the eligible population or sample was the measurement year of calendar year (CY) 2003 for the Adolescent Immunization Status and the Adolescent Well-Care Visits measures. The time frame for including members in the eligible population or sample was the measurement year (CY2003) and the year before the measurement year (CY2002) for the Use of Appropriate Medications for People with Asthma measure. The time frame for the events of interest (e.g., immunizations, well-care visits, and use of medication) was CY2003.

PROCEDURES FOR DATA COLLECTION

The HEDIS 2004 technical specifications for each measure validated were reviewed by the EQRO Project Director, Research Analyst, and a health management informatics consultant. Extensive training in data management and programming for healthcare quality indices, clinical training, research methods, and statistical analysis expertise were well represented among the personnel involved in adapting and implementing the Validating of Performance Measures Protocol to conform to the HEDIS, SMA, and SPHA requirements while maintaining consistency with the Validating

[10] National Committee for Quality Assurance (2003). HEDIS 2004, Volume 2: Technical Specifications. Washington, D.C.: NCQA.

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Performance Measures Protocol. The following sections describe the procedures for each activity in the Validating Performance Measures Protocol as they were implemented for the three HEDIS 2004 measures validated.

Pre-On-Site Activity One: Reviewer Worksheets

Reviewer Worksheets were developed for the purpose of conducting activities and recording observations and comments for follow-up at the site visits. HEDIS 2004 technical specifications were used to refine the Reviewer Worksheets for the evaluation of each item. Throughout September and October 2004, project personnel met weekly to review available source documents and develop the Reviewer Worksheets for conducting pre-on-site, on-site, and post-on-site activities as described below. The reviews formed the basis for completing the Attachments (V, VII, X, XII, XIII, and XV) of the Validating Performance Measures Protocol for each measure and MC+ MCO. Source documents used to develop the methods for review and complete the Attachments included:

- Information Systems Capabilities Assessments (ISCA) developed by the SMA and completed by the MCOs during 2003 and 2004
- HEDIS 2004 Data Submission Tool (DST)
- HEDIS 2004 Baseline Assessment Tool (BAT)
- HEDIS 2004 Audit Report
- HEDIS 2004 SPHA Reports

Pre-On-Site Activity Two: Preparation of MC+ MCOs

Individual conversations with QI/UM Coordinator or the Medicaid Plan Administrator designee, presentations, MC+ MCO orientation teleconference calls, and individual communications with personnel at MC+ MCOs responsible for HEDIS 2004 performance measure calculation were conducted between October 2004 and February 2005, with follow-up telephone calls and written communications continuing through April 2005. From October 18, 2004 through October 29, 2004, the EQRO conducted technical assistance orientation phone calls with each of the MC+ MCOs to provide education about the Validating of Performance Measures Protocol and the EQRO submission requirements. All written materials, letters and instructions were reviewed and approved by the SMA in advance. Technical objectives, methods, procedures, data sources, communication with the EQRO, and contact information for EQRO personnel were provided to MC+ MCOs prior to the teleconference calls. MC+ MCOs were requested to have in attendance the person(s) responsible for the calculation of the HEDIS 2004 performance measures validated. Teleconference meetings were led by the EQRO Project Director, with key project personnel and a representative from the SMA in attendance. Technical assistance was focused on describing the

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Validating Performance Measures Protocol; identifying the three measures validated; the purpose, activities and objectives of the EQRO; and defining the information and data needed for the EQRO to validate the performance measures.

Additional technical assistance was provided to the attendees of the MC+ MCO All-Plan Meeting on October 21, 2004 by the EQRO Project Director and personnel. On November 12, 2004, formal written requests for data and information from the MC+ MCOs for the validation of performance measures were made by the EQRO, to be submitted by MC+ MCOs by November 23, 2004 (see Appendix 4). Detailed letters and instructions were mailed to QI/UM Coordinators and Medicaid Plan Administrators explaining the type of information, purpose, and format of submissions. EQRO personnel were available and responded to electronic mail and telephone inquiries; and requested clarification throughout the evaluation process. The following are the data and documents requested from MC+ MCOs for the Validating Performance Measures Protocol:

- HEDIS 2004 Data Submission Tool for all three measures for the MC+ Managed Care Population only. Do not include other measures or populations.
- 2004 HEDIS Audit Report. This is the HEDIS Performance Audit Report for the MC+ Managed Care Program product line and the three MC+ measures to be validated (complete report). If the three measures to be validated were not audited or if they were not audited for the MC+ Managed Care Program population, please send the report, as it contains Information Systems Capability Assessment Information that can be used as part of the Protocol.
- Baseline Assessment Tool for HEDIS 2004. The Baseline Assessment Tool is to include descriptions of the process for calculating measures for the MC+ Managed Care Program population.
- List of cases for denominator with all HEDIS 2004 data elements specified in the measures.
- List of cases for numerators with all HEDIS 2004 data elements specified in the measures, including fields for claims data and MOHSAIC, or other administrative data used. Please note that one of the review elements in the Protocol is: The "MCO/PIHP has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced."
- List of cases for which medical records were reviewed, with all HEDIS 2004 data elements specified in the measures. BHC will request MCOs to gather a maximum of 30 records per measure, based on a random sample and the MCO will be requested to send copies.
- Sample medical record tools used for hybrid methods for the three HEDIS 2004 measures for the MC+ Managed Care Program population; and instructions for reviewers.
- All worksheets, memos, minutes, documentation, policies and communications within the MCO and with HEDIS auditors regarding the calculation of the selected measures.
- Policies, procedures, data and information used to produce numerators and denominators.

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- Policies, procedures, and data used to implement sampling (if sampling was used). At a minimum, this should include documentation to facilitate evaluation of:
  - Statistical testing of results and any corrections or adjustments made after processing.
  - Description of sampling techniques and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology.
  - Documentation of calculation for changes in performance from previous periods (if comparisons were made), including tests of statistical significance.
- Policies and procedures for mapping non-standard codes.
- Record and file formats and descriptions for entry, intermediate, and repository files.
- Electronic transmission procedures documentation. (This will apply if MCO sends or receives data electronically from vendors performing the HEDIS abstractions, calculations or data entry.)
- Descriptive documentation for data entry, transfer, and manipulation programs and processes.
- Samples of data from repository and transaction files to assess accuracy and completeness of the transfer process.
- Documentation of proper run controls and of staff review of report runs.
- Documentation of results of statistical tests and any corrections or adjustments to data along with justification for such changes.
- Documentation of sources of any supporting external data or prior years' data used in reporting.
- Procedures to identify, track, and link member enrollment by product line, product, geographic area, age, sex, member months, and member years.
- Procedures to track individual members through enrollment, disenrollment, and possible re-enrollment.
- Procedures used to link member months to member age.
- Documentation of "frozen" or archived files from which the samples were drawn, and if applicable, documentation of the MCO's process to re-draw a sample or obtain necessary replacements.
- Procedures to capture data that may reside outside the MCO's data sets (e.g. MOHSAIC).
- Policies, procedures, and materials that evidence proper training, supervision, and adequate tools for medical record abstraction tasks. (May include training material, checks of inter-rater reliability, etc.)

Pre-On-Site Activity Three: Assess the Integrity of the MCO's Information System

The objective of this activity was to assess the integrity of the MC+ MCOs' ability to link data from multiple sources. Once the Reviewer Worksheets were developed, EQRO personnel reviewed the SMA-developed and administered Information Systems Capability Assessment (ISCA) and the HEDIS 2004 Baseline Assessment Tool (BAT) submitted by each MC+ MCO. Detailed notes and follow-up questions were formulated for the site visit review.

On-Site Activity One: Assess Data Integration and Control

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The objective of this activity was to assess the MC+ MCOs' ability to link data from multiple sources and assess whether these abilities ensure the accuracy of the measures. The site visit activities addressed a series of technical, process, and competency reviews with personnel (including management and technical staff) and vendors involved in the development and production of the HEDIS 2004 performance measures. The site visit activities examined the HEDIS 2004 reporting processes, databases, software and vendors for the three measures validated. This included reviewing data processing issues for generating the rates and determining the numerator and denominator counts. Other activities involved generating ad-hoc reports based on similar criteria for at least one of the measures, reviewing database processing systems, software, organizational reporting structures, and sampling methods. The following are the activities conducted at each MC+ MCO:

- Review results of run queries (on-site observation, screen-shots, test output)
- Examination of data fields for numerator & denominator calculation (examine field definitions and file content)
- Review of applications, data formats, flowcharts, edit checks and file layouts
- Review of source code, software certification reports
- Review HEDIS repository procedures, software manuals
- Test for code capture within system for measures (confirm principal & secondary codes, presence/absence of non-standard codes)
- Review of operating reports
- Review information system policies (data control, disaster recovery)
- Review vendor associations & contracts

The following are the interview questions developed for the site visits:

- What are the processes of data integration and control within information systems?
- What documentation processes are present for collection of data, steps taken and procedures to calculate the HEDIS measures?
- What processes are used to produce denominators?
- What processes are used to produce numerators?
- How is sampling done for calculation of rates produced by the hybrid method?
- How does the MCO submit the requirement performance reports to the State?

From the site visit activities, interviews, and document reviews, Attachment V (Data Integration and Control Findings) of the Protocol was completed for each MC+ MCO and performance measure validated.

On-Site Activity Two: Assess Documentation of Data and Processes Used to Calculate and Report Performance Measures

The objectives of this activity were to assess the documentation of data collection, assess the process of integrating data into a performance measure set, and examine procedures used to query the data set to identify numerators, denominators, generate a sample, and apply proper algorithms.

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From the site visit activities, interviews, review of numerator and denominator files and document reviews, Attachment VII (Data and Processes Used to Calculate and Report Performance) of the Protocol was completed for each MC+ MCO and measure validated. One limitation of this step was the inability of MC+ MCOs to provide documentation of processes used to calculate and report the performance measures due to the use of proprietary software or off-site vendor software and claims systems.

On-Site Activity Three: Assess Processes Used to Produce the Denominators

The objectives of this activity were to determine the extent to which all eligible members were included, evaluate programming logic and source codes relevant to each measure, and evaluate eligibility, enrollment, age, codes, and specifications related to each performance measure.

The content and quality of the data files submitted were reviewed to facilitate the evaluation of compliance with the HEDIS 2004 technical specifications. MC+ MCOs did not consistently submit the requested level of data (e.g., all elements required by the measures or information on hybrid or administrative data). The fields in the data files sometimes included information such as member identification number, member name, date of birth, enrollment start and end dates, dates of services, and diagnosis or procedure codes for each of the three measures. The format and content of files submitted by MC+ MCOs varied such that it precluded a standard method for evaluating and validating the numerators and denominators across MC+ MCOs. There was little to no documentation of the data files, the field names, the definitions of the field names, or the processes of determining numerators and denominators contained in the files submitted. The format of the data files varied across MC+ MCOs depending on the MC+ MCO's information system design and the HEDIS reporting software output. Thus, a general approach was developed after evaluation of the content and format of numerator and denominator files submitted by all MC+ MCOs. Specific methods for each MC+ MCO were based on the actual content and format of the data provided by individual MC+ MCOs. Additional information regarding the format and content of files was gathered through communication with the designated contact person at each MC+ MCO, the QI/UM Coordinator, and site visit interviews with personnel and vendors responsible for calculating and reporting the HEDIS 2004 performance measures.

The validation of denominators in the submitted files involved examining the range of values for each of the criteria, such as dates of birth of members, and the last dates of enrollment. The number of cases that were designated as denominators and met the denominator criteria for the valid ranges

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were considered valid. From the site visit activities, interviews, review of numerator and denominator files and document reviews, Attachment X (Denominator Validation Findings) of the Protocol was completed for each MC+ MCO and performance measure validated.

On-Site Activity Four: Assess Processes Used to Produce the Numerators

The objectives of this activity were to evaluate the MC+ MCOs' ability to accurately identify medical events (e.g., immunizations, well-care visits, medications), evaluate the MCOs' ability to identify events from other sources (e.g., medical records, State Public Immunization Registry), assess the use of codes for medical events, evaluate procedures for non-duplication of event counting, examine time parameters, review the use of non-standard codes and maps, identify medical record review procedures (Hybrid Method), and review the process of integrating administrative and medical record data.

For the Administrative Method, validation of the numerators was conducted for all three measures using the specified parameters for the dates of service(s), diagnosis codes, procedure codes, and pharmacy codes as appropriate to the respective measures. For example, for all three measures, dates of service were required to occur between January 1, 2003 and December 31, 2003. Cases with dates outside this range were considered not valid.

Validation of numerators for the Hybrid Method followed the Validating Performance Measures Protocol for sample selection and calculation of bias related to the medical record review. The Protocol requires the EQRO to sample up to 30 records from the medical records reported by the MC+ MCO as meeting the numerator criteria (hybrid hits). In the event that the MC+ MCO reported fewer than 30 numerator events from medical records, the EQRO requested all medical records that were reported by the MC+ MCO as meeting the numerator criteria. This approach does not apply to the Use of Appropriate Medications for People with Asthma, as the Administrative Method of calculation is required by HEDIS technical specifications.

In some cases, the number of cases in the numerator files were not able to be validated against those reported on the HEDIS DST. For six of the seven MC+ MCOs, it was discovered that not all possible records up to the sample of 30 were initially requested by the EQRO as a result of the inability to identify numerator cases in the numerator files. Initial requests for documents and data were made on November 8, 2004, with submissions due to the EQRO by November 23, 2004. Samples of medical records were requested from MC+ MCOs on January 3, 2005. For those

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medical records that were requested subsequent to the discovery that not all numerators were identified (February 4, 2005), the submission deadline was extended to February 18, 2005. There was confusion on the part of some MC+ MCOs about the nature of documentation (medical records, not printouts of databases or reviewer worksheets) and the measures validated (e.g., Combination #1, not Combination #2 for Adolescent Immunization Status). The EQRO continued to work closely with several MC+ MCOs and accepted records submitted as late as February 24, 2005. This allowed an additional fourteen business days from the follow-up request for the 30 or fewer sampled records for each of the two measures using the Hybrid Method. The timelines for medical record requests of a total of 60 or fewer records per MC+ MCO were within the five day time frame specified by the State of Missouri Medicaid Managed Care Contract for providing small numbers of medical records. Additionally, the process allowed for re-submission of records for MC+ MCOs that provided file layouts without any method of identifying hybrid cases. It should be noted that several MC+ MCOs submitted records via fax and electronic mail despite strong admonishments from EQRO personnel. MC+ MCOs should not transmit Protected Health Information through electronic mail without encryption or de-identification of Limited Data Set information.

The review of medical records was administered by Reliable Health Care, Inc. (RHC), a temporary healthcare services provider located in Kansas City, Missouri and a Business Associate of Behavioral Health Concepts, Inc., (the EQRO). This company is a State of Missouri certified Minority-Owned Business Enterprise (MBE) operated by two registered nurses. RHC possesses expertise in recruiting nursing and professional health care staff for clinical, administrative, and HEDIS medical record review services. The review of medical records was conducted by RNs with over 20 years of clinical experience and who were currently licensed and practicing in the State of Missouri. Two RNs participated in the training and medical record review process and both had at least three years of experience conducting medical record reviews for HEDIS measures.

Medical record abstraction tools for the Adolescent Immunization Status, Combination #1, and the Adolescent Well-Care Visits measures were developed by the EQRO Project Director and revised in consultation with a physician and research analyst and with the input of the nurse reviewers. The 2004 HEDIS technical specifications and the Validating Performance Measures Protocol criteria were used to develop the medical record review tools and data analysis plan. A medical record review manual and documentation of ongoing reviewer questions and resolutions were developed for the

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present review. A full day of training was conducted by the EQRO Project Director on February 25, 2005 using sample medical record tools and reviewing all responses with feedback and discussion. The reviewer training and training manual covered content areas such as Health Insurance Portability and Accountability Act (HIPAA), confidentiality, conflict of interest, review tools, project background, Missouri's Early and Periodic Screening, Diagnosis, and Treatment Program (EPSDT; the Healthy Children and Youth; HCY Program) and forms, Association for Professionals in Infection Control and Epidemiology (APIC) guidelines, and Bright Futures Guidelines (promulgated by the American Academy of Pediatricians). Teleconference meetings between the nurses, coders, and EQRO Project Director were conducted at least weekly, and additionally as needed to resolve questions and coding discrepancies throughout the duration of the medical record review process.

A Senior Research Associate with three years of experience conducting EQRO medical record review data collection and analysis and five years of experience collecting, managing, and analyzing data using relational database and specialized statistical software packages managed the process of medical record data collection and analysis. A data entry format with validation parameters was developed for accurate data entry. A data entry manual and a full day of training was provided to the data entry person at RHC, Inc. Data were reviewed weekly for accuracy and completeness, with feedback and corrections made to the data entry person. The final databases were reviewed for validity, verified, and corrected prior to performing analyses. All data analyses were developed, reviewed, approved, and finalized by the EQRO Project Director. Attachments XII (Impact of Medical Record Findings) and XIII (Numerator Validation Findings) were completed based on the medical record review of documents and site visit interviews.

On-Site Activity Five: Assess Sampling Process (Hybrid Method)

The objective of this activity was to assess the representativeness of the sample of care provided.

- Review Information Systems Capability Assessment (ISCA)
- Review HEDIS Baseline Assessment Tool (BAT)
- Review Data Submission Tool (DST)
- Review numerator and denominator files
- Conduct medical record review for measures calculated using hybrid methodology
- Determine the extent to which the record extract files are consistent with the data found in the medical records
- Review of medical record abstraction tools and instructions
- Conduct on-site interviews, activities, and review of additional documentation
- For those MCOs that calculated the Adolescent Immunization or Adolescent Well Care Visit measures via hybrid methodology, a sample of medical records (up to 30) was conducted to validate the presence of immunizations that contributed to the numerator.

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From the review of documents and site visits, Attachment XV (Sampling Validation Findings) was completed for those MC+ MCOs that elected the Hybrid Method for the HEDIS 2004 Adolescent Immunization Status, Combination #1 and the HEDIS 2004 Adolescent Well-Care Visits measure.

On-Site Activity Six: Assess Submission of Required Performance Measures to State

The objective of this activity was to assure proper submission of findings to the SMA and SPHA. The DST was obtained from the SPHA to determine the submission of the performance measures validated. Conversations with the SPHA representative responsible for compiling the measures for all MCOs in the State occurred with the EQRO Project Director to clarify questions, obtain data, and follow-up on MC+ MCO submission status.

Post- On-Site Activity One: Determine Preliminary Validation Findings for each Measure

Calculation of Bias

The Validating Performance Measures Protocol specifies the method for calculating bias based on medical record review for the Hybrid Method. In addition to examining bias based on the medical record review and the Hybrid Method, the EQRO calculated bias related to the inappropriate inclusion of cases with administrative data that fell outside the parameters described in the HEDIS 2004 technical specifications. For measures calculated using the Administrative Method, the EQRO examined the numerators and denominators for correct date ranges for dates of birth and dates of service as well as correct enrollment periods and codes used to identify the medical events. This was conducted as described above under on-site activities three and four. The estimated bias in the calculation of the HEDIS 2004 measures for the Hybrid Method was calculated using the following procedures, methods and formulas, consistent with the Validating Performance Measures Protocol. Specific analytic procedures are described in the following section.

Analysis

Once the medical record review was complete, all administrative data provided by the MC+ MCOs in their data file submissions for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure were combined with the medical record review data collected by the EQRO. This allowed for calculation of the final rate by the EQRO for the multiple events (measles, mumps, rubella; MMR; and Hepatitis B vaccinations, Hep B). The next step was to remove the duplicate immunizations documented in both the medical record and in administrative data. Then, the number of MMR and

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Hep B vaccinations at the specified age ranges (3 MMRs on or between the members 1st and 13th birthday; 3 Hep Bs on or before the members' 13th birthday) were counted for each record. Cases that met both criteria were counted as "hits" and considered valid numerators based on medical record review.

For the HEDIS 2004 Adolescent Well-Care Visits measure, only the medical record findings from the EQRO were used for analysis since this was a single event. In order for the single event of an adolescent well-care visit to be met, there had to be documented evidence of all three components specified in the HEDIS 2004 technical specifications (a health and developmental history, physical exam, and health education/anticipatory guidance) for there to be a medical record "hit".

For the calculation of bias based on medical record review for the MC+ MCOs using the Hybrid Method for the HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures, several steps were taken. First, the number of hits based on the medical record review were reported (Medical Records Validated by EQRO). Second, the Accuracy (proportion of Medical Records Validated by EQRO/Numerator Hits by Medical Records reported by the MCO) and Error Rates (100% - Accuracy Rate) were determined. Third, A Weight of Each Medical Record was calculated (100%/Denominator reported by the MCO) as specified by the Protocol. The number of False Positive Records was calculated (Error Rate * Numerator Hits by Medical Records reported by the MCO). This represents the number of records that were not able to be validated by the EQRO. The Estimated Bias from Medical Records was calculated (False Positive Rate * Weight of Each Medical Record).

To calculate the Total Estimated Bias in the calculation of the performance measures, the Administrative Hits Validated by the EQRO (through the previously described file validation process) and the Medical Record Hits Validated by the EQRO (as described above) were summed and divided by the Denominator reported by the MCO on the DST to determine the Rate Validated by the EQRO. The difference between the Rate Validated by the EQRO and the Rate Reported by the MC+ MCO to the SMA and SPHA was the Total Estimated Bias. A positive number reflects an overestimation of the rate, while a negative number reflects an underestimation of the rate.

Once the EQRO concluded its on-site activities, the validation activity findings for each performance measure were aggregated. This involved the review and analysis of findings and Attachments produced for each performance measure selected for validation and for the MCO's IS as a result of

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pre-on-site and on-site activities. The EQRO Project Director reviewed and finalized all ratings before submitting to the SMA for final ratings on all Attachments, and completed the Final Performance Measure Validation Worksheets for all measures validated and MC+ MCOs. Ratings for each of the Worksheet items (0 = Not Met; 1 = Partially Met ; 2 = Met) were summed for each worksheet and divided by the number of applicable items to form a rate for comparison to other MC+ MCOs. The worksheets for each measure were examined by the EQRO Project Director to complete the Final Audit Rating.

Below is a summary of the final audit rating definitions specified in the Protocol. Any measures not reported were considered "Not Valid." A Total Estimated Bias outside the 95% upper and lower confidence limits of the measures as reported by the MC+ MCO on the DST was considered not valid.

Fully Compliant:	Measure was fully compliant with State (SMA and SPHA) specifications.
Substantially Compliant:	Measure was substantially compliant with State (SMA and SPHA) specifications and had only minor deviations that did not significantly bias the reported rate.
Not Valid:	Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported. Significantly biased was defined by the EQRO as being outside the 95% confidence interval of the rate reported by the MC+ MCO on the HEDIS 2004 Data Submission Tool.

Once the EQRO submitted its preliminary findings to the MC+ MCOs, the MC+ MCOs were offered the opportunity to submit comments and documentation to support the correction of factual errors or omissions in the EQRO's preliminary report. Several MC+ MCOs submitted corrective action plans to address issues identified in the preliminary report.

Findings

MC+ MCOs conduct the calculation of performance measures in collaboration with a variety of vendors and use a number of different management information systems to extract data for the calculation of measures. They are also required to undergo annual audits by NCQA-accredited auditing firms that provide MC+ MCOs with recommendations for reporting or not reporting findings of specific measures to the NCQA. Regardless of the NCQA audit rating or rotation, MC+ MCOs are required to report the performance measures validated to the SMA and SPHA. Table 7

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summarizes the names of HEDIS-certified software used, medical record vendors, and HEDIS auditors. Tables 8 and 9 show the method of calculation used by each MC+ MCO and the audit ratings assigned by the NCQA Auditor. This information was taken from the NCQA-certified Auditors' reports and MC+ MCO self-report to the EQRO.

Table 7. HEDIS 2004 Software, Vendors, and Auditors for the HEDIS 2004 Measures.

MC+ MCO	Name of Software	Name of Medical Record Vendor	Name of HEDIS 2004 Auditor
Community Care Plus	MS Access, MS Excel (Novasys)	QMark/HEDISHelp	Healthcare Research Associates
Mercy Health Plan	Health Plan Reporter*	Mercy Health Plan/Q-Mark	Healthcare Research Associates
HealthCare USA	Quality Spectrum* HEDIS repository by Catalyst Technologies	Not Applicable. Do not use Hybrid Method.	HealthcareData.com, LLC
Missouri Care	Austin Provider Solutions	Missouri Care	Thomson MedStat
Family Health Partners	Software from vendor (OAOSH)	Family Health Partners	Qualis Health
FirstGuard	Health Plan Reporter*	FirstGuard	Metastar
Blue Advantage Plus	Health Plan Reporter*	QMark/HEDISHelp	Ernst & Young

Note: * NCQA-certified.

Table 8. Summary of Method of Calculation Reported and Validated by MC+ MCOs.

MC+ MCO	Adolescent Immunization Status, Combination #1	Adolescent Well-Care Visits	Use of Appropriate Medications for People with Asthma
Community Care Plus	Hybrid	Administrative	Administrative
Mercy Health Plan	Hybrid	Hybrid	Administrative
HealthCare USA	Hybrid	Administrative	Administrative
Missouri Care	Hybrid	Hybrid	Administrative
Family Health Partners	Hybrid	Administrative	Administrative
FirstGuard	Hybrid	Hybrid	Administrative
Blue Advantage Plus	Not Calculated	Administrative	Administrative

Table 9. Audit Designations from NCQA-Certified Auditors.

MC+ MCO	Audit Type	Adolescent Immunization Status Combination #1	Adolescent Well-Care Visits	Use of Appropriate Medications for People with Asthma
Community Care Plus	Partial	R	R	R
Mercy Health Plan	Full	R	R	R
HealthCare USA	Partial	R	R	R
Missouri Care	Partial	NA	R	R
Family Health Partners	Partial	R	R	R
FirstGuard	Full	R	R	R
Blue Advantage Plus	Full	NR	R	R

Note: NA = Measure not audited; NR = Measure not reported; R = Measure reportable; NCQA = National Committee for Quality Assurance.

Source: MCO self-report and NCQA Audit Report for HEDIS 2004.

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The validation of each of the performance measure is discussed in the following sections with the findings from each validation activity described. Subsequent sections summarize the status of submission of the measures validated to the SMA and SPHA, the Final Audit Ratings, and conclusions.

HEDIS 2004 ADOLESCENT IMMUNIZATION STATUS, COMBINATION #1

Data Integration and Control

The objective of this activity was to assess the MC+ MCOs' ability to link data from multiple sources. It is based on the integrity of the management information systems and the ability to ensure accuracy of the measures. For the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure, the sources of data included enrollment, eligibility, claim files, and State Public Health Immunization Registry (MOHSAIC) data. Table 10 summarizes the findings of Attachment V (Data Integration and Control Findings) of the protocol. The rate of items that were met was calculated across MC+ MCOs and from the number of applicable items for each MC+ MCO.

Of all the MC+ MCOs that calculated the measure, 84.6% Met the criteria for having accurate and established procedures for transferring data into data repositories for calculation of the measure, coordinating data integration with vendors, and following standards associated with programming and testing. All criteria were Met by six of the seven MC+ MCOs that calculated the measure (85.7%) except the one for documentation and reporting of software specifications for measure calculation. One MC+ MCO (Community Care Plus) Partially Met the criteria for documentation of the reporting software program with respect to all aspects of performance measure reporting (71.4%). Each MC+ MCO calculating the measure Met 92.3% to 100.0% of the criteria for data integration and control.

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Table 10. Data Integration and Control Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
5.1	MCO/PIHP processes accurately and completely transfer data from the transaction files (e.g., membership, provider, encounter/claims) into the repository used to keep the data until the calculations of the performance measures have been completed and validated.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.2	Samples of data from repository are complete and accurate.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.3	MCO's/PIHP's processes to consolidate diversified files, and to extract required information from the performance measure repository are appropriate.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.4	Actual results of file consolidations or extracts were consistent with those which should have resulted according to documented algorithms or specifications.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.5	Procedures for coordinating the activities of multiple subcontractors ensure the accurate, timely, and complete integration of data into the performance measure database.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.6	Computer program reports or documentation reflect vendor coordination activities, and no data necessary to performance measure reporting are lost or inappropriately modified during transfer.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.7	The repository's design, program flow charts, and source codes enable analyses and reports.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.8	Proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition).	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.9	Examine and assess the adequacy of the documentation governing the production process, including MCO/PIHP production activity logs, and MCO/PIHP staff review of report runs.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.10	Prescribed data cutoff dates were followed.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.11	The MCO/PIHP has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced.	2	2	2	2	2	2	0	6	0	1	7	85.7%
5.12	Review documentation standards to determine the extent to which the reporting software program is properly documented with respect to every aspect of the performance measurement reporting repository, including building, maintaining, managing, testing, and report production.	1	2	2	2	2	2	0	5	1	1	7	71.4%
5.13	Review the MCO's/PIHP's processes and documentation to determine the extent to which they comply with the MCO/PIHP standards associated with reporting program specifications, code review, and testing.	2	2	2	2	2	2	0	6	0	1	7	85.7%
	Number Met	12	13	13	13	13	13	0	77	1	13	91	84.6%
	Number Partially Met	1	0	0	0	0	0	0					
	Number Not Met	0	0	0	0	0	0	13					
	Number Applicable	13	13	13	13	13	13	13					
	Rate Met	92.3%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Documentation of Data and Processes

The objectives of this activity were to assess the documentation of data collection; the process of integrating data into a performance measure set; the procedures used to query the data set for sampling numerators and denominators; and the ability to apply proper algorithms. Table 11 summarizes the findings of Attachment VI (Data and Processes Used to Calculate and Report Performance Measures) of the Protocol. Item 7.3 (Statistical testing of results and corrections made after processing) did not apply to the measure. Items 7.5, 7.7, and 7.10 were not applicable to HealthCare USA, as they relate only to the use of the Hybrid Method of calculation. MC+ MCOs Met 61.3% of the criteria for applying appropriate data and process for the calculation of the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure. Of the MC+ MCOs that calculated the measure, 66.3% Met the criteria for documentation of data and processes. All MC+ MCOs that calculated the measure (six of seven; 85.7%) Met the criteria for following data file and field definitions. Five of the six MC+ MCOs used the Hybrid Method for calculation, and four Met criteria (66.7%) for having detailed medical record review practices and reviewer training materials. One MC+ MCO (Missouri Care) was unable to locate medical record review tools due to staff turnover. One MC+ MCO (Missouri Care) used maps to non-standard coding and Met the criteria for this item. External data sources (State Public Health Immunization Registry) for calculation of the measure were incorporated by five MC+ MCOs (71.4%). Community Care Plus did not incorporate State Public Health Immunization Registry (MOHSAIC) data into the calculation of the measure, and Blue Advantage Plus did not calculate the measure. Procedures for sampling were Met for five of six MC+ MCOs (83.3%). Although MC+ MCOs frequently graphed the rates of performance over several years, none of the MC+ MCOs used the calculation of statistical significance in rates from year to year as a measure of the significance of fluctuation in the measure (see items 7.8 and 7.11). When sampling, five of the six MC+ MCOs using the Hybrid Method Met (83.3%) the criteria for using appropriate statistical functions for determining confidence intervals for sampling. Each MC+ MCO calculating the measure Met 66.7% to 77.8% of the criteria for documentation of data and processes.

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Table 11. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
7.1	Data file and field definitions used for each measure.	2	2	2	2	2	2	0	6	0	1	7	85.7%
7.2	Maps to standard coding if not used in original data collection.	NA	NA	NA	2	NA	NA	0	1	0	1	2	50.0%
7.3	Statistical testing of results and any corrections or adjustments made after processing.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.4	All data sources, including external data (whether from a vendor, public registry, or other outside source), and any prior years' data (if applicable).	0	2	2	2	2	2	0	5	0	2	7	71.4%
7.5	Detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.	2	2	NA	0	2	2	0	4	0	2	6	66.7%
7.6	Detailed computer queries, programming logic, or source code used to identify the population or sample for the denominator and/or numerator.	2	2	2	2	2	2	0	6	0	1	7	85.7%
7.7	If sampling used, description of sampling techniques, and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
7.8	Documentation of calculation for changes in performance from previous periods (if applicable), including statistical tests of significance.	0	0	0	0	0	0	0	0	0	7	7	0.0%
7.9	Data that are related from measure to measure are consistent (e.g., membership counts, provider totals, number of pregnancies and births).	2	2	2	2	2	2	0	6	0	1	7	85.7%
7.10	Appropriate statistical functions are used to determine confidence intervals when sampling is used in the measure.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
7.11	When determining improvement in performance between measurement periods, appropriate statistical methodology is applied to determine levels of significance of changes.	0	0	0	0	0	0	0	0	0	7	7	0.0%
	Number Met	6	7	4	7	7	7	0	38	0	24	62	61.3%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	3	2	2	3	2	2	10					
	Number Applicable	9	9	6	10	9	9	10					
	Rate Met	66.7%	77.8%	66.7%	70.0%	77.8%	77.8%	0.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Processes Used to Produce Denominators

The objective of this activity was to determine the extent to which all eligible members were included in the denominator, evaluate the programming and logic source codes, and evaluate the specifications for calculating each measure. Table 12 summarizes the findings of Attachment X (Denominator Validation Findings) of the protocol. Items 10.5 (Identification of gender of the member), 10.6 (Calculation of member months or years), and 10.10 (Systems for estimating populations when they are unable to accurately be counted) were not applicable to this measure. Of the MC+ MCOs that calculated the measure, 85.7% Met the criteria for producing denominators according to specifications. This was due to one MC+ MCO not calculating measure. Six of the seven MC+ MCOs (85.7%) calculating the measure Met all criteria for the production of denominators. Each MC+ MCO calculating the measure Met the criteria for processes used to produce the denominators 100.0% of the time.

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Table 12. Denominator Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
10.1	All members who were eligible to receive the specified services were included in the initial population from which the final denominator was produced. This "at risk" population included both members who received the services, as well as those who did not. This same standard applies to provider groups or other relevant populations identified in the specifications of each performance measure.	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.2	For each measure, programming logic or source code which identifies, tracks, and links member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and sex, as well as through possible periods of enrollment and disenrollment, has been appropriately applied according to the specifications of each performance measure.	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.3	Calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.4	Proper mathematical operations were used to determine patient age or range.	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.5	The MCO/PIHP can identify the variable(s) that define the member's sex in every file or algorithm needed to calculate the performance measure denominator, and the MCO/PIHP can explain what classification is carried out if neither of the required codes is present.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.6	The MCO/PIHP has correctly calculated member months and member years, if applicable to the performance measure.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.7	The MCO/PIHP has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and these codes have been appropriately identified and applied as specified in each performance measure.	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.8	Any time parameters required by the specifications of the performance measure are followed (e.g., cut off dates for data collection, counting 30 calendar days after discharge from a hospital, etc.).	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.9	Performance measure specifications or definitions that exclude members from a denominator were followed. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.	2	2	2	2	2	2	0	6	0	1	7	85.7%
10.10	Systems or methods used by the MCO/PIHP to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
	Number Met	7	7	7	7	7	7	0	**42**	**0**	**7**	**49**	**85.7%**
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	0	0	0	0	0	0	7					
	Number Applicable	7	7	7	7	7	7	7					
	Rate Met	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 =Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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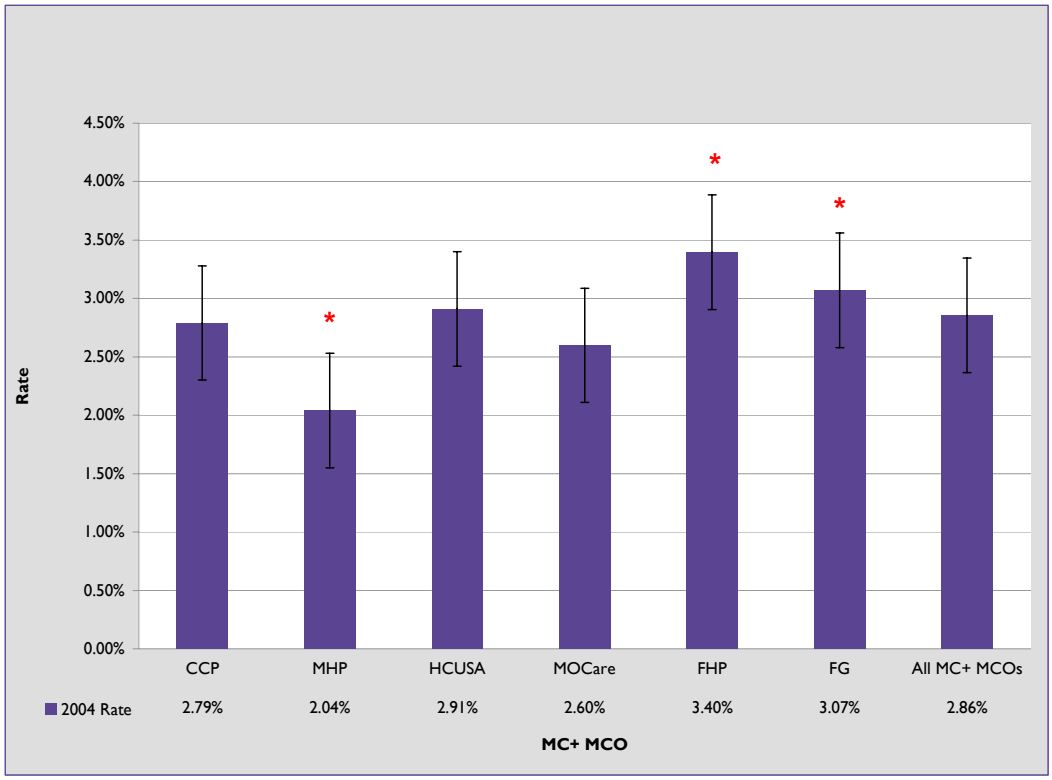
Figure 1 illustrates the rate of eligible members per MC+ MCO, based on the enrollment of all MC+ MCO Waiver Recipients as of December 31, 2003, the end of the CY2003 measurement year. It was expected that MC+ MCOs would identify similar proportions of eligible members for the measure. The rate of eligible members (percent of eligible members divided by the total enrollment) was calculated for all MC+ MCOs. Two-tailed z-tests of each MC+ MCO comparing MC+ MCOs to the rate of eligible members for all MC+ MCOs were conducted at the 95% level of confidence. Family Health Partners (3.40%) and FirstGuard (3.07%) identified significantly higher rates of eligible members than the rate for all MC+ MCOs (2.86%), while Mercy Health Plan (2.04%) identified a significantly lower rate of eligible members. The difference in rates may be due to the demographic characteristics of the member population, the completeness of claims data, or the processes of identifying eligible members. The identification of eligible members for the HEDIS 2004 Adolescent Immunization Status, Combination #1 is dependent on the quality of the enrollment and eligibility files.

Figure 1. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status, Combination #1, Eligible Members.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test. Enrollment as of the last week in December 2003 (the measurement year) was used to calculate the rate.

Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); Missouri Department of Social Services, Division of Medical Services, State MPRI Session Screens, enrollment figures for all Waivers, December 31, 2003.

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Processes Used to Produce Numerators

The objectives of this activity were to evaluate the MC+ MCOs' ability to accurately identify medical events, evaluate the ability to identify events from other sources, evaluate procedures for non-duplicate counting of multiple events, review time parameters and the use of non-standard code maps, and assess the processes and procedures for collecting and incorporating medical record review data. Table 13 shows the numerators, denominators, rates, and confidence intervals submitted by the MC+ MCOs to the SPHA on the DST for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure. The rate for all MC+ MCOs was calculated by the EQRO, thus, there is no confidence interval reported for the statewide rate. The rate for all MC+ MCOs was 14.36%, with MC+ MCO rates ranging from 0.00% (Blue Advantage Plus) to 58.88% (Family Health Partners).

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Table 13. Data Submission for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

MC+ MCO	Final Data Collection Method Used	Denominator (DST)	Administrative Hits Reported by MCO (DST)	Medical Record Hits Reported by MCO (DST)	Total Hits Reported by MCO (DST)	Rate Reported by MCO (DST)	UCL - LCL (DST)
Community Care Plus	Hybrid	411	1	143	144	35.04%	35.30% - 39.77%
Mercy Health Plan	Hybrid	411	17	62	79	19.22%	15.29% - 23.15%
HealthCare USA	Administrative	5,492	263	NA	263	4.79%	NA
Missouri Care	Hybrid	411	63	151	214	52.07%	47.12% - 57.02%
Family Health Partners	Hybrid	411	134	108	242	58.88%	54.00% - 63.76%
FirstGuard	Hybrid	411	30	112	142	34.55%	29.83% - 39.27%
Blue Advantage Plus	Not Calculated	0	0	0	0	0.00%	0.00%
All MC+ MCOs		**7,547**	**508**	**576**	**1,084**	**14.36%**	

Note: DST = Data Submission Tool; NA = Not Applicable; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); LCL = 95% Lower Confidence Limit; UCL = 95% Upper Confidence Limit. The denominator is either the eligible population (for administrative method calculation) or the sample size (for hybrid method calculation). The EQRO is charged with providing MCO to MCO comparisons. Therefore, the numerators and denominators for HealthCare USA were aggregated across all three regions, which were each 100% validated. Mercy Health Plans submitted data for Combination #2; Blue Advantage Plus did not calculate the measure. The statewide rate for all MC+ MCOs was calculated by the EQRO using the sum of numerators divided by the sum of denominators. There was no statewide rate or confidence limits reported to the SMA or SPHA.

Source: MC+ Managed Care Organization HEDIS 2004 Data Submission Tools (DST).

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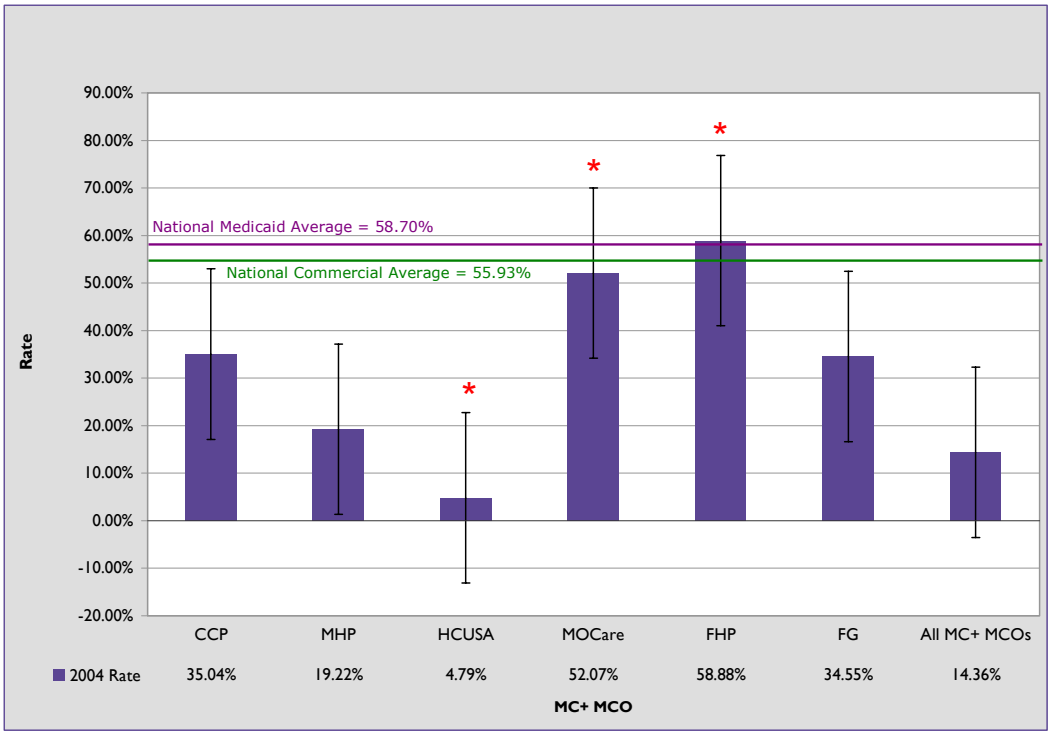
Figures 2, 3, and 4 illustrate the rates reported by the MC+ MCOs and the rates of administrative and hybrid hits for each MC+ MCO on the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure. The rate reported by each MC+ MCO was compared with the rate for all MC+ MCOs, with two-tailed z-tests conducted at the 95% confidence interval. The rate for all MC+ MCOs was lower than the National Commercial (55.93%) and the National Medicaid rates (58.70%). Family Health Partners and Missouri Care reported rates significantly higher than the rate for all MC+ MCOs (58.88% and 52.07%, respectively), while HealthCare USAs combined rate (4.79%) across all three regions was significantly below the rate for all MC+ MCOs (14.36%).

Figure 2. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status, Combination #1.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); National Committee for Quality Assurance (NCQA).

When the rates of administrative and hybrid hits were examined separately (see Figures 3 and 4), Family Health Partners and Missouri Care reported significantly higher rates of administrative hits (32.60% and 15.33%, respectively) than the rate for all MC+ MCOs (6.73%). However, HealthCare USA and Community Care Plus identified significantly lower rates of administrative hits (4.79% and

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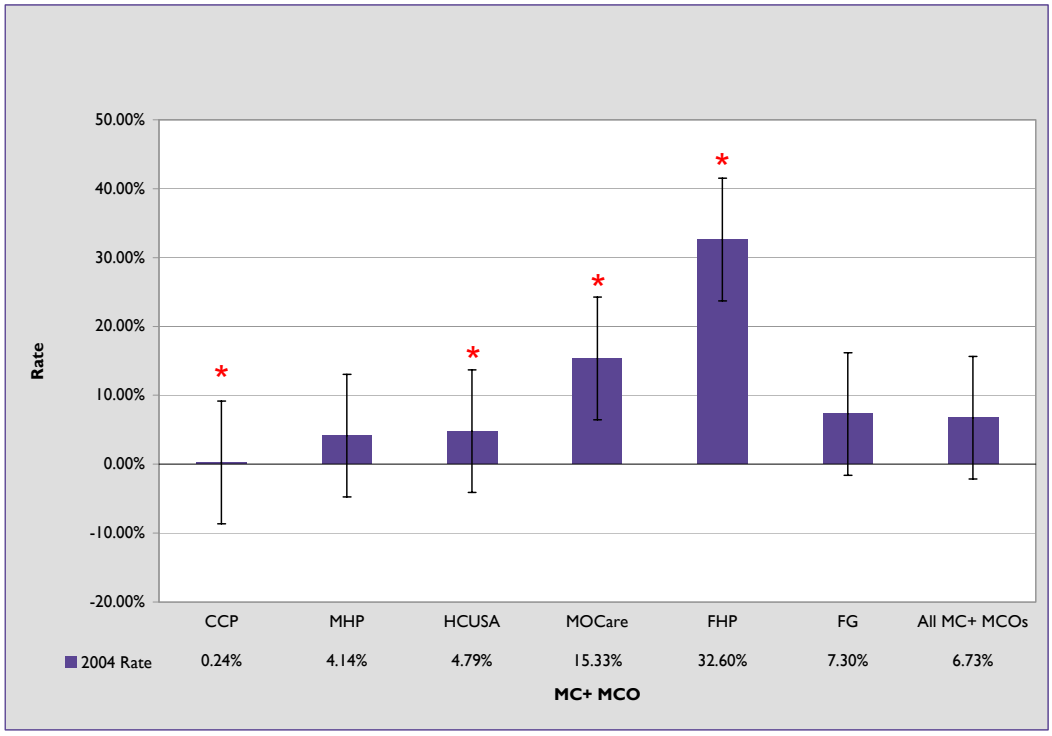
.24%, respectively) than the rate for all MC+ MCOs. This may be a function of the completeness of each MC+ MCOs claim system or claims for adolescent immunizations. A possible reason for the low rate of administrative hits by Community Care Plus is the exclusion of the State Public Health Immunization Registry (MOHSAIC) data in calculating the numerators.

Figure 3. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status Rates, Combination #1, Administrative Rate Only.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: MC+ MCO HEDIS 2004 Data Submission Tool (DST).

For hybrid hits, Community Care Plus and Missouri Care reported significantly higher rates of hybrid hits based on medical record review (34.79% and 36.74%, respectively) than the rate for all MC+ MCOs (28.03%) using the Hybrid Method. Mercy Health Plan reported a significantly lower rate of hybrid hits based on medical record review (15.09%) than the rate calculated across all MC+ MCOs. Differences may be due to the differences in processes for carrying out medical record reviews and compiling hybrid data to calculate the rate using the Hybrid Method.

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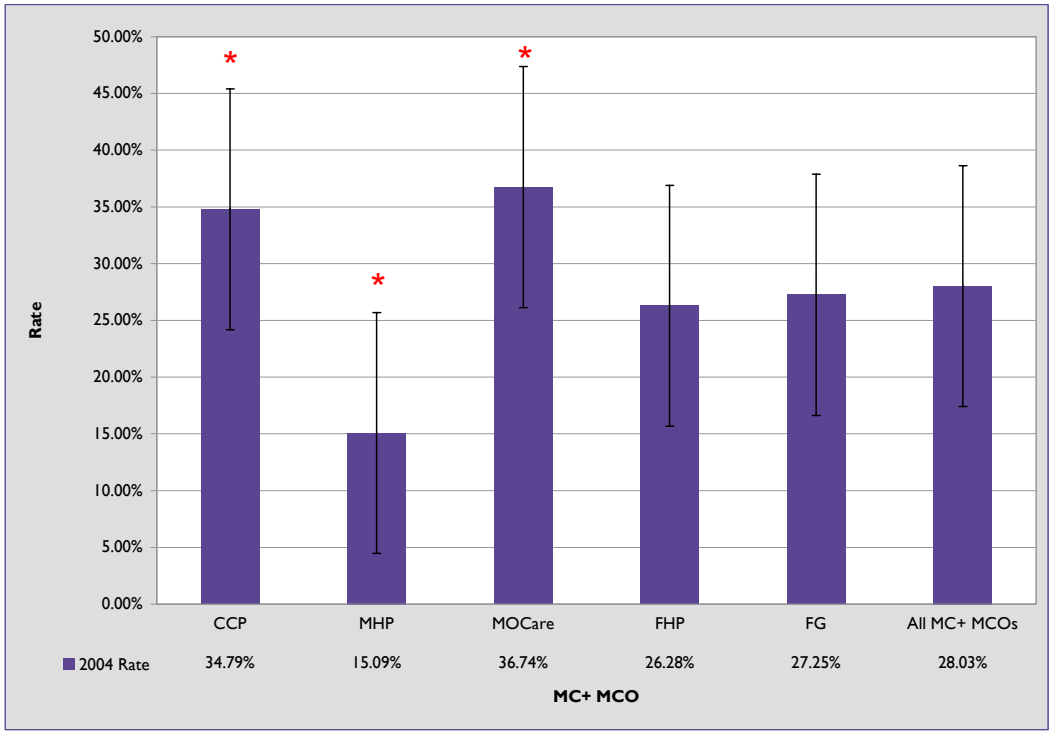
Figure 4. MC+ Managed Care Program HEDIS 2004 Adolescent Immunization Status Rates, Combination #1, Hybrid Rate Only.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: MC+ MCO HEDIS 2004 Data Submission Tool (DST).

Tables 14 and 15 summarize the findings of the EQRO medical record review validation and Attachment XII (Impact of Medical Record Findings) of the Protocol. Five of the MC+ MCOs used the Hybrid Method of calculation. Each MC+ MCO selected a sample of 411 eligible members, consistent with HEDIS technical specifications. A total of 147 of the 576 medical records reported as hybrid hits by MC+ MCOs were sampled for validation by the EQRO. Only those records received were included in the validation. Of the 147 medical records sampled, 106 were received for review (72.11%), and 93 were able to be validated (63.27%), resulting in an error rate of 36.73% across all MC+ MCOs using the Hybrid Method of calculation. The number of False Positive Records (the total amount that could not be validated) was 212 of the 576 reported hits. The estimated bias for individual MC+ MCOs based on the medical record validation ranged from a 1.68% to 20.88% overestimate in the rate, with an estimated bias of 10.30% for all MC+ MCOs using the Hybrid Method. Table 15 shows the impact of the medical record review findings. The error

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rate ranged from 11.11% to 60.00%, with a rate of 36.73% for all MC+ MCOs using the Hybrid Method. The final estimated bias in the final rate ranged from 3.65% to 20.92%, with an average of 3.59% for all MC+ MCOs after taking into account the validation of administrative hits (see Item 12.8, Table 15).

Table 16 shows the validation of numerators based on the review of numerator extract files and the medical record review. Items 13.8 through 13.13 relate to the Hybrid Method and were not applicable to HealthCare USA. Across all MC+ MCOs, 80.0% of the criteria for calculating the numerator were met. Six of the seven (85.7%) MC+ MCOs calculating the measures Met criteria for using the appropriate data to identify the at-risk population, using complete medical event codes, correctly classifying members for inclusion in the numerator, using consistent non-standard code maps, following time parameters for the specification of the measure, adequately training record review staff, and using appropriate notation for medical record reviews for the measured event. Five of the seven (71.4%) MC+ MCOs Met criteria for capturing data for performance indicators that could be easily underreported due to services delivered outside the MC+ MCO. Community Care Plus did not meet the criteria due to the exclusion of MOHSAIC data. Each MC+ MCO calculating the measure Met 91.7% to 100.0% of the criteria for processes used to produce the numerators.

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Table 14. Medical Record Validation for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

MC+ MCO	Denominator (Sample Size)	Numerator Hits by Medical Records (DST)	Number Medical Records Sampled for Audit by EQRO	Number Medical Records Received for Audit by EQRO	Number Medical Records Validated by EQRO	Rate Validated of Records Received	Accuracy Rate	Error Rate	Weight of Each Medical Record	False Positive Records	Estimated Bias from Medical Records
Community Care Plus	411	143	30	13	12	92.31%	40.00%	60.00%	0.002	86	20.88%
Mercy Health Plan	411	62	27	26	24	92.31%	88.89%	11.11%	0.002	7	1.68%
Missouri Care	411	151	30	23	15	65.22%	50.00%	50.00%	0.002	76	18.37%
Family Health Partners	411	108	30	29	27	93.10%	90.00%	10.00%	0.002	11	2.63%
FirstGuard	411	112	30	15	15	100.00%	50.00%	50.00%	0.002	56	13.63%
All MC+ MCOs	2,055	576	147	106	93	87.74%	63.27%	36.73%	0.0005	212	10.30%

Note: DST = Data Submission Tool; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); Accuracy Rate = Number of Medical Records Validated by the EQRO/Number of Records Selected for Audit by EQRO; Error Rate = 100% - Accuracy Rate; Weight of Each Medical Record = Error Rate * Medical Record Hits Reported by MCO; Estimated Bias from Medical Records = Percent of bias due to the medical record review = False Positive Rate * Weight of Each Medical Record..
Source: MC+ MCO Data Submission Tools (DST); BHC, Inc. 2004 External Quality Review Performance Measures Validation.

Table 15. Impact of Medical Record Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

Item	Audit Elements	MC+ MCO						
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+
12.1	Final Data Collection Method Used (e.g., MRR, hybrid,)	H	H	A	H	H	H	Not Calculated
12.2	Error Rate (Percentage of records selected for audit that were identified as not meeting numerator requirements)	60.00%	11.11%	NA	50.00%	20.00%	50.00%	0.00%
12.3	Is error rate < 10%? (Yes or No)	No	No	NA	No	No	No	0
	If yes, MCO/PIHP passes MRR validation; no further MRR calculations are necessary.	NA	NA	NA	NA	NA	NA	0
	If no, the rest of the spreadsheet will be completed to determine the impact on the final rate.	See Below	See Below	NA	See Below	See Below	See Below	0
12.4	Denominator (The total number of members identified for the denominator of this measure, as identified by the MCO/PIHP)	411	411	NA	411	411	411	0
12.5	Weight of Each Medical Record (Impact of each medical record on the final overall rate; determined by dividing 100% by the denominator)	0.002	0.002	NA	0.002	0.002	0.002	0
12.6	Total Number of MRR Numerator Positives identified by the MCO/PIHP using MRR.	143	62	NA	151	108	112	0
12.7	Expected Number of False Positives (Estimated number of medical records inappropriately counted as numerator positives)	86	7	NA	76	11	56	0
12.8	Estimated Bias in Final Rate (The amount of bias caused by medical record review and review of numerator and denominator files)	20.92%	5.35%	NA	18.98%	3.65%	17.03%	0

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.
Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Table 16. Numerator Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
13.1	The MCO/PIHP has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population.	2	2	2	2	2	2	0	6	0	1	7	85.7%
13.2	The MCO/PIHP has in place and utilizes procedures to capture data for those performance indicators that could be easily under-reported due to the availability of services outside the MCO/PIHP.	0	2	2	2	2	2	0	5	0	2	7	71.4%
13.3	The MCO's/PIHP's use of codes used to identify medical events are complete, accurate, and specific in correctly describing what has transpired and when.	2	2	2	2	2	2	0	6	0	1	7	85.7%
13.4	The MCO/PIHP correctly evaluated medical event codes when classifying members for inclusion or exclusion in the numerator.	2	2	2	2	2	2	0	6	0	1	7	85.7%
13.5	The MCO/PIHP has avoided or eliminated all double-counted members or numerator events.	2	2	2	2	2	2	0	6	0	1	7	85.7%
13.6	Any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible as evidenced by a review of the programming logic or a demonstration of the program.	NA	NA	NA	2	NA	NA	0	1	0	1	2	50.0%
13.7	Any time parameters required by the specifications of the performance measure are adhered to (i.e., that the measured event occurred during the time period specified or defined in the performance measure).	2	2	2	2	2	2	0	6	0	1	7	85.7%
13.8	Medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data.	2	0	NA	1	2	2	0	3	1	2	6	50.0%
13.9	Record review staff have been properly trained and supervised for the task.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
13.10	Record abstraction tools require the appropriate notation that the measured event occurred.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
13.11	Record abstraction tools require notation of the results or findings of the measured event (if applicable).	2	2	NA	2	2	2	0	5	0	1	6	83.3%
13.12	Data included in the record extract files are consistent with data found in the medical records as evidenced by a review of a sample of medical record for applicable performance measures. (From Medical Record Review Validation Tools-Table 5, ATTACHMENT XII)	2	2	NA	2	2	2	0	5	0	1	6	83.3%
13.13	The process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
	Number Met	11	11	6	12	12	12	0	64	1	15	80	80.0%
	Number Partially Met	0	0	0	1	0	0	0					
	Number Not Met	1	1	0	0	0	0	13					
	Number Applicable	12	12	6	13	12	12	13					
	Rate Met	91.7%	91.7%	100.0%	92.3%	100.0%	100.0%	0.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Sampling Procedures for Hybrid Method

The objectives of this activity were to evaluate the MC+ MCOs' ability to randomly sample from the eligible members for the measure when using the Hybrid Method of calculation. Table 17 summarizes the findings of Attachment XV (Sampling Validation Findings) of the Protocol. Item 15.3 (Each provider had an equal chance of being sampled) was not applicable to the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure; and none of the items were applicable to HealthCare USA. Item 15.9 (Documenting if the requested sample size exceeded the eligible population size) did not apply to any of the MC+ MCOs for this measure. MC+ MCOs Met criteria (81.7%) for random sampling without systematic exclusion, examining files for bias, assuring there was no correlation between samples drawn, assuring members had the same chance of being included at baseline and follow-up measurement, maintaining sample files, meeting sample size requirements of the performance measure specifications, oversampling to accommodate for exclusions, and making substitutions properly. The criteria for sample exclusions was Met by four out of six (66.7%) of the MC+ MCOs. Mercy Health Plan systematically excluded medical records sampled for the Hybrid Method by omitting those that did not have a record of a claim in the past three years from the medical record review. Of the MC+ MCOs that calculated the measure, the rate for proper sampling ranged from 90.0% to 100.0%.

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Table 17. Sampling Validation Findings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
15.1	Each relevant member or provider had an equal chance of being selected; no one was systematically excluded from the sampling.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.2	The MCO / PIHP followed the specifications set forth in the performance measure regarding the treatment of sample exclusions and replacements, and if any activity took place involving replacements of or exclusions from the sample, the MCO/PIHP kept adequate documentation of that activity.	2	0	NA	2	2	2	0	4	0	2	6	66.7%
15.3	Each provider serving a given number of enrollees had the same probability of being selected as any other provider serving the same number of enrollees.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
15.4	The MCO/PIHP examined its sampled files for bias, and if any bias was detected, the MCO/PIHP is able to provide documentation that describes any efforts taken to correct it.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.5	The sampling methodology employed treated all measures independently, and there is no correlation between drawn samples.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.6	Relevant members or providers who were not included in the sample for the baseline measurement had the same chance of being selected for the follow-up measurement as providers who were included in the baseline.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.7	The MCO/PIHP has policies and procedures to maintain files from which the samples are drawn in order to keep the population intact in the event that a sample must be re-drawn, or replacements made, and documentation that the original population is intact.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.8	Sample sizes meet the requirements of the performance measure specifications.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.9	The MCO/PIHP has appropriately handled the documentation and reporting of the measure if the requested sample size exceeds the population size.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
15.10	The MCO/PIHP properly oversampled in order to accommodate potential exclusions	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.11	Substitution applied only to those members who met the exclusion criteria specified in the performance measure definitions or requirements.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
15.12	Substitutions were made for properly excluded records and the percentage of substituted records was documented.	2	2	NA	2	2	2	0	5	0	1	6	83.3%
	Number Met	10	9	0	10	10	10	0	49	0	11	60	81.7%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	0	1	0	0	0	0	10					
	Number Applicable	10	10	0	10	10	10	10					
	Rate Met	100.0%	90.0%	NA	100.0%	100.0%	100.0%	0.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Submission of Measures to the State

Reports from the SPHA were obtained regarding the submission of the HEDIS 2004 Adolescent Immunization Status Combination #1 measure. Six of the seven (85.7%) MC+ MCOs calculated and submitted the measure to the SPHA and SMA. Blue Advantage Plus did not calculate or report the measure to the SPHA, making it non-compliant with this requirement. The NCQA Audit Report indicated that "the MCO did not calculate the measure." Reasons given for not calculating the measure obtained at the site visit were due to the rate being too low, and having been advised by the NCQA Auditor to not report the measure. Regardless of the NCQA requirements or recommendations, all HMOs in the State of Missouri are required to calculate and report the measure to the SPHA, and MC+ MCOs are required to report the measure to the SMA.

Final Validation Findings

Table 18 shows the final data validation findings and the total estimated bias in calculation based on the validation of medical record data and review of the MC+ MCO extract files for calculating the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure. Figure 5 illustrates the differences between the rates reported to the SPHA and those calculated by the EQRO. The rate for all MC+ MCOs calculated based on data validated by the EQRO was 10.77%, while the rate reported by MC+ MCOs was 14.36% (see Table 13 and Figure 2), a 3.59% overestimate.

Table 18. Final Data Validation for HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

MC+ MCO	Administrative Hits Validated by EQRO	False Positive Records	Medical Record Hits Validated by EQRO	Total Hits Validated by EQRO	Rate Validated by EQRO	Total Estimated Bias
Community Care Plus	1	86	57	58	14.11%	20.92%
Mercy Health Plan	2	7	55	57	13.87%	5.35%
HealthCare USA	263	NA	NA	263	4.79%	0.00%
Missouri Care	61	76	75	136	33.09%	18.98%
Family Health Partners	130	11	97	227	55.23%	3.65%
FirstGuard	16	56	56	72	17.52%	17.03%
Blue Advantage Plus	0	0	0	0	0.00%	0.00%
All MC+ MCOs	**473**	**236**	**340**	**813**	**10.77%**	**3.59%**

Note: DST = Data Submission Tool; NA = Not Applicable; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); LCL = 95% Lower Confidence Limit; UCL = 95% Upper Confidence Limit; False Positive Records = Error Rate * Medical Record Hits Reported by MC+ MCO; Medical Record Hits Validated by the EQRO = Medical Record Hits Reported by MC+ MCO (DST) - False Positive Records; Total Estimated Bias = Rate Validated by EQRO using medical record review and data extract file review - Rate Reported by MC+ MCO (DST). Positive numbers represent an overestimate. The EQRO is charged with providing MCO to MCO comparisons. Therefore, the numerators and denominators for HealthCare USA were aggregated across all three regions, which were each 100% validated. Mercy Health Plans submitted data for Combination #2; Blue Advantage Plus did not calculate the measure.
Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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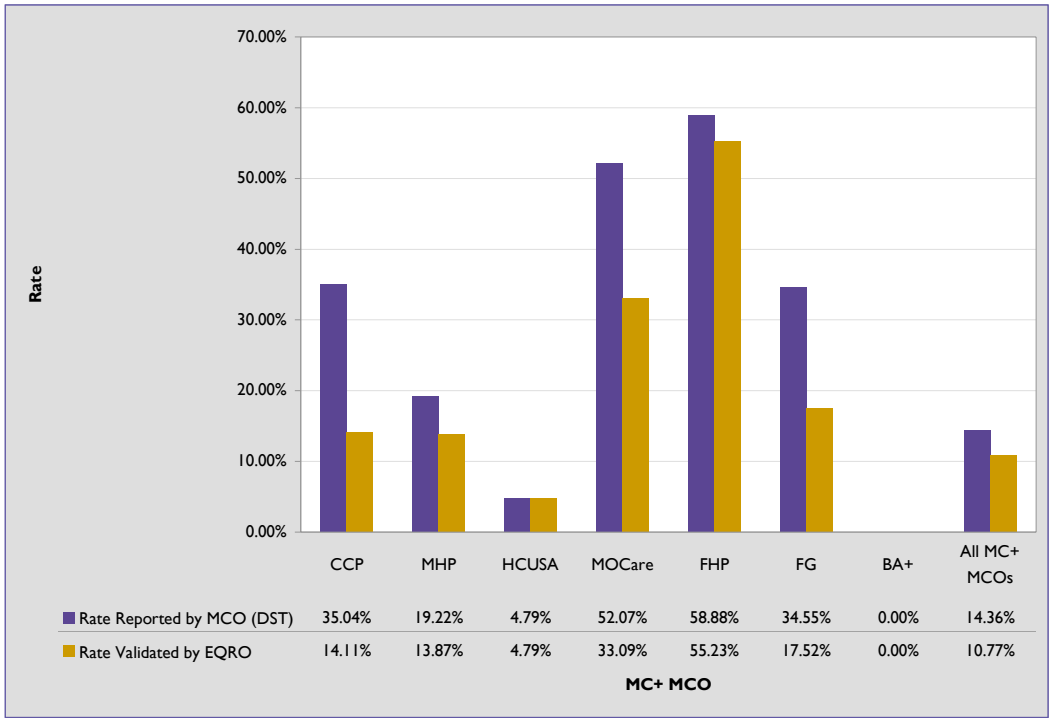
Figure 5. Rates Reported by MC+ MCOs and Validated by EQRO, HEDIS 2004 Adolescent Immunization Status, Combination #1.



Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); BHC, Inc., 2004 External Quality Review Performance Measure Validation.

HEDIS 2004 ADOLESCENT WELL-CARE VISITS

Data Integration and Control

The objective of this activity was to assess the MC+ MCOs' ability to link data from multiple sources for the calculation of the HEDIS 2004 Adolescent Well-Care Visits measure. It is related to the integrity of the management information systems and the ability to ensure accuracy of the measures. For the HEDIS 2004 Adolescent Well-Care Visits measure, the sources of data included enrollment, eligibility, and claim files. Table 19 summarizes the findings of Attachment V (Data Integration and Control Findings) of the Protocol. The rate of items that were Met was calculated across MC+ MCOs and from the number of applicable items for each MC+ MCO.

Across all MC+ MCOs, 95.6% of the criteria for data integration and control were Met. All MC+ MCOs (100.0%) Met the criteria for having accurate and established procedures for transferring data into data repositories for calculation of the measure, coordinating data integration with vendors, and following standards associated with programming and testing. One MC+ MCO (Community Care Plus) did not meet the criteria for submitting extract files consistent with specifications, for using prescribed cutoff dates, or producing accurate file extracts for the measure

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(CY2002 rather than CY2003 events were used for calculating and reporting the measure). Community Care Plus Partially Met criteria for adequacy of documentation of the production process and proper documentation of software with regard to performance measure calculation. Community Care Plus Met 69.2% of the criteria for data integration and control, while all other MC+ MCOs Met all criteria.

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Table 19. Data Integration and Control Findings, HEDIS 2004 Adolescent Well-Care Visits Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
5.1	MCO/PIHP processes accurately and completely transfer data from the transaction files (e.g., membership, provider, encounter/claims) into the repository used to keep the data until the calculations of the performance measures have been completed and validated.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.2	Samples of data from repository are complete and accurate.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.3	MCO's/PIHP's processes to consolidate diversified files, and to extract required information from the performance measure repository are appropriate.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.4	Actual results of file consolidations or extracts were consistent with those which should have resulted according to documented algorithms or specifications.	0	2	2	2	2	2	2	6	0	1	7	85.7%
5.5	Procedures for coordinating the activities of multiple subcontractors ensure the accurate, timely, and complete integration of data into the performance measure database.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.6	Computer program reports or documentation reflect vendor coordination activities, and no data necessary to performance measure reporting are lost or inappropriately modified during transfer.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.7	The repository's design, program flow charts, and source codes enable analyses and reports.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.8	Proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition).	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.9	Examine and assess the adequacy of the documentation governing the production process, including MCO/PIHP production activity logs, and MCO/PIHP staff review of report runs.	1	2	2	2	2	2	2	6	1	0	7	85.7%
5.10	Prescribed data cutoff dates were followed.	0	2	2	2	2	2	2	6	0	1	7	85.7%
5.11	The MCO/PIHP has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.12	Review documentation standards to determine the extent to which the reporting software program is properly documented with respect to every aspect of the performance measurement reporting repository, including building, maintaining, managing, testing, and report production.	1	2	2	2	2	2	2	6	1	0	7	85.7%
5.13	Review the MCO's/PIHP's processes and documentation to determine the extent to which they comply with the MCO/PIHP standards associated with reporting program specifications, code review, and testing.	2	2	2	2	2	2	2	7	0	0	7	100.0%
	Number Met	9	13	13	13	13	13	13	**87**	**2**	**2**	**91**	**95.6%**
	Number Partially Met	2	0	0	0	0	0	0					
	Number Not Met	2	0	0	0	0	0	0					
	Number Applicable	13	13	13	13	13	13	13					
	Rate Met	69.2%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Documentation of Data and Processes

The objectives of this activity were to assess the documentation of data collection; the process of integrating data into a performance measure set; the procedures used to query the data set for sampling, numerators and denominators; and the ability to apply proper algorithms for the calculation of HEDIS 2004 Adolescent Well-Care Visits measure. Table 20 summarizes the findings of Attachment VI (Data and Processes Used to Calculate and Report Performance Measures) of the Protocol. Items 7.3 (Statistical testing of results and corrections made after processing), 7.4 (Inclusion of external data sources), and 7.9 (Consistent data from measure to measure) did not apply to the measure. Across all MC+ MCOs, 60.5% of the criteria were met. All MC+ MCOs Met the criteria for following data file and field definitions (100.0%). Three of the seven MC+ MCOs (42.9%) used the Hybrid Method for calculation, and two of the three MC+ MCOs (66.7%) Met criteria for having detailed medical record review practices and reviewer training materials. One MC+ MCO (Missouri Care) was unable to locate medical record review tools due to staff turnover. One MC+ MCO (Missouri Care) used maps to non-standard coding and Met the criteria for this. Source codes and programming logic for the identification of denominators appeared accurate for all MC+ MCOs (100.0%). All three (100.0%) MC+ MCOs using the Hybrid Method Met the criteria for documentation of sampling procedures. Although MC+ MCOs frequently graphed the rates of performance over several years, none of the MC+ MCOs used the calculation of statistical significance in rates from year to year as a measure of the significance of fluctuation in the measure (see items 7.8 and 7.11). When sampling, all three (100.0%) of the MC+ MCOs using the Hybrid Method Met the criteria for using appropriate statistical functions for determining confidence intervals for sampling. Each MC+ MCO calculating the measure Met 50.0% to 71.4% of the criteria for processes used to calculate and report the HEDIS 2004 Adolescent Well-Care Visits measure.

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Table 20. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Adolescent Well-Care Visits Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
7.1	Data file and field definitions used for each measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
7.2	Maps to standard coding if not used in original data collection.	NA	NA	NA	2	NA	NA	NA	1	0	0	1	100.0%
7.3	Statistical testing of results and any corrections or adjustments made after processing.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.4	All data sources, including external data (whether from a vendor, public registry, or other outside source), and any prior years' data (if applicable).	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.5	Detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.	NA	2	NA	0	NA	2	NA	2	0	1	3	66.7%
7.6	Detailed computer queries, programming logic, or source code used to identify the population or sample for the denominator and/or numerator.	2	2	2	2	2	2	2	7	0	0	7	100.0%
7.7	If sampling used, description of sampling techniques, and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
7.8	Documentation of calculation for changes in performance from previous periods (if applicable), including statistical tests of significance.	0	0	0	0	0	0	0	0	0	7	7	0.0%
7.9	Data that are related from measure to measure are consistent (e.g., membership counts, provider totals, number of pregnancies and births).*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.10	Appropriate statistical functions are used to determine confidence intervals when sampling is used in the measure.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
7.11	When determining improvement in performance between measurement periods, appropriate statistical methodology is applied to determine levels of significance of changes.	0	0	0	0	0	0	0	0	0	7	7	0.0%
	Number Met	2	5	2	5	2	5	2	23	0	15	38	60.5%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	2	2	2	3	2	2	2					
	Number Applicable	4	7	4	8	4	7	4					
	Rate Met	50.0%	71.4%	50.0%	62.5%	50.0%	71.4%	50.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Processes Used to Produce Denominators

The objective of this activity was to determine the extent to which all eligible members were included in the denominator, evaluate the programming and logic source codes, and evaluate the specifications for each measure. For the HEDIS 2004 Adolescent Well-Care Visits measure, the sources of data include enrollment, eligibility, and claim files. Table 21 summarizes the findings of Attachment X (Denominator Validation Findings) of the protocol. Items 10.5 (Identification of gender of the member), 10.6 (Calculation of member months or years), and 10.10 (Systems for estimating populations when they are unable to accurately be counted) were not applicable to the HEDIS 2004 Adolescent Well-Care Visits measure. Each MC+ MCO calculating the measure Met the criteria for processes used to produce the denominators.

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Table 21. Denominator Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
10.1	All members who were eligible to receive the specified services were included in the initial population from which the final denominator was produced. This "at risk" population included both members who received the services, as well as those who did not. This same standard applies to provider groups or other relevant populations identified in the specifications of each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.2	For each measure, programming logic or source code which identifies, tracks, and links member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and sex, as well as through possible periods of enrollment and disenrollment, has been appropriately applied according to the specifications of each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.3	Calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.4	Proper mathematical operations were used to determine patient age or range.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.5	The MCO/PIHP can identify the variable(s) that define the member's sex in every file or algorithm needed to calculate the performance measure denominator, and the MCO/PIHP can explain what classification is carried out if neither of the required codes is present.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.6	The MCO/PIHP has correctly calculated member months and member years, if applicable to the performance measure.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.7	The MCO/PIHP has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and these codes have been appropriately identified and applied as specified in each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.8	Any time parameters required by the specifications of the performance measure are followed (e.g., cut off dates for data collection, counting 30 calendar days after discharge from a hospital, etc.).	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.9	Performance measure specifications or definitions that exclude members from a denominator were followed. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.10	Systems or methods used by the MCO/PIHP to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
	Number Met	6	6	6	6	6	6	6	42	0	0	42	100.0%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	0	0	0	0	0	0	0					
	Number Applicable	6	6	6	6	6	6	6					
	Rate Met	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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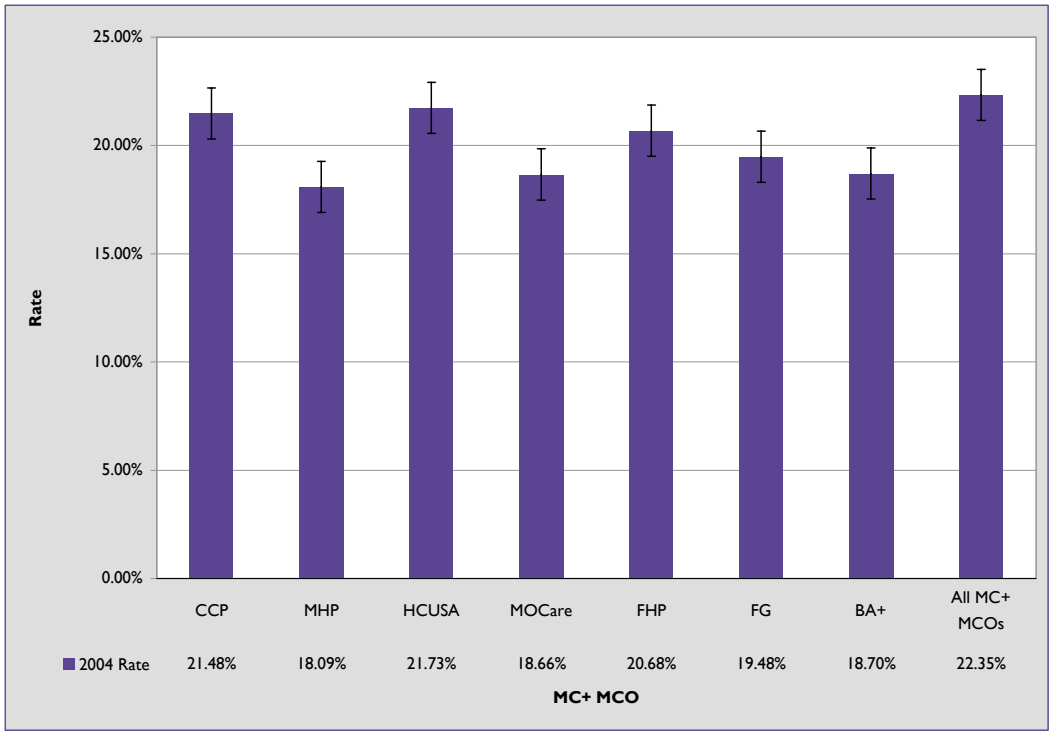
Figure 6 illustrates the rate of eligible members identified by each MC+ MCO, based on the enrollment of all MC+ MCO Waiver Recipients as of December 31, 2003, the end of the CY2003 measurement year. It was expected that MC+ MCOs would identify similar proportions of eligible members for the HEDIS 2004 Adolescent Well-Care Visits measure. The rate of eligible members (percent of eligible members divided by the total enrollment) was calculated for all MC+ MCOs and two-tailed z-tests of each MC+ MCO compared to the state rate of eligible members were conducted at the 95% level of confidence. There were no significant differences between MC+ MCO rates of eligible members for this measure.

Figure 6. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Eligible Members.



Note: Error bars on the y-axis represent 95% confidence intervals; There were no significant differences on two tailed z-tests.

Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); Missouri Department of Social Services, Division of Medical Services, State MPRI Session Screens, enrollment figures for all Waivers, December 31, 2003.

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Processes Used to Produce Numerators

The objectives of this activity were to evaluate the MC+ MCOs' ability to accurately identify medical events, evaluate the ability to identify events from other sources, evaluate procedures for non-duplicate counting of multiple events, review time parameters and the use of non-standard code maps, and assess the processes and procedures for collecting and incorporating medical record review data. For the HEDIS 2004 Adolescent Well-Care Visits measure, the sources of data included enrollment, eligibility, and claim files. Table 22 shows the numerators, denominators, rates, and confidence intervals submitted by the MC+ MCOs to the SPHA on the DST. The rate for all MC+ MCOs was calculated by the EQRO, thus there is no confidence interval reported for the statewide rate. The rate for all MC+ MCOs was 30.13%, with MC+ MCO rates ranging from 18.75% (Community Care Plus) to 41.49% (Missouri Care).

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Table 22. Data Submission for HEDIS 2004 Adolescent Well-Care Visits Measure.

MC+ MCO	Final Data Collection Method Used	Denominator (DST)	Administrative Hits Reported by MCO (DST)	Hybrid Hits Reported by MCO (DST)	Total Hits Reported by MCO (DST)	Rate Reported by MCO (DST)	UCL - LCL (DST)
Community Care Plus	Administrative	9,987	1,873	NA	1,873	18.75%	17.98% - 19.52%
Mercy Health Plan	Hybrid	411	87	15	102	24.82%	20.52% - 29.12%
HealthCare USA	Administrative	41,144	13,139	NA	13,139	39.31%	NA
Missouri Care	Hybrid	388	125	36	161	41.49%	36.46% - 46.53%
Family Health Partners	Administrative	10,188	3,355	NA	3,355	32.93%	32.01% - 33.85%
FirstGuard	Hybrid	411	123	18	141	34.31%	29.60% - 39.02%
Blue Advantage Plus	Administrative	6,593	2,057	NA	2,057	31.20%	30.07% - 32.33%
All MC+ MCOs		**69,122**	**20,759**	**69**	**20,828**	**30.13%**	

Note: DST = Data Submission Tool; NA = Not Applicable; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); LCL = 95% Lower Confidence Limit; UCL = 95% Upper Confidence Limit. The EQRO is charged with providing MCO to MCO comparisons. Therefore, the numerators and denominators for HealthCare USA were aggregated across all three regions, which were each 100% validated. Medical Record Hits Validated by EQRO = Weighted number of medical records with validated hits. Community Care Plus reported numerator events from Calendar Year 2002 for the HEDIS 2004 reporting year. The statewide rate for all MC+ MCOs was calculated by the EQRO using the sum of numerators divided by sum of denominators. There was no statewide rate or confidence limits reported to the SMA or SPHA.
Source: MC+ Managed Care Organization HEDIS 2004 Data Submission Tools (DST).

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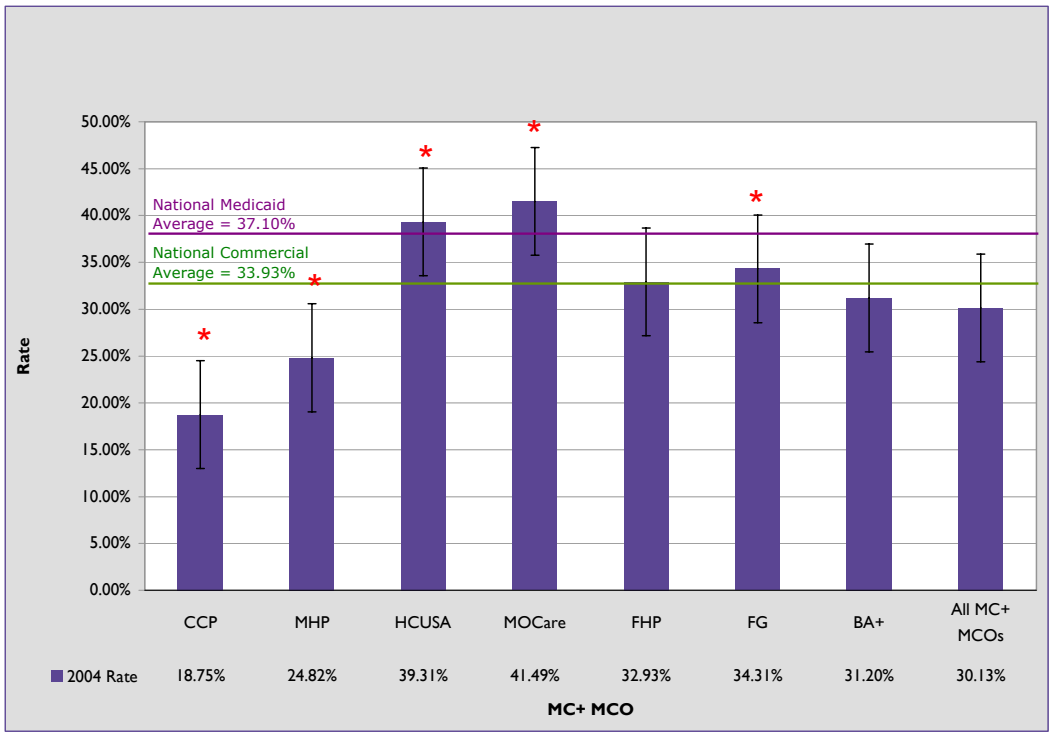
Figures 7, 8, and 9 illustrate the rates reported by the MC+ MCOs and the rates of administrative and hybrid hits for each MC+ MCO. The rate reported by each MC+ MCO was compared with the rate for all MC+ MCOs. Two-tailed z-tests of each MC+ MCO comparing MC+ MCOs to the rate for all MC+ MCOs were calculated at the 95% confidence interval. The rate for all MC+ MCOs was lower than the National Commercial (33.93%) and the National Medicaid rates (37.10%). HealthCare USA, Missouri Care, and FirstGuard reported rates significantly higher than the rate for all MC+ MCOs (39.31%, 41.49% and 34.31% respectively), while Community Care Plus and Mercy Health Plan reported rates significantly below the rate for all MC+ MCOs (18.75% and 24.82%, respectively).

Figure 7. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits Rates.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); National Committee for Quality Assurance (NCQA).

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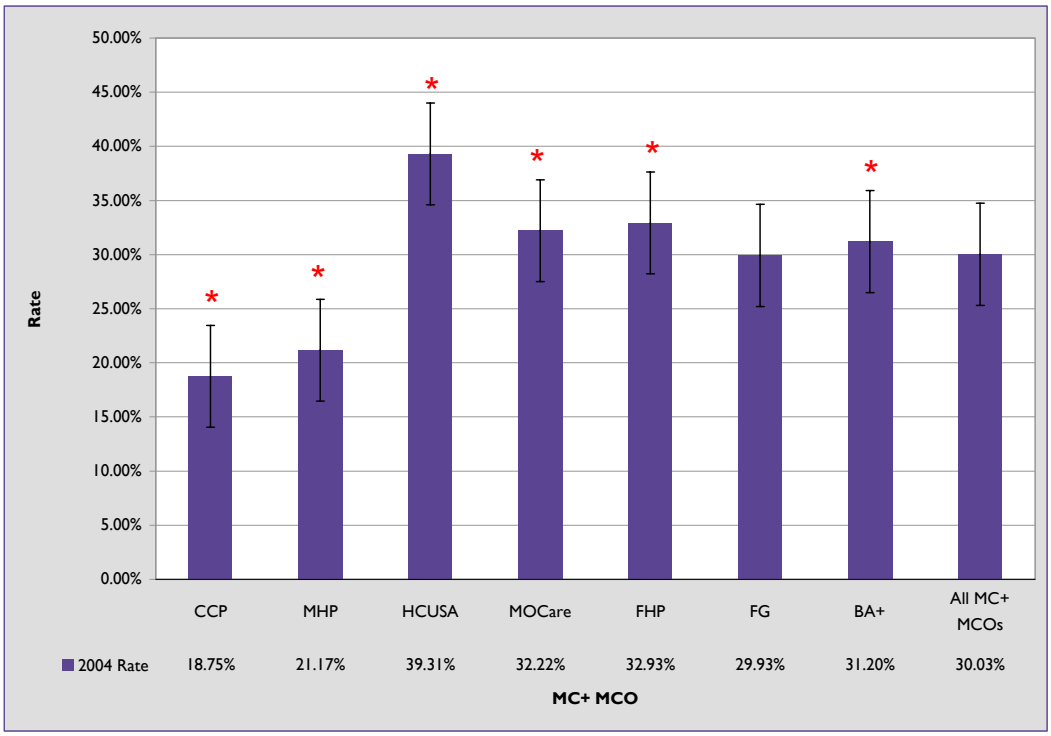
When the rate of administrative and hybrid hits was examined separately, there was wide variability among MC+ MCOs from the rate for all MC+ MCOs (30.03%). HealthCare USA, Missouri Care, Family Health Partners, and Blue Advantage Plus reported rates of administrative hits significantly higher than the rate for all MC+ MCOs (39.31%, 32.22%, 32.93%, and 31.20%, respectively). Community Care Plus and Mercy Health Plan reported significantly lower rates of administrative hits (18.75% and 21.17%, respectively), while the rate found by FirstGuard was consistent with that of the rate for all MC+ MCOs. This may be a function of the completeness of each MC+ MCOs' claim system or the administration of claims for well-care visits.

Figure 8. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Administrative Rate Only.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: MC+ MCO HEDIS 2004 Data Submission Tool (DST).

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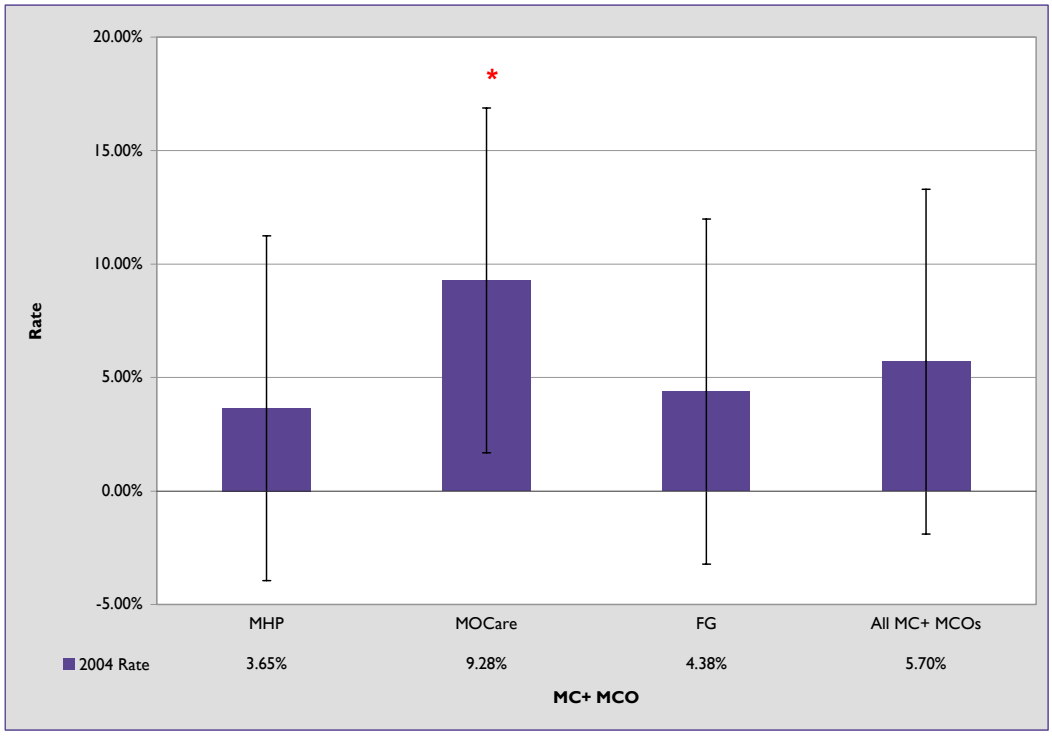
For hybrid hits, Missouri Care reported a significantly higher rate of hits based on medical record review (9.28%) than the rate calculated across all MC+ MCOs (5.70%) using the Hybrid Method. Differences may be due to differences in the processes for carrying out medical record reviews and compiling hybrid data to calculate the rate.

Figure 9. MC+ Managed Care Program HEDIS 2004 Adolescent Well-Care Visits, Hybrid Rate Only.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: MC+ MCO HEDIS 2004 Data Submission Tool (DST).

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Tables 23 and 24 summarize the findings of the EQRO medical record review validation and Attachment XII (Impact of Medical Record Findings) of the Protocol. Three of the MC+ MCOs (Mercy Health Plan, Missouri Care, and FirstGuard) used the Hybrid Method of calculation. Two of the three selected a sample of 411 eligible members, consistent with HEDIS technical specifications. Missouri Care selected a sample of 388 eligible members, for undetermined reasons. A total of 63 of the 69 medical records (91.3%) reported as hybrid hits by MC+ MCOs were sampled for validation by the EQRO. As few as 13 medical records per MC+ MCO were received for review. Those not received were unable to be validated. Of the 63 medical records sampled, 56 were received for review (88.89%), and 18 were able to be validated (28.57%), resulting in an error rate of 71.43% across all MC+ MCOs using the Hybrid Method of calculation. A total of 30 (53.6%) medical records Met the criteria for a medical history documented in the medical record; 48 (85.7%) Met criteria for documentation of a physical examination; and 26 (46.4%) Met criteria for documentation of anticipatory guidance. The number of False Positive Records (the total amount that could not be validated) was 49 of the 69 reported hits. The error rate ranged from 33.33% to 93.33%. The estimated bias for individual MC+ MCOs based on the medical record validation ranged from a 1.46% to 8.66% overestimate in the rate, with an overestimate of 4.07% for all MC+ MCOs. Table 24 shows the impact of the medical record review findings. The estimated bias in the final rate for MC+ MCOs using the Hybrid Method ranged from 2.68% to 9.02%, with a rate of 18.75% for all MC+ MCOs after taking into account the validation of administrative hits (see item 12.8, Table 24).

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Table 23. Impact of Medical Record Findings, HEDIS 2004 Adolescent Well-Care Visits Measure.

MC+ MCO	Denominator (Sample Size)	Numerator Hits by Medical Records (DST)	Number Medical Records Sampled for Audit by EQRO	Number Medical Records Received for Audit by EQRO	Number Medical Records Validated by EQRO	Rate Validated of Records Received	Accuracy Rate	Error Rate	Weight of Each Medical Record	False Positive Records	Estimated Bias from Medical Records
Mercy Health Plan	411	15	15	14	4	28.57%	26.67%	73.33%	0.002	11	2.68%
Missouri Care	388	36	30	24	2	8.33%	6.67%	93.33%	0.003	34	8.66%
FirstGuard	411	18	18	18	12	66.67%	66.67%	33.33%	0.002	6	1.46%
All MC+ MCOs	**1,210**	**69**	**63**	**56**	**18**	**32.14%**	**28.57%**	**71.43%**	**0.001**	**49**	**4.07%**

Note: DST = Data Submission Tool; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); Accuracy Rate = Number of Medical Records Validated by the EQRO/Number of Records Selected for Audit by EQRO; Error Rate = 100% - Accuracy Rate; Weight of Each Medical Record = 100%/Denominator; False Positive Records = Error Rate * Medical Record Hits Reported by MCO; Estimated Bias from Medical Records = Percent of bias due to the medical record review = False Positive Rate * Weight of Each Medical Record.

Sources: MC+ MCO HEDIS 2004 Data Submission Tools; BHC Inc., 2004 External Quality Review Performance Measures Validation.

Table 24. Medical Record Validation for HEDIS 2004 Adolescent Well-Care Visits Measure.

Item	Audit Elements	MC+ MCO						
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+
12.1	Final Data Collection Method Used (e.g., MRR, hybrid,)	A	H	A	H	A	H	A
12.2	Error Rate (Percentage of records selected for audit that were identified as not meeting numerator requirements)	NA	73.33%	NA	93.33%	NA	33.33%	NA
12.3	Is error rate < 10%? (Yes or No)	NA	No	NA	No	NA	No	NA
	If yes, MCO/PIHP passes MRR validation; no further MRR calculations are necessary.	NA	NA	NA	NA	NA	NA	
	If no, the rest of the spreadsheet will be completed to determine the impact on the final rate.	NA	See Below	NA	See Below	NA	See Below	NA
12.4	Denominator (The total number of members identified for the denominator of this measure, as identified by the MCO/PIHP)	NA	411	NA	388	NA	411	NA
12.5	Weight of Each Medical Record (Impact of each medical record on the final overall rate; determined by dividing 100% by the denominator in line 4.)	NA	0.002	NA	0.003	NA	0.002	NA
12.6	Total Number of MRR Numerator Positives identified by the MCO/PIHP using MRR.	NA	15	NA	36	NA	18	NA
12.7	Expected Number of False Positives (Estimated number of medical records inappropriately counted as numerator positives)	NA	11	NA	34	NA	6	NA
12.8	Estimated Bias in Final Rate (The amount of bias caused by medical record review and review of numerator and denominator files)	NA	2.68%	NA	9.02%	3.02%	0.73%	NA

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Table 25 shows the validation of numerators based on the review of numerator extract files and the medical record review. Items 13.8 through 13.13 relate to the Hybrid Method and were not applicable to Community Care Plus, HealthCare USA, Family Health Partners, or Blue Advantage Plus. Across MC+ MCOs, 90.7% of the criteria for calculating numerators were met. All three of the MC+ MCOs calculating the measures using the Hybrid Method (Mercy Health Plan, Missouri Care, and FirstGuard) Met all criteria (100.0%) for using the appropriate data to identify the at-risk population, using complete medical event codes, correctly classifying members for inclusion in the numerator, using consistent non-standard code maps, adequately training record review staff, and using appropriate notation for medical record reviews for the measured event. Six of the seven MC+ MCOs (85.7%) Met the criteria for following time parameters required by the specifications for the measure. One of the three MC+ MCOs (33.3%) using the Hybrid Method carried out medical record abstractions in a reliable, accurate manner. The exclusion of members from the medical record review resulted in a rating of not met for Mercy Health Plan, and Missouri Care Partially Met this criteria. One issue was that the process required duplicate entry of data with the potential for introducing data entry error. One of the three (33.3%; Mercy Health Plan) MC+ MCOs Met the criteria for consistent and valid integration of medical record and administrative data, based on the number of medical records validated. The MC+ MCOs Met 80.0% to 100.0% of criteria for calculating the numerator for the HEDIS 2004 Adolescent Well-Care Visits measure.

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Table 25. Numerator Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
13.1	The MCO/PIHP has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.2	The MCO/PIHP has in place and utilizes procedures to capture data for those performance indicators that could be easily under-reported due to the availability of services outside the MCO/PIHP.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.3	The MCO's/PIHP's use of codes used to identify medical events are complete, accurate, and specific in correctly describing what has transpired and when.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.4	The MCO/PIHP correctly evaluated medical event codes when classifying members for inclusion or exclusion in the numerator.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.5	The MCO/PIHP has avoided or eliminated all double-counted members or numerator events.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.6	Any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible as evidenced by a review of the programming logic or a demonstration of the program.	NA	NA	NA	2	NA	NA	NA	1	0	0	1	100.0%
13.7	Any time parameters required by the specifications of the performance measure are adhered to (i.e., that the measured event occurred during the time period specified or defined in the performance measure).	0	2	2	2	2	2	2	6	0	1	7	85.7%
13.8	Medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data.	NA	0	NA	1	NA	2	NA	1	1	1	3	33.3%
13.9	Record review staff have been properly trained and supervised for the task.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
13.10	Record abstraction tools require the appropriate notation that the measured event occurred.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
13.11	Record abstraction tools require notation of the results or findings of the measured event (if applicable).	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
13.12	Data included in the record extract files are consistent with data found in the medical records as evidenced by a review of a sample of medical record for applicable performance measures. (From Medical Record Review Validation Tools-Table 5, ATTACHMENT XII)	NA	2	NA	0	NA	1	NA	1	1	1	3	33.3%
13.13	The process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.	NA	2	NA	2	NA	2	NA	3	0	0	3	NA
	Number Met	4	10	5	10	5	10	5	**49**	**2**	**3**	**54**	**90.7%**
	Number Partially Met	0	0	0	1	0	1	0					
	Number Not Met	1	1	0	1	0	0	0					
	Number Applicable	5	11	5	12	5	11	5					
	Rate Met	80.0%	90.9%	100.0%	83.3%	100.0%	90.9%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Sampling Procedures for Hybrid Method

The objectives of this activity were to evaluation the MC+ MCOs' ability to randomly sample from the eligible members for the measure when using the Hybrid Method of calculation. Table 26 summarizes the findings of Attachment XV (Sampling Validation Findings) of the Protocol. Items 15.3 (Each provider had an equal chance of being sampled) and 15.9 (Documenting if the requested sample size exceeded the eligible population size) did not apply to any of the MC+ MCOs for this measure; and none of the items were applicable to Community Care Plus, HealthCare USA, Family Health Partners, or Blue Advantage Plus. Across all MC+ MCOs, the criteria for sampling were Met 96.7% of the time. MC+ MCOs Met criteria (100.0%) for random sampling without systematic exclusion, examining files for bias, assuring there was no correlation between samples drawn, assuring members had the same chance of being included at baseline and follow-up measurement, maintaining sample files, meeting sample size requirements of the performance measure specifications, oversampling to accommodate for exclusions, and making substitutions properly. The criteria for sample exclusions was Met by 66.7% of the MC+ MCOs. Mercy Health Plan systematically excluded medical records sampled for the Hybrid Method by omitting those that did not have a record of a claim in the past three years from the medical record review. The MC+ MCOs using the Hybrid Method of calculating the HEDIS 2004 Adolescent Well-Care Visits measure Met 90.0% to 100.0% of the criteria for proper sampling.

SUBMISSION OF MEASURES TO THE STATE

Reports from the SPHA were obtained regarding the submission of the HEDIS 2004 Adolescent Well-Care Visits measure. All MC+ MCOs reported the measure to the SPHA and SMA. Community Care Plus re-calculated and reported a corrected rate after receiving feedback from the EQRO[11].

[11] Personal Communication with Robert Petterson, Program Manager, Managed Care Consumer Guides, Center for Health Information Management and Evaluation, Missouri Department of Health and Senior Services.

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Table 26. Sampling Validation Findings, HEDIS 2004 Adolescent Well-Care Visits Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
15.1	Each relevant member or provider had an equal chance of being selected; no one was systematically excluded from the sampling.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.2	The MCO / PIHP followed the specifications set forth in the performance measure regarding the treatment of sample exclusions and replacements, and if any activity took place involving replacements of or exclusions from the sample, the MCO/PIHP kept adequate documentation of that activity.	NA	0	NA	2	NA	2	NA	2	0	1	3	66.7%
15.3	Each provider serving a given number of enrollees had the same probability of being selected as any other provider serving the same number of enrollees.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
15.4	The MCO/PIHP examined its sampled files for bias, and if any bias was detected, the MCO/PIHP is able to provide documentation that describes any efforts taken to correct it.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.5	The sampling methodology employed treated all measures independently, and there is no correlation between drawn samples.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.6	Relevant members or providers who were not included in the sample for the baseline measurement had the same chance of being selected for the follow-up measurement as providers who were included in the baseline.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.7	The MCO/PIHP has policies and procedures to maintain files from which the samples are drawn in order to keep the population intact in the event that a sample must be re-drawn, or replacements made, and documentation that the original population is intact.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.8	Sample sizes meet the requirements of the performance measure specifications.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.9	The MCO/PIHP has appropriately handled the documentation and reporting of the measure if the requested sample size exceeds the population size.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
15.10	The MCO/PIHP properly oversampled in order to accommodate potential exclusions	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.11	Substitution applied only to those members who met the exclusion criteria specified in the performance measure definitions or requirements.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
15.12	Substitutions were made for properly excluded records and the percentage of substituted records was documented.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
	Number Met	0	9	0	10	0	10	0	29	0	1	30	96.7%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	0	1	0	0	0	0	0					
	Number Applicable	0	10	0	10	0	10	0					
	Rate Met	NA	90.0%	NA	100.0%	NA	100.0%	NA					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Final Validation Findings

Table 27 shows the final data validation findings for the calculation of the HEDIS 2004 Adolescent Well-Care Visits measure and the total estimated bias in calculation based on the validation of medical record data and review of the MC+ MCO extract files. Figure 10 illustrates the differences between the rates reported to the SPHA and those calculated by the EQRO. The numerators for Community Care Plus were not valid, as the incorrect measurement year (2002) was used for calculating the measure. The rate for all MC+ MCOs calculated based on data validated by the EQRO was 26.91%, while the rate reported by MC+ MCOs was 30.13%, a 3.23% overestimate.

Table 27. Final Data Validation for HEDIS 2004 Adolescent Well-Care Visits Measure.

MC+ MCO	Administrative Hits Validated by EQRO	False Positive Records	Medical Record Hits Validated by EQRO	Total Hits Validated by EQRO	Rate Validated by EQRO	Total Estimated Bias
Community Care Plus	0	NA	NA	0	0.00%	18.75%
Mercy Health Plan	87	11	4	91	22.14%	2.68%
HealthCare USA	13,139	NA	NA	13,139	31.93%	0.00%
Missouri Care	124	34	2	126	32.47%	9.02%
Family Health Partners	3,047	NA	NA	3,047	29.91%	3.02%
FirstGuard	126	6	12	138	33.58%	0.73%
Blue Advantage Plus	2,057	NA	NA	2,057	31.20%	0.00%
All MC+ MCOs	**18,580**	**51**	**18**	**18,598**	**26.91%**	**3.23%**

Note: DST = Data Submission Tool; NA = Not Applicable; EQRO = External Quality Review Organization (Behavioral Health Concepts, Inc.); LCL = 95% Lower Confidence Limit; UCL = 95% Upper Confidence Limit; False Positive Records = Error Rate * Medical Record Hits Reported by MCO; Medical Record Hits Validated by the EQRO = Medical Record Hits Reported by MCO (DST) - False Positive Records; Total Estimated Bias = Rate Validated by EQRO using medical record review and data file review - Rate Reported by MCO. Positive numbers represent an overestimate. The EQRO is charged with providing MCO to MCO comparisons. Therefore, the numerators and denominators for HealthCare USA were aggregated across all three regions, which were each 100% validated. Community Care Plus reported numerator events from Calendar Year 2002 for the HEDIS 2004 reporting year.

Sources: MC+ Managed Care Organization HEDIS 2004 data Submission Tools (DST); BHC, Inc. External Quality Review Performance Measure Validation.

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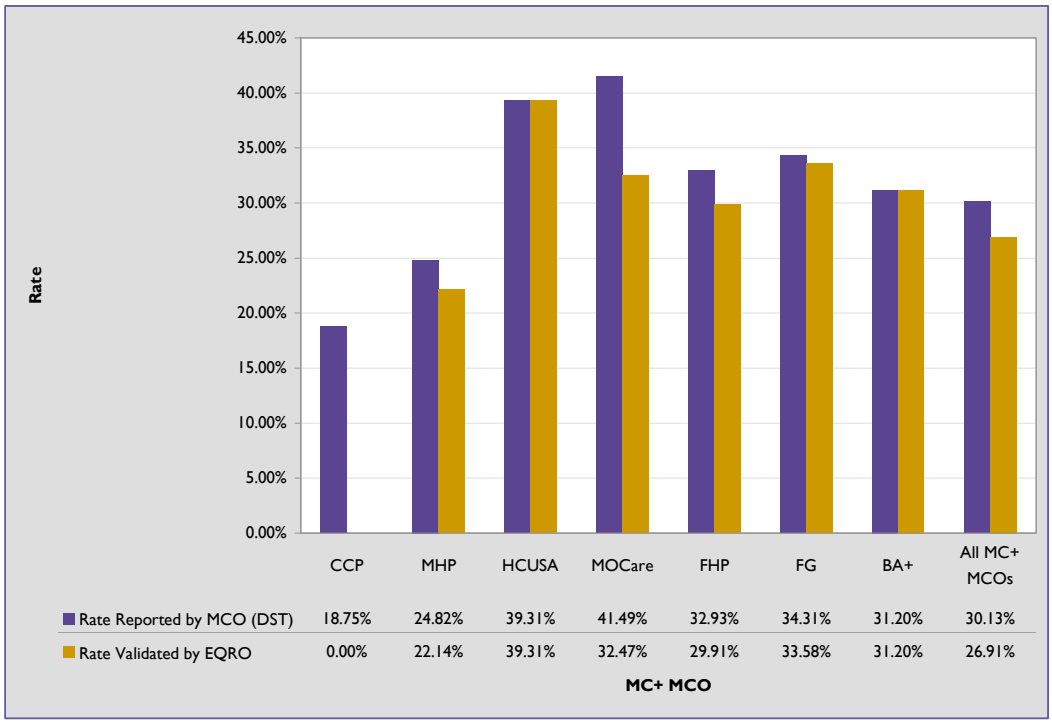
Figure 10. Rates Reported by MC+ MCOs and Validated by EQRO, HEDIS 2004 Adolescent Well-Care Visits.



Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); BHC, Inc., 2004 External Quality Review Performance Measure Validation.

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HEDIS 2004 USE OF APPROPRIATE MEDICATION FOR PEOPLE WITH ASTHMA

Data Integration and Control

The objective of this activity was to assess the MC+ MCOs' ability to link data from multiple sources. It is based on the integrity of the management information systems and the ability to ensure accuracy of the measures. For the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure, the sources of data included enrollment, eligibility, and claim files (Pharmacy, Medical, Outpatient Hospital and Inpatient claim types from several sources). Table 28 summarizes the findings of Attachment V (Data Integration and Control Findings) of the Protocol. The rate of items that were Met was calculated across MC+ MCOs and from the number of applicable items for each MC+ MCO.

Across all MC+ MCOs, 98.9% of the criteria were Met for having accurate and established procedures for transferring data into data repositories for calculation of the measure, coordinating data integration with vendors, and following standards associated with programming and testing. One MC+ MCO (Community Care Plus) Partially Met the criteria for documentation of the reporting software program with respect to all aspects of performance measure reporting. Each MC+ MCO calculating the measure Met 92.3% to 100.0% of the criteria for data integration and control.

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Table 28. Data Integration and Control Findings, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
5.1	MCO/PIHP processes accurately and completely transfer data from the transaction files (e.g., membership, provider, encounter/claims) into the repository used to keep the data until the calculations of the performance measures have been completed and validated.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.2	Samples of data from repository are complete and accurate.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.3	MCO's/PIHP's processes to consolidate diversified files, and to extract required information from the performance measure repository are appropriate.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.4	Actual results of file consolidations or extracts were consistent with those which should have resulted according to documented algorithms or specifications.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.5	Procedures for coordinating the activities of multiple subcontractors ensure the accurate, timely, and complete integration of data into the performance measure database.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.6	Computer program reports or documentation reflect vendor coordination activities, and no data necessary to performance measure reporting are lost or inappropriately modified during transfer.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.7	The repository's design, program flow charts, and source codes enable analyses and reports.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.8	Proper linkage mechanisms have been employed to join data from all necessary sources (e.g., identifying a member with a given disease/condition).	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.9	Examine and assess the adequacy of the documentation governing the production process, including MCO/PIHP production activity logs, and MCO/PIHP staff review of report runs.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.10	Prescribed data cutoff dates were followed.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.11	The MCO/PIHP has retained copies of files or databases used for performance measure reporting, in the event that results need to be reproduced.	2	2	2	2	2	2	2	7	0	0	7	100.0%
5.12	Review documentation standards to determine the extent to which the reporting software program is properly documented with respect to every aspect of the performance measurement reporting repository, including building, maintaining, managing, testing, and report production.	1	2	2	2	2	2	2	6	1	0	7	85.7%
5.13	Review the MCO's/PIHP's processes and documentation to determine the extent to which they comply with the MCO/PIHP standards associated with reporting program specifications, code review, and testing.	2	2	2	2	2	2	2	7	0	0	7	100.0%
	Number Met	12	13	13	13	13	13	13	**90**	**1**	**0**	**91**	**98.9%**
	Number Partially Met	1	0	0	0	0	0	0					
	Number Not Met	0	0	0	0	0	0	0					
	Number Applicable	13	13	13	13	13	13	13					
	Rate Met	92.3%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

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Documentation of Data and Processes

The objectives of this activity were to assess the documentation of data collection; the process of integrating data into a performance measure set; the procedures used to query the data set for sampling, numerators and denominators; and the ability to apply proper algorithms. Table 29 summarizes the findings of Attachment VI (Data and Processes Used to Calculate and Report Performance Measures) of the Protocol. Items 7.3 (statistical testing of results and corrections made after processing), 7.7 (sampling techniques), 7.9 (data consistency from measure to measure), and 7.10 (appropriate statistical functions for confidence intervals) did not apply to the measure. Across all MC+ MCOs, 64.1% of criteria for calculating and reporting performance measures were Met. All MC+ MCOs Met the criteria for following data file and field definitions, the integration of external data, and demonstration of detailed queries for identifying eligible members (100.0%). One MC+ MCO (Missouri Care) used maps to non-standard coding and Met the criteria for this. Although MC+ MCOs frequently graphed the rates of performance over several years, none of the MC+ MCOs used the calculation of statistical significance in rates from year to year as a measure of the significance of fluctuation in the measure (see items 7.8 and 7.11). Each MC+ MCO Met 60.0% to 71.4% of the criteria for calculating and reporting performance measures.

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Table 29. Data and Processes Used to Calculate and Report Performance Measures, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
7.1	Data file and field definitions used for each measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
7.2	Maps to standard coding if not used in original data collection.	NA	NA	NA	2	NA	NA	NA	1	0	0	1	100.0%
7.3	Statistical testing of results and any corrections or adjustments made after processing.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.4	All data sources, including external data (whether from a vendor, public registry, or other outside source), and any prior years' data (if applicable).	2	2	2	2	2	2	2	7	0	0	7	100.0%
7.5	Detailed medical record review methods and practices, including the qualifications of medical record review supervisor and staff; reviewer training materials; audit tools used, including completed copies of each record-level reviewer determination; all case-level critical performance measure data elements used to determine a positive or negative event or exclude a case from same; and inter-rater reliability testing procedures and results.	NA	2	NA	2	NA	2	NA	3	0	0	3	100.0%
7.6	Detailed computer queries, programming logic, or source code used to identify the population or sample for the denominator and/or numerator.	2	2	2	2	2	2	2	7	0	0	7	100.0%
7.7	If sampling used, description of sampling techniques, and documentation that assures the reviewer that samples used for baseline and repeat measurements of the performance measures were chosen using the same sampling frame and methodology.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.8	Documentation of calculation for changes in performance from previous periods (if applicable), including statistical tests of significance.	0	0	0	0	0	0	0	0	0	7	7	0.0%
7.9	Data that are related from measure to measure are consistent (e.g., membership counts, provider totals, number of pregnancies and births).	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.10	Appropriate statistical functions are used to determine confidence intervals when sampling is used in the measure.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
7.11	When determining improvement in performance between measurement periods, appropriate statistical methodology is applied to determine levels of significance of changes.	0	0	0	0	0	0	0	0	0	7	7	0.0%
	Number Met	3	4	3	5	3	4	3	25	0	14	39	64.1%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	2	2	2	2	2	2	2					
	Number Applicable	5	6	5	7	5	6	5					
	Rate Met	60.0%	66.7%	60.0%	71.4%	60.0%	66.7%	60.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

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Processes Used to Produce Denominators

The objective of this activity was to determine the extent to which all eligible members were included in the denominator, evaluate the programming and logic source codes, and evaluate the specifications for each measure. For the HEDIS 2004 Use of Appropriate Medication for People with Asthma measure, the sources of data include enrollment, eligibility, and claim files. Table 30 summarizes the findings of Attachment X (Denominator Validation Findings) of the Protocol. Items 10.5 (Identification of gender of the member), 10.6 (Calculation of member months or years), and 10.10 (Systems for estimating populations when they are unable to accurately be counted) were not applicable to this measure. Each MC+ MCO calculating the measure Met all of the criteria for processes used to produce the denominators.

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Table 30. Denominator Validation Findings, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure.

		MC+ MCO							All MC+ MCOs				
Item	Audit Elements	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
10.1	All members who were eligible to receive the specified services were included in the initial population from which the final denominator was produced. This "at risk" population included both members who received the services, as well as those who did not. This same standard applies to provider groups or other relevant populations identified in the specifications of each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.2	For each measure, programming logic or source code which identifies, tracks, and links member enrollment within and across product lines (e.g., Medicare and Medicaid), by age and sex, as well as through possible periods of enrollment and disenrollment, has been appropriately applied according to the specifications of each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.3	Calculations of continuous enrollment criteria were correctly carried out and applied to each measure (if applicable).	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.4	Proper mathematical operations were used to determine patient age or range.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.5	The MCO/PIHP can identify the variable(s) that define the member's sex in every file or algorithm needed to calculate the performance measure denominator, and the MCO/PIHP can explain what classification is carried out if neither of the required codes is present.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.6	The MCO/PIHP has correctly calculated member months and member years, if applicable to the performance measure.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
10.7	The MCO/PIHP has properly evaluated the completeness and accuracy of any codes used to identify medical events, such as diagnoses, procedures, or prescriptions, and these codes have been appropriately identified and applied as specified in each performance measure.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.8	Any time parameters required by the specifications of the performance measure are followed (e.g., cut off dates for data collection, counting 30 calendar days after discharge from a hospital, etc.).	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.9	Performance measure specifications or definitions that exclude members from a denominator were followed. For example, if a measure relates to receipt of a specific service, the denominator may need to be adjusted to reflect instances in which the patient refuses the service or the service is contraindicated.	2	2	2	2	2	2	2	7	0	0	7	100.0%
10.10	Systems or methods used by the MCO/PIHP to estimate populations when they cannot be accurately or completely counted (e.g., newborns) are valid.	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
	Number Met	7	7	7	7	7	7	7	49	0	0	49	100.0%
	Number Partially Met	0	0	0	0	0	0	0					
	Number Not Met	0	0	0	0	0	0	0					
	Number Applicable	7	7	7	7	7	7	7					
	Rate Met	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

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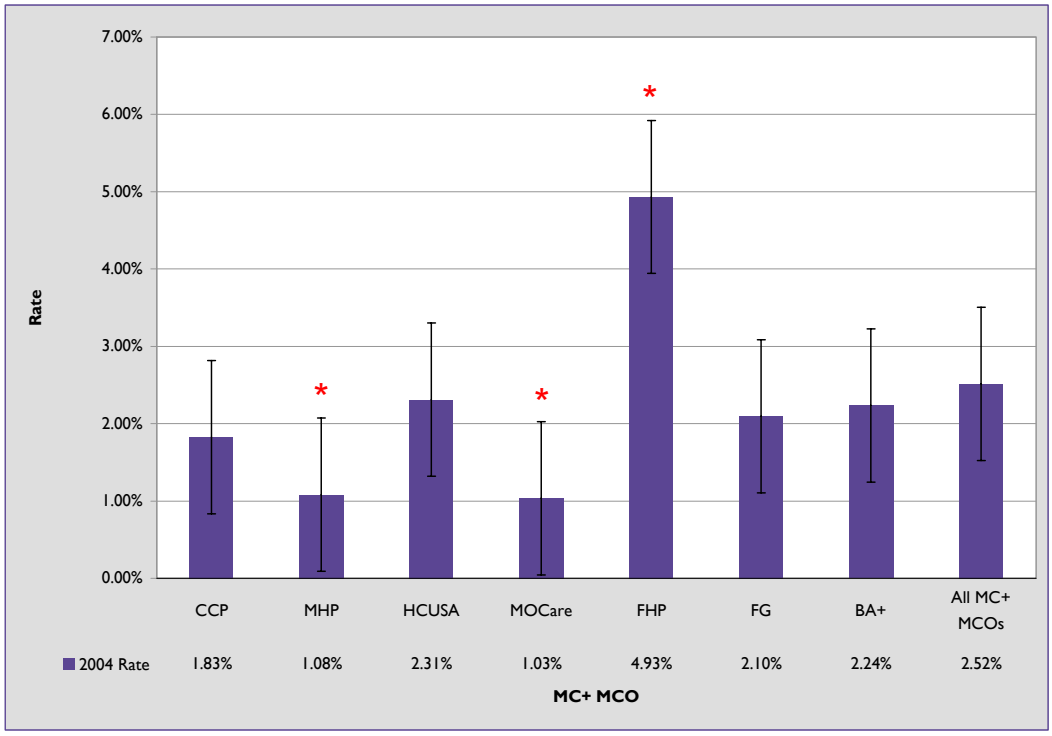
Figure 11 illustrates the rate of eligible members per MC+ MCO based on the enrollment of all MC+ MCO Waiver Recipients as of December 31, 2003, the end of the CY2003 measurement year. It was expected that MC+ MCOs would identify similar proportions of eligible members for the measure. The rate of eligible members (percent of eligible members divided by the total enrollment) was calculated for all MC+ MCOs. Two-tailed z-tests of each MC+ MCO comparing each MC+ MCO to the state rate of eligible members for all MC+ MCOs were calculated at the 95% level of confidence. Family Health Partners identified a significantly higher rate of eligible members (4.93%) compared to the rate for all MC+ MCOs (2.52%), while Mercy Health Plan and Missouri Care identified a significantly lower rate of eligible members (1.08% and 1.03%, respectively). This may be a function of the claims administration process or member characteristics.

Figure 11. MC+ Managed Care Program HEDIS 2004 Use of Appropriate Medications for People with Asthma, Eligible Members.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test. Enrollment as of the last week in December 2003 (the measurement year) was used to calculate the rate.

Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); Missouri Department of Social Services, Division of Medical Services, State MPRI Session Screens, enrollment figures for all Waivers, December 31, 2003.

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Processes Used to Produce Numerators

The objectives of this activity were to evaluate the MC+ MCOs ability to accurately identify medical events, evaluate the ability to identify events from other sources, evaluate procedures for non-duplicate counting of multiple events, review time parameters and the use of non-standard code maps, and assess the processes and procedures for collecting and incorporating medical record review data. For the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure, the procedures for the Hybrid Method did not apply, as HEDIS 2004 technical specifications allow only for the use of the Administrative Method of calculating the measure.

Table 31 shows the numerators, denominators, rates, and confidence intervals submitted by the MC+ MCOs to the SPHA on the DST. The rate for all MC+ MCOs was calculated by the EQRO, thus there is no confidence interval reported for the statewide rate. The rate for all MC+ MCOs was 63.92% and the rate validated by the EQRO was 63.94%, a .02% underestimate. Figure 12 illustrates the rates reported by the MC+ MCOs. The rate reported by each MC+ MCO was compared with the rate for all MC+ MCOs, with two-tailed z-tests conducted at the 95% confidence interval to compare each MC+ MCO with the rate for all MC+ MCOs. The rate for all MC+ MCOs was lower than the National Commercial (68.98%) and the National Medicaid rates (71.50%). Missouri Care, Family Health Partners, FirstGuard, and Blue Advantage Plus reported rates significantly higher than the rate for all MC+ MCOs (65.41%, 66.57% , 67.26%, and 67.39% respectively), while Community Care Plus reported a rate (53.71%) significantly below the rate for all MC+ MCOs.

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Table 31. Data Submission and Final Data Validation for HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure.

MC+ MCO	Eligible Population	Number Administrative Hits Reported by MCO (DST)	Rate Reported by MCO (DST)	UCL - LCL (DST)	Administrative Hits Validated by EQRO	Rate Validated by EQRO	Estimated Bias
Community Care Plus	849	456	53.71%	50.30% - 57.12%	456	53.71%	0.00%
Mercy Health Plan	447	271	60.63%	55.99% - 65.27%	271	60.63%	0.00%
HealthCare USA	4,275	2,707	63.32%	NA	2,707	63.32%	0.00%
Missouri Care	344	225	65.41%	60.23% - 70.58%	225	65.41%	0.00%
Family Health Partners	2,429	1,617	66.57%	64.67% - 68.47%	1,617	66.57%	0.00%
FirstGuard	895	602	67.26%	64.13% - 70.39%	604	67.49%	-0.22%
Blue Advantage Plus	788	531	67.39%	64.05% - 70.72%	531	67.39%	0.00%
All MC+ MCOs	**10,027**	**6,409**	**63.92%**		**6,411**	**63.94%**	**-0.02%**

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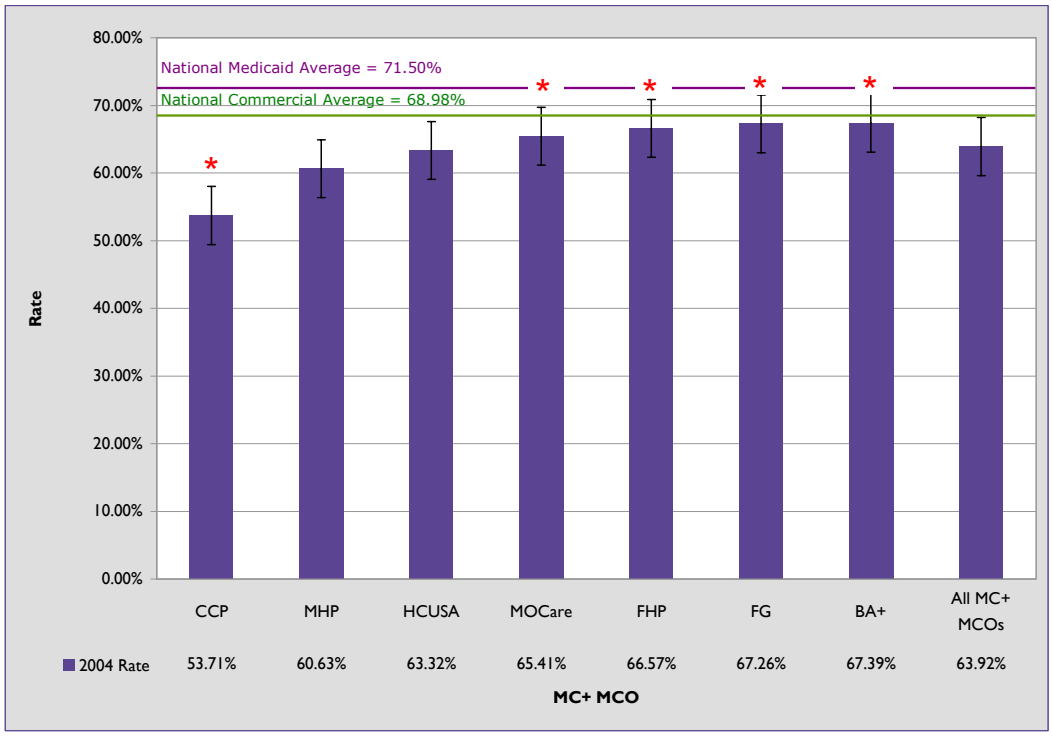
Figure 12. MC+ Managed Care Program HEDIS 2004 Use of Appropriate Medications for People with Asthma Rates.



Note: Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Sources: MC+ MCO HEDIS 2004 Data Submission Tool (DST); National Committee for Quality Assurance (NCQA).

Table 32 shows the validation of numerators based on the review of numerator extract files and the medical record review. Item 13.2 was not applicable to the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure. Items 13.8 through 13.13 relate to the Hybrid Method of calculation and were not applicable to the measure. Across all MC+ MCOs, 94.4% of the criteria for calculating numerators were met. All MC+ MCOs Met criteria for using the appropriate data to identify the at-risk population, using consistent non-standard code maps, avoiding double-counting of events, and following time parameters specified for the measure. Six of the seven MC+ MCOs (85.7%) Met the criteria for using complete medical event codes and correctly classifying members for inclusion in the numerator. Family Health Partners included 308 numerator events that were not within the parameters for the measure. The MC+ MCOs Met 60.0% to 100.0% of criteria for the calculation of the numerator.

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Table 32. Numerator Validation Findings, HEDIS 2004 Use of Appropriate Medications for People with Asthma Measure.

Item	Audit Elements	MC+ MCO							All MC+ MCOs				
		CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Number Applicable	Rate Met
13.1	The MCO/PIHP has used the appropriate data, including linked data from separate data sets, to identify the entire at-risk population.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.2	The MCO/PIHP has in place and utilizes procedures to capture data for those performance indicators that could be easily under-reported due to the availability of services outside the MCO/PIHP.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.3	The MCO's/PIHP's use of codes used to identify medical events are complete, accurate, and specific in correctly describing what has transpired and when.	2	2	2	2	1	2	2	6	1	0	7	85.7%
13.4	The MCO/PIHP correctly evaluated medical event codes when classifying members for inclusion or exclusion in the numerator.	2	2	2	2	1	2	2	6	1	0	7	85.7%
13.5	The MCO/PIHP has avoided or eliminated all double-counted members or numerator events.	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.6	Any non-standard codes used in determining the numerator have been mapped to a standard coding scheme in a manner that is consistent, complete, and reproducible as evidenced by a review of the programming logic or a demonstration of the program.	NA	NA	NA	2	NA	NA	NA	1	0	0	1	100.0%
13.7	Any time parameters required by the specifications of the performance measure are adhered to (i.e., that the measured event occurred during the time period specified or defined in the performance measure).	2	2	2	2	2	2	2	7	0	0	7	100.0%
13.8	Medical record reviews and abstractions have been carried out in a manner that facilitates the collection of complete, accurate, and valid data. *	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.9	Record review staff have been properly trained and supervised for the task.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.10	Record abstraction tools require the appropriate notation that the measured event occurred.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.11	Record abstraction tools require notation of the results or findings of the measured event (if applicable).*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.12	Data included in the record extract files are consistent with data found in the medical records as evidenced by a review of a sample of medical record for applicable performance measures.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
13.13	The process of integrating administrative data and medical record data for the purpose of determining the numerator is consistent and valid.*	NA	NA	NA	NA	NA	NA	NA	0	0	0	0	NA
	Number Met	5	5	5	6	3	5	5	34	2	0	36	94.4%
	Number Partially Met	0	0	0	0	2	0	0					
	Number Not Met	0	0	0	0	0	0	0					
	Number Applicable	5	5	5	6	5	5	5					
	Rate Met	100.0%	100.0%	100.0%	100.0%	60.0%	100.0%	100.0%					

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation

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Submission of Measures to the State

Reports from the SPHA were obtained regarding the submission of the HEDIS 2004 Use of Appropriate Medications for People with Asthma. All seven MC+ MCOs calculated and submitted the measure to the SPHA and SMA. The rate of all MC+ MCOs calculated based on data validated by the EQRO was 63.94%, consistent with the rate reported by MC+ MCOs (63.92%), with no observed bias.

Final Validation Findings

The rate reported by MC+ MCOs ranged from 53.71% to 67.39%. Tables 33 through 35 provide summaries of ratings across all Protocol Attachments for each MC+ MCO and measure validated. The rate of compliance with the calculation of the Adolescent Immunization Status, Combination #1 measure specifications ranged from 0.0% (Blue Advantage Plus) to 96.1% (Family Health Partners, FirstGuard), with a rate of 78.9% across all MC+ MCOs and items. For the calculation of the Adolescent Well-Care Visits measure, MC+ MCO compliance with specifications ranged from 75.0% (Community Care Plus) to 93.6% (FirstGuard), with a rate of 90.2% across all MC+ MCOs and items. For the rate of compliance with specifications for the calculation of the Use of Appropriate Medications for People with Asthma measure, the rate ranged from 86.7% (Family Health Partners) to 93.9% (Missouri Care), with an average of 92.1% across all MC+ MCOs.

Table 33. Summary of Attachment Ratings, HEDIS 2004 Adolescent Immunization Status, Combination #1 Measure.

All Audit Elements	All MC+ MCOs							All MC+ MCOs
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	
Number Met	46	47	30	49	49	49	0	270
Number Partially Met	1	0	0	1	0	0	0	2
Number Not Met	4	4	2	3	2	2	53	70
Number Applicable	51	51	32	53	51	51	53	342
Rate Met	90.2%	92.2%	93.8%	92.5%	96.1%	96.1%	0.0%	78.9%

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.

Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

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Table 34. Summary of Attachment Ratings, HEDIS 2004 Adolescent Well-Care Visits Measure.

All Audit Elements	MC+ MCO							All MC+ MCOs
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	
Number Met	21	43	26	44	26	44	26	230
Number Partially Met	2	0	0	1	0	1	0	4
Number Not Met	5	4	2	4	2	2	2	21
Number Applicable	28	47	28	49	28	47	28	255
Percent Met	75.0%	91.5%	92.9%	89.8%	92.9%	93.6%	92.9%	90.2%

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.
Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

Table 35. Summary of Attachment Ratings, HEDIS 2004 Use of Appropriate Medication for People with Asthma Measure.

All Audit Elements	MC+ MCO							All MC+ MCOs
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	
Number Met	27	29	28	31	26	29	28	198
Number Partially Met	1	0	0	0	2	0	0	3
Number Not Met	2	2	2	2	2	2	2	14
Number Applicable	30	31	30	33	30	31	30	215
Rate Met	90.0%	93.5%	93.3%	93.9%	86.7%	93.5%	93.3%	92.1%

Note: A = Administrative; H = Hybrid; NA = Not Applicable to the method employed by the MC+ MCO; Administrative Method was used by the MC+ MCO and the item relates to the Hybrid Method; 2 = Met and validated through HEDIS software certification process and proper explanation in documentation or proper explanation in documentation. 1 = Partially Met ; 0 = Not Met, validated through HEDIS software certification process, but no proper explanation of the process in documentation or no or insufficient explanation in documentation. * Item is not applicable to the measure being validated. Rate Met = Number Met / Number Applicable.
Source: BHC, Inc. 2004 External Quality Review Performance Measure Validation.

Table 36 summarizes the final audit ratings for each of the performance measures and MC+ MCOs. The final audit findings for each of the measures was based on the evaluation of processes for calculating and reporting the measures, medical record review validation findings, and MC+ MCO extract files from repositories. The ratings were based on the impact of medical record review findings and the degree of overestimation of the rate as validated by the EQRO. The calculation of measures was considered invalid if the specifications were not properly followed, or if the rate validated by the EQRO fell outside the confidence intervals for the measure reported by the MC+ MCOs on the DST.

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Table 36. Summary of EQRO Final Audit Ratings, HEDIS 2004 Performance Measures.

MC+ MCO	Adolescent Immunization Status, Combination #1	Adolescent Well-Care Visits	Use of Appropriate Medications for People with Asthma
Community Care Plus	Not Valid	Not Valid	Fully Compliant
Mercy Health Plan	Not Valid	Not Valid	Fully Compliant
HealthCare USA	Fully Compliant	Fully Compliant	Fully Compliant
Missouri Care	Not Valid	Not Valid	Fully Compliant
Family Health Partners	Substantially Compliant	Substantially Compliant	Fully Compliant
FirstGuard	Not Valid	Fully Compliant	Fully Compliant
Blue Advantage Plus	Not Valid	Fully Compliant	Fully Compliant

Note: Not Valid = Measure deviated from Sate (SMA and SPHA) specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported. Significantly biased was defined by the EQRO as being outside the 95% confidence interval of the rate reported by the MC+ MCO on the HEDIS 2004 Data Submission Tool; Substantially Compliant = Measure was substantially complaint with State (SMA and SPHA) specifications and had only minor deviations that did not significantly bias the reported rate; Fully Compliant = Measure was fully compliant with State (SMA and SPHA) specifications. Blue Advantage Plus did not report the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure; and Community Care Plus used 2002 numerator events for calculating the HEDIS 2004 Well-Care Visits measure. Data from Health Care USA was aggregated across all three regions of operation to provide MCO to MCO comparisons.
Source: BHC Inc., 2004 External Quality Review Performance Measure Validation.

For the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure, two MC+ MCOs (HealthCare USA and Family Health Partners) were Fully or Substantially Compliant with the measure specifications. The rates calculated by Community Care Plus, Mercy Health Plan, Missouri Care, FirstGuard, and Blue Advantage Plus were unable to be validated by the EQRO. The rates for Community Care Plus, Missouri Care and FirstGuard calculated by the EQRO were outside the range of the confidence intervals reported by these MC+ MCOs. The high error rates found on medical record review validation (50.00 – 60.00%) were likely due to the low rates of submission of medical records for validation (50% or lower). Community Care Plus did not incorporate administrative data from the SPHA, and this likely accounted for 8-25% of the error associated with calculating the measure. Mercy Health Plan did not follow specifications for the Hybrid Method through the systematic exclusion of medical records from review, which was unrelated to the rate of medical records received for validation. Blue Advantage Plus did not calculate the measure. Finally, it was noted that although MC+ MCOs have the option of calculating this measure through either Hybrid or Administrative Method, the one MC+ MCO (Health Care USA) that calculated the measure via Administrative Method had a valid, but very low rate for the measure. The Adolescent Immunization Status, Combination #1 measure requires data from as early as 1990, before the implementation of the MC+ Managed Care Program. As such, administrative data alone may not

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capture all the immunizations necessary to calculate a hit. Given the variation in the rate of calculation (e.g., incorporating administrative data) and the impact of compliance with specifications (e.g., including all medical records for the Hybrid Method of calculation) across MC+ MCOs as well as the low rate of validation of measures, this measure does not provide a valid index of performance of the MC+ Managed Care Program.

The low rates of adolescent immunizations may be accounted for by a number of factors. First, the measurement of this rate is retrospective back to 1990, prior to the implementation of the MC+ Managed Care Program in Missouri. Although members who were 13 years of age were enrolled in an MC+ MCO for one year continuously to qualify for inclusion in this measure, there is no MC+ MCO administrative history for immunizations dating back to birth (e.g., Hepatitis B). Second, the ability to retrieve medical records of immunizations from 1990 is complicated by factors such as member (and possibly provider) mobility from 1990 to 2003. Third, the documentation of immunizations is problematic, as they may not actually be recorded in the member's medical record but may have been administered by a school nurse, a local health initiative, or by a Local Public Health Agency (LPHA). This is the reason that MC+ MCOs are encouraged to include data from the State Public Health Immunization Registry (MOHSAIC).

Another limitation to the calculation of valid rates for Adolescent Immunization Status, Combination #1 is the level of completeness of the State Public Health Immunization Registry (MOHSAIC). Although most LPHAs (98% in Missouri in 1992[12]) use the Registry, it is not clear how frequently the Registry is used to record immunizations. In addition, few private providers maintain the resources necessary to enter immunizations into the Registry (9% participation in Missouri in 1992[13]). The Centers for Disease Control (CDC) estimate that the proportion of children under 6 year of age with two or more immunizations documented in the Registry in Missouri (1992) was 65%[14], but there are no similar estimates of the rate of use for adolescents immunizations.[15] Schools and non-profit organizations also administer immunizations, but may not frequently use the Registry to record immunizations. During the course of examining MC+ MCO extract files, approximately 8% to 25% of administrative hits for immunizations were captured from the MOHSAIC system.

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[12] Centers for Disease Control Immunization Registry Annual Report CY2002. Represents the program of provider sites reporting to the registry within the last six months of 2002.
[13] Ibid.
[14] Ibid.
[15] Personal Communication with Angela Salazar, Public Health Analyst, Immunization Registry Support Branch, Immunization Services Division, National Immunization Program, Centers for Disease Control and Prevention, April 11, 2005.

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Although the level of completeness of the Registry is unknown, it does serve as a useful source for contributing to a more complete accounting of immunizations for the calculation of this measure. Another possible limitation of calculating the rate is that the Vaccines For Children (VCF) program is not popular among private providers. Although MC+ MCOs are required to have all providers signed on with the VFC Program, some providers do not participate. This may result in more referrals to LPHAs for immunizations, which are not billed to the MC+ MCO or otherwise captured as having been completed. The Hepatitis B measure is also difficult to track administratively, as the claim may come in as a pharmacy code and not a CPT code. Finally, the Family Rights and Privacy Act (FRPA) is a barrier to MC+ MCOs for directly obtaining immunization histories from schools without individual parental consent.

Four MC+ MCOs were Substantially or Fully Compliant with the specifications for calculating the HEDIS 2004 Adolescent Well-Care Visits measure. One MC+ MCO (Community Care Plus) used 2002 events for calculating the measure; one MC+ MCO (Mercy Health Plan) did not follow the specifications for the Hybrid Method; and one MC+ MCO (Missouri Care) had a low rate of medical records despite of good rate of submission. This was likely related to the ability to identify the rendering providers at the time of EQRO requests for medical records due to personnel turnover since the time those records were collected for calculation. The statewide rate for the Adolescent Well-Care Visits measure does not provide a valid index of performance of the MC+ Managed Care Program.

The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was calculated according to specifications by all MC+ MCOS and represents a valid index of performance of the MC+ Managed Care Program for MC+ MCO comparisons.

Conclusions

STRENGTHS

1. All MC+ MCOs were Fully Compliant with the specifications for calculation of the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure which represents a valid measure of performance of the MC+ Managed Care Program.
2. The rate for the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure across all MC+ MCOs approached the National Commercial and the National Medicaid rates.
3. Two MC+ MCOs (HealthCare USA and Family Health Partners) were Fully Compliant with specifications for the HEDIS 2004 Adolescent Immunization Status Combination #1 measure.

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4. Family Health Partners was Substantially Compliant with the calculation of the Adolescent Immunization Status, Combination # 1 measure, and the rate exceeded the National Medicaid and National Commercial rates for this measure.
5. Four MC+ MCOs (HealthCare USA, Family Health Partners, FirstGuard, Blue Advantage Plus) were Substantially or Fully Compliant with the specifications for calculating the HEDIS 2004 Adolescent Well-Care Visits Measure.
6. HealthCare USA and FirstGuard rates for the HEDIS 2004 Adolescent Well-Care Visits measure exceeded the National Commercial rate; and HealthCare USAs combined rate also exceeded the National Medicaid rate.
7. In calculating the measures, MC+ MCOs have adequate management information systems for capturing and storing enrollment, eligibility, and claims information for the calculation of the three HEDIS 2004 measures validated.
8. There was good integration of multiple data sources for rate calculation.
9. Among MC+ MCOs, there was generally good documentation of the HEDIS 2004 rate production process.
10. Four of the MC+ MCOs (Mercy Health Plan, HealthCare USA, FirstGuard, Blue Advantage Plus) used NCQA-certified software for sampling, validating data, programming specifications, and calculating the HEDIS 2004 measures. This software is required to pass a process using test files developed by NCQA, assuring that specific standards are Met for the valid calculation of measures.
11. Several MC+ MCOs (HealthCare USA, Missouri Care, Blue Advantage Plus, and Community Care Plus) responded to the preliminary findings of the performance measure validation by identifying corrective actions plans for the next reporting cycle.

AREAS FOR IMPROVEMENT

1. The HEDIS 2004 Adolescent Immunization Status, Combination #1 measure was unable to be validated for five of the seven MC+ MCOs and does not represent a valid measure of performance of the MC+ Managed Care Program.
2. For one MC+ MCO (HealthCare USA), the Adolescent Immunization Status Combination #1 rate validated was very low. HealthCare USA was the only MC+ MCO not using the Hybrid Method for calculating the measure, which may capture more immunizations given that retrospective information prior to the implementation of the MC+ Managed Care Program is required. HealthCare USA plans to use the Hybrid Method for calculation of this measure in the future.
3. The HEDIS 2004 Adolescent Immunization Status, Combination #1 measure was unable to be validated for three of the seven MC+ MCOs and does not represent a valid measure of performance for the MC+ Managed Care Program.
4. For the validation of the two measures using the Hybrid Method of calculation (HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits), the rate of submission of medical records for the sample of medical records (fewer than 30 for each MC+ MCO) was a likely contributor to the error rate (Community Care Plus, Missouri Care, FirstGuard).

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5. One MC+ MCO (Mercy Health Plan) did not follow the Hybrid Method specifications for the calculation of the HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measure, resulting in ratings of Not Valid for the measures.
6. One of the three MC+ MCOs (Community Care Plus) that used software that was not certified by NCQA for the calculation of the HEDIS 2004 measures used the incorrect measurement year (2002) for the calculation of the Adolescent Well-Care Visits measure, rendering the rate Not Valid. Automated and manual edit checks should detect such errors. Upon learning of the error from the EQRO, Community Care Plus re-submitted the rate using the correct measurement year (2003) to the SPHA.
7. MC+ MCO personnel had difficulty identifying the appropriate personnel/vendors and the requested information and data required for validation of the measures, including documentation (medical records and data sheets) and data (numerators, denominators, and specified fields) for the validation. It appeared that the process of using multiple vendors for medical record reviews, claims administration, and rate calculation presented a challenge for the MC+ MCOs in fully understanding the performance measure rate calculation process. Given that this was the first year for performance measure validation, it is anticipated that the process of validation will provide context for understanding future data and information requests for the validation of performance measures.
8. Three MC+ MCOs (Missouri Care, Family Health Partners, and FirstGuard) experienced turnover in personnel responsible for the calculation of HEDIS 2004 measures, making it difficult for the MC+ MCOs to provide the data and information needed to validate the measures. This underscores the importance of retaining policies, procedures, and data for valid calculation of performance measures from year to year; and providing new staff with training for the calculation of performance measures.

RECOMMENDATIONS

1. The SMA and SPHA should continue to support efforts to improve the utility and functionality of the State Public Health Immunization Registry (MOHSAIC) as well as encourage public, private, and non-profit providers of immunizations to use the Registry so as to obtain complete information about the level of care provided to MC+ Managed Care Members for the administration of immunizations.
2. For the calculation of the HEDIS Adolescent Immunization Status, Combination #1 measure, the Hybrid Method and the incorporation of MOHSAIC data should be required by the SMA to facilitate accurate and valid MC+ MCO comparisons and a valid statewide rate for comparison of performance with other states.
3. The SMA should encourage technical assistance regarding the calculation of HEDIS performance measures, medical record review processes, and the capture of State Public Health Immunization Registry data for the calculation of performance measures.
4. The SMA should re-validate measures for which all MC+ MCOs were not Fully or Substantially Compliant on the calculation of measures.
5. It is recommended that MC+ MCOs retain medical record review data, records, and electronic files used to calculate and report measures or develop procedures for obtaining the small samples of medical records for future validation and audit purposes.

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6. If cost is a factor for MC+ MCOs calculating performance measures using the Hybrid Method in compliance with the HEDIS, SMA and SPHA specifications, then the Administrative Method of calculation should be used.
7. Ensure that MC+ MCOs understand the need to calculate and report performance measures to the SMA and SPHA despite the NCQA requirements and schedule. Given that these measures will not always be audited by NCQA auditors due to their rotation schedule, they may be good measures to audit in the future.
8. MC+ MCOs with significantly lower rates of eligible members and administrative hits should closely examine the potential reasons for fewer members or claims identified. This may be due to member characteristics, but is more likely due to claims administration procedures and system characteristics such as the proportion of members receiving services from capitated providers. Identifying methods of improving administrative hits will improve the accuracy in calculating the measures.
9. MC+ MCOs should focus on improving the validity of all claims data to improve the validity of the performance measure calculation process. Specific recommendations for each MC+ MCO are provided in the individual MC+ MCO summaries.
10. MC+ MCOs using the Hybrid Method of calculation should establish and document procedures for medical record reviews consistent with the performance measure specifications and carefully train medical record reviewers, providing written review manuals and procedures.
11. MC+ MCOs should target the improvement of provider documentation of medical histories and anticipatory guidance to improve the rate of Adolescent Well-Care Visits.
12. MC+ MCOs need to assess the statistical significance of changes in performance measures over time so that possible attributions can be made regarding stability or change from year to year.
13. The SMA will need to consider the validation of other performance measures that are used for program monitoring and evaluation. One measure set that was developed by the Missouri Department of Mental Health and MC+ MCOs is the Mental Health Indicator set, which is used by the MC+ Managed Care Program Mental Health Subcommittee. Previous EQRO review of raw data and comparison of MC+ MCO performance has raised questions about the reporting and calculation of the measures. The measures were calculated by the Missouri Department of Mental Health and have recently been calculated and reported by New Directions, one of the Behavioral Health Organizations for MC+ MCOs. Two measures for which there was concern about the proper calculation were the 7-day Follow-Up and 30-day Follow-Up After Psychiatric Hospitalization. Although the Mental Health Indicators are based on HEDIS criteria, they do not specifically follow all criteria for calculation. These two measures are also HEDIS measures, with very prescribed specifications for calculation. It was reported that some MC+ MCOs report their HEDIS-calculated rates to New Directions, while others provide the data according to the criteria for reporting as a Mental Health Indicator. This may result in non-comparability of the measures across MC+ MCOs as reported in the Mental Health Indicator set. If these measures are required by the SMA, it is recommended that they be calculated using one set of specifications. Since MC+ MCOs are likely to be more familiar with the HEDIS specifications for the calculation of the measures, it is recommended that the Mental Health Subcommittee accept and report this method of calculation for the two measures. If there is a compelling reason to use the Mental Health Indicator set definitions, then MC+ MCOs should be all required to follow the same specifications for calculation. The SMA plans to continue to require the calculation of the 7-day Follow-Up and 30-day Follow-Up After Psychiatric Hospitalization measure for mental health services although it is being rotated by HEDIS. Given the importance

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of the two measures, it is recommended that the calculation of either the HEDIS or Mental Health Indicator measures of the 7-day and 30-day Follow-Up After Psychiatric Hospitalization measures be validated by the EQRO. Given the complexity of the calculation of immunization measures, another measure recommended for validation by the EQRO is the HEDIS Childhood Immunization measure.

14. Finally, it is recommended that a qualified external entity be used to calculate and report performance measures comparing MC+ MCOs.

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SECTION THREE: VALIDATION OF ENCOUNTER DATA

Definition

"For the purposes of this protocol, an encounter refers to the electronic record of a service provided to an MCO enrollee by both institutional and practitioner providers (regardless of how the provider was paid) when the service would traditionally be a billable service under Fee-for-Service (FFS) reimbursement systems."[16]

An encounter is defined as the unit of service provided to a Member by the MCO. Encounter data provides the same type of information found on a claim form. It does not substitute for medical record documentation, but should be consistent with and supported by medical record documentation (e.g. date of procedure, type of procedure). The MC+ MCOs' contract with the State Medicaid Agency (SMA; Missouri Department of Social Services, Division of Medical Services; DMS) details the requirements for an acceptable submission of an encounter. The SMA's requirements for encounter data submitted by the MC+ MCOs include the type of encounter data and required data fields.

Purpose and Objectives

> *"Encounter data can be used to assess and improve quality, as well as monitor program integrity and determine capitation payment rates. However, in order for encounter data to effectively serve these purposes, it must be valid; i.e., complete and accurate…This protocol specifies processes for assessing the completeness and accuracy of encounter data submitted by MCOs and PIHPs to the State. It also can assist in the improvement of the processes associated with the collection and submission of encounter data to State Medicaid agencies."*[17]

Three objectives for the encounter validation were identified. They included assessing the quality of data for required fields for each claim type, evaluating the representativeness (or completeness) of the SMA encounter claims database for MC+ MCO paid and unpaid claims, and validating medical records against the SMA encounter claims database. The following were the objectives and associated evaluation questions.

[16] Department of Health and Human Services. Centers for Medicare and Medicaid Services (2002). Validating Encounter Data: A protocol for use in Conducting Medicaid External Quality Review Activities, Final Protocol, Version 1.0, May 1, 2002. Washington, D.C.: Author.
[17] Ibid.

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1. The first objective was to obtain a baseline of the SMA encounter claim database quality (completeness, accuracy, and reasonableness). The alternative hypothesis was that all data fields in the SMA encounter claims database consist of valid (complete, accurate, and reasonable) encounter claim data. Appendix 5 shows the recommended minimum criteria established for completeness and accuracy of specific data fields. Several evaluation questions were addressed:
    - What is the baseline level of completeness, accuracy, and reasonableness of the critical fields?
    - What is the level of volume and consistency of services?
    - What are the data quality issues associated with the processing of encounter data?
    - What problems are there with how files are compiled and submitted by the MCO?
    - What types of encounter claim data are missing and why?

2. The second objective was to validate the SMA encounter claims (paid) database against medical record documentation and obtain a baseline fault (error) rate for the level of accuracy of the SMA encounter claims database relative to the services delivered by MC+ MCO providers. The alternative hypothesis was that there is a 100% match between the encounter claim data in the medical record and the data in the SMA encounter claims database. Accuracy or match rates of 70% or greater are anticipated for new Medicaid managed care organizations[18]. Several evaluation questions were addressed:
    - To what extent do the claims in the SMA encounter claims database reflect the information documented in the medical record?
    - What is the fault/match rate between SMA encounter claims and medical records?
    - What types of errors are noted?

3. The third objective was to examine the match between MC+ MCO claims (paid and unpaid) and the SMA encounter paid claims database. This would facilitate identification of the level of completeness of the SMA encounter claims database as represented by MC+ MCOs paid claims. The alternative hypotheses were that 100% of MC+ MCO paid claims are represented in the SMA encounter claims database, and 0.00% of MC+ MCO unpaid claims are represented in the SMA encounter claims database. Several evaluation questions were posed:
    - What types of paid encounter data are missing and why?
    - What is the fault/match rate of paid and unpaid encounter claims in the SMA encounter claim database and the MC+ MCO claims database?
    - What services are being provided that are not being paid?
    - How many services are being provided that are not being paid?

[18] Medstat (1999). A Guide for States to Assist in the Collection and Analysis of Medicaid Managed Care Data: Second Edition.

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Technical Methods

TIME FRAME

The time frame of dates of service from January 1, 2004 through March 31, 2004 was selected by the SMA for the three encounter data validation objectives.

PROCEDURES FOR DATA COLLECTION

For the first objective, the SMA encounter claims extract file was used to examine the completeness, accuracy, and reasonableness of the critical fields; and to calculate the rate of each claim type per 1,000 members by MC+ MCOs. There are six claim types described in the SMA Health Plan Layout Manual: I = Inpatient claim type; M = Medical claim type; O = Outpatient Hospital claim type; D = Dental claim type; H = Home Health claim type; and P = Pharmacy claim type. Outpatient and Home Health claim types are submitted using a Universal Billing (UB-92) file layout, Medical and Dental claim types are submitted using a National Standard Format/Centers for Medicare and Medicaid Services 1500 (NSF/CMS 1500) file layout, and the Pharmacy claims are submitted using the National Council for Prescription Drug Programs, version 3 file layout (NCPDP v.3.0). All claims are sent from the MC+ MCOs to the SMA through the SMA claims vendor, InfoCrossing (recently renamed from Verizon), and claim types are assigned by the Medicaid Management Information System (MMIS).

After review and approval of the technical methods and objectives by the SMA, the EQRO reviewed, discussed with the SMA, and submitted a data request (see Appendix 5) for the SMA encounter claims extract file to be validated for each claim type and each MC+ MCO. The file request was made to the SMA on October 16, 2004 and received on November 18, 2004 by the EQRO, with additional files provided through January 25, 2004. The SMA reviewed and approved the data request and parameters for the designated the fields to be validated by the EQRO.

The comma-delimited text file was imported into the Statistical Package for Social Sciences, version 12 (SPSS v.12). Upon review of the imported file, the EQRO promptly notified the SMA of misaligned data fields at the end of the encounter claims extract file. These fields were:

- OUTPAT-DTL-PROC-MOD-P
- OUTPAT-DTL-PROC-MOD-I
- OUTPAT-PERV-PROV-MCARE-NUM
- OUTPAT-DTL-DIAG-CODE
- OUTPAT-DTL-PAID-AMT
- OUTPAT-DTL-EOB-CODE

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The SMA noted the fields were not in error, and the two procedure modifier fields were combined into one field. The EQRO attempted to parse these fields. The SMA Health Plan Layout Manual specifies two 2-digit modifier fields. However, the data in the merged procedure modifier fields consisted of either no data or a five-digit sequence of data. Subsequent data fields contained varying types of information (dollar amounts, alphanumeric characters). The EQRO Project Director and three programmers independently attempted to import the original data file into spreadsheet and database programs (SPSS v.12, MS Access and MS Excel) with the same results. The SMA was notified that the EQRO would need either to omit the fields from the analysis or report the procedure code modifier fields as invalid. No additional extract files were provided for analysis and the EQRO did not validate the procedure code modifier fields due to concerns about the representativeness of these fields[19].

The number of Medical encounter claims in the SMA encounter claims extract file was used for sample size estimation for the second objective and analysis of the evaluation questions. To examine the degree of match between the SMA encounter claims database and medical record procedures and diagnoses, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Appendix 6 contains letters of request to providers for medical records, the Table of Contents for the Medical Record Review Training Manual, and copies of medical record review tools. Several challenges in requesting the data were addressed. The SMA database does not include the names and addresses of the professional providers delivering the services. Rather, the MC+ MCO is recorded as the provider. This necessitated sending to MC+ MCOs listings of the encounter claim data elements provided to the EQRO by the SMA for the validation so that provider names and addresses could be used to send the medical record requests. MC+ MCOs returned over 1,139 provider names and addresses for the 700 selected encounters. Due to time constraints, the EQRO mailed requests to all providers. However, only 700 encounters would expect to have valid matches and the goal was to exclude from analysis any records that did not match and should not have matched the SMA encounter claims sampled. A second request was sent to MC+ MCOs with additional information on each encounter (including the procedure code and diagnosis code) to identify the exact provider associated with the encounter claims of interest. Nevertheless, MC+ MCOs identified more than one provider for each encounter (see Appendix 5).

[19] Personal communications with Judy Muck, Assistant Deputy Director of MC+ Managed Care, January 22, 2005 and January 26, 2005.

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It was subsequently discovered that the MC+ MCOs retain SMA assigned Individual Control Numbers (ICNs) to identify unique encounter claims. For those records in which the provider associated with the claim were in question, the SMA provided the ICNs which were forwarded to MC+ MCOs to identify the exact provider associated with the claim. In some cases, additional providers not included in the original request were added. During the months that specific providers were being identified, all medical records were reviewed. Only the findings of those medical record reviews for which the provider could be confidently associated with the encounter claim were included in the final analysis. Another challenge identified in the present process was the ability of MC+ MCOs to identify unique providers. In many instances, the provider was listed as a hospital system. In addition, providers with multiple addresses or the same street address in two different cities were found. This made it difficult for the facilities and providers to identify the sources and location of medical records.

For the third objective of comparing the SMA encounter claims with MC+ MCOs' paid and unpaid claims, the SMA encounter claims extract file was parsed by type of file layout (NSF/CMS 1500, UB-92, or NCPDP v.3.0) in preparation for matching against MC+ MCO paid and unpaid claims. A cross-walk for matching MMIS field names with those of the three national standards file layouts was developed and submitted to the SMA for review (February 8, 2005) and approval (March 29, 2005). MC+ MCOs were requested to provide paid and unpaid claims for the designated time frame on the sample of members selected by the EQRO, using the file layout required by the SMA prior to October, 2003. For a variety of reasons, MC+ MCOs were unable to consistently provide paid and unpaid claims and/or the requested file layouts. This precluded the planned analyses, but observations regarding the file submissions were provided in the MC+ MCO summaries for data quality improvement efforts.

ANALYSES

To assess the accuracy and completeness of the SMA encounter claims database, the SMA encounter claims extract file for all MC+ MCO paid encounter claims representing services rendered from January 1, 2004 through March 31, 2004 was analyzed for completeness, accuracy, and reasonableness (validity) of the data in each "critical", or required field examined. The Inpatient, Medical, Dental, Home Health, Outpatient Hospital, and critical fields were chosen by the SMA for analysis, with an established threshold of 100% for completion, accuracy, and validity:

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Medical (NSF/CMS 1500) Claim Type
Outpatient Claim Type
Recipient ID
First Date of Service
Last Date of Service
Place of Service
Units of Service
Procedure Code
Inpatient Diagnosis (five diagnosis fields)

Dental (NSF/CMS 1500) Claim Type
Outpatient Claim Type
Recipient ID
First Date of Service
Last Date of Service
Units of Service
Procedure Code

Home Health (UB-92) Claim Type
Outpatient Claim Type
Recipient ID
First Date of Service
Last Date of Service
Units of Service
Procedure Code
Revenue Code
Inpatient Diagnosis (five diagnosis fields)

Inpatient (UB-92) Claim Type
Inpatient Claim Type
Recipient ID
Admission Type
Admission Date
Discharge Date
Bill Type
Patient Discharge Status
Inpatient Diagnosis (five diagnosis fields)
First Date of Billing
Last Date of Billing
Revenue Code
Units of Service

Outpatient Hospital (UB-92) Claim Type
Outpatient Claim Type
Recipient ID
First Date of Service
Last Date of Service
Place of Service
Units of Service
Procedure Code
Inpatient Diagnosis (five diagnosis fields)

Pharmacy (NCPDP v.3.0)
Recipient ID
Dispensing Date
Pharmacy Prescription Number
Drug Quantity Dispensed
Number of Days Supply
National Drug Code

Each field was examined for the presence or absence of data (completeness), the correct type and size of information (accuracy), and the presence of valid values (reasonableness) or validity using the criteria listed below. Appendix 5 contains the parameters for the validation of encounter claims fields for each of the six encounter claim types, the procedure codes, and the diagnosis codes. Appendix 5 also shows the recommended threshold for validity of specific data fields.

Completeness:	The extent to which an encounter claim field contains data (either present or absent).
Accuracy:	The extent to which an encounter claim field contains the correct type of information (e.g., numeric, alpha, alphanumeric) in the proper format (e.g., mm/dd/yyyy for date field).
Reasonableness (Validity):	The extent to which an encounter claim field represents a valid value (e.g., an actual procedure code, actual birth date)

For the validation of the SMA encounter claims extract file with MC+ MCO medical records, the goal was to validate the procedure code and diagnosis code fields in the SMA encounter claims database against the information provided in the medical record. The minimum number of records required for the evaluation of two variables (procedure and diagnosis) with an estimated error rate

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of 30% (based on Medstat estimates[20]), reliability of 1.96 (95% statistical significance), and a meaningful difference of 55% were calculated using the number of Medical encounters in the SMA encounter claims file for each MC+ MCO (see Equation 1). There were no differences in the number of required records for MC+ MCOs, with the minimum required sample size of 88. A total of 100 encounters for each MC+ MCO were randomly selected for medical record review using a probability sample. The results of matches between the medical record and encounter claims data for the diagnosis code and diagnosis description across both the medical record and claim history were combined to calculate the number of matches for diagnosis. Similarly, the results of matches between the medical record and encounter claims data for the adequacy of information in the medical record as judged by the coder were combined with the number of matches on the claim form for the procedure code and description. If there was a match across any of the multiple variables (diagnosis code and description) or two sources (medical record and claim form) for the diagnosis, the record was counted as a "match". The same approach to calculating matches was used for the procedure so that the possible range for matches for each MC+ MCO on each variable was 0 to 100, expressed in percents.

Equation 1. Formula for Calculating Minimum Required Sample Size.

$$n = \frac{z^2 N P_y (1-P_y)}{(N-1)\,\varepsilon^2 P_y 2 + z^2 P_y (1-P_y)}$$

Where Py, = Estimated True Error Rate; meaningful difference between true and estimated value ; z = level of reliability; ε=1(Py - meaningful difference)/meaningful difference; N = number of Medicaid Claim Types for the period January 1, 2004-March 31, 2004; n = Minimum required sample size[21]

FINDINGS

One limitation of the present analysis is that the encounter claim completeness and accuracy analysis was based on paid encounter claims and did not account for all claims that were submitted and rejected through system edits. Another limitation was that there were some discrepancies noted between the payable procedure code list and the SMA-identified parameters for the procedure code field. The payable procedure code list contained values ranging from three to five digits, while the parameters identified by the SMA for the present validation process indicated valid lengths of data of five digits. The source of the procedure code file was an internal database, which comes directly from of the MMIS system. The source of the diagnosis code list was an ad hoc report. The ad hoc

[20] Medstat (1999). A Guide for States to Assist in the Collection and Analysis of Medicaid Managed Care Data: Second Edition.
[21] Levy, P.S. & Lemeshow, S. L. (1999). Sampling of Populations: Methods and Applications, Third Edition, John Wiley and Sons: New York; see box 3.5 for Exact and approximate sample sizes required under simple random sampling for proportions.

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data were taken directly from the MMIS system.[22] Finally, because the SMA encounter claims extract file was for service dates from January 1, 2004 through March 31, 2004 and some service dates might extend beyond this period if the first date of service was later in the time frame (e.g., March 31, 2004), the last date of service extended beyond the time frame specified by SMA parameters for the validation process (e.g., a Discharge Date of April 1, 2004). When last dates of service appeared to be within a reasonable time frame, dates outside the valid range were not interpreted and are presented for informational purposes only. In addition, the second through fifth diagnosis code fields are required when the information is available. Not all encounters had five diagnoses. Therefore, 100.00% completion of these fields would not be expected. Conclusions regarding the extent to which the encounter claims database reflects the accuracy and completeness of rejected claims cannot be drawn. Data are presented in the aggregate and are available at the MC+ MCO level in the individual MC+ MCO summaries. The findings of the encounter data validation are presented in response to each evaluation question, by claim type and critical field for all MC+ MCOs.

[22] Personal communication with Shelley Farris, December 02, 2004 re: Diagnosis, Procedure code documentation question and follow-up.

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What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical fields? What Types of Encounter Claim Data are Missing and Why?

For the Medical claim type, there were a total of 999,140 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004 (see Table 37).

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete and accurate, and 99.95% valid. Invalid dates of service ranged from 01/05/2001 – 12/16/2003.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, and 99.88% valid. Invalid dates of service ranged from 04/01/2004 – 08/21/2004.
5. The Outpatient Units of Service field was 100.00% complete and accurate. Valid values of the appropriate type were present 99.93% of the time. The Units of Service field must contain five numeric characters representing values from "00001" – "99999". Family Health Partners had two values of "00000" and Community Care Plus had 679 values of "00000".
6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 97.36% valid. Invalid procedure codes included the W0025 codes. Please refer to individual MC+ MCO reports on specific invalid procedure codes found in this field.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 34.49% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 16.02% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 7.46% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was .78% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

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Table 37. Encounter Data Validation of Critical Fields, All MC+ MCOs, Medical Claim Type.

Critical or Fatal Field	Information Present		Correct Size		Correct Type of Information		Valid Value	
	#	%	#	%	#	%	#	%
Outpatient Claim Type [OUTPAT-CLAIM-TYPE]	999,140	100.00%	999,140	100.00%	999,140	100.00%	999,140	100.00%
Recipient ID [OUTPAT-PROCESSED-RECIP-ID]	999,140	100.00%	999,140	100.00%	999,140	100.00%	999,140	100.00%
First Date of Service [OUTPAT-FIRST-DT-SVC]	999,140	100.00%	999,140	100.00%	999,140	100.00%	998,647	99.95%
Last Date of Service [OUTPAT-LAST-DT-SVC]	999,140	100.00%	999,140	100.00%	999,140	100.00%	997,958	99.88%
Units of Service [OUTPAT-UNITS-SVC]	999,140	100.00%	999,140	100.00%	998,459	99.93%	998,459	99.93%
Outpatient Procedure Code [OUTPAT-DTL-PROC]	999,140	100.00%	999,140	100.00%	999,140	100.00%	972,805	97.36%
Outpatient Place of Service [OUTPAT-PLACE-OF-SVC]	999,140	100.00%	999,140	100.00%	999,140	100.00%	999,140	100.00%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	999,140	100.00%	999,140	100.00%	999,140	100.00%	999,140	100.00%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	344,595	34.49%	344,595	34.49%	344,595	34.49%	344,595	34.49%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	160,104	16.02%	160,104	16.02%	160,104	16.02%	160,104	16.02%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	74,577	7.46%	74,577	7.46%	74,577	7.46%	74,577	7.46%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	7,833	0.78%	7,833	0.78%	7,833	0.78%	7,833	0.78%
Total Claims	**999,140**							

Note: Based on state extract file of dates of service from January 1, 2004- March 31, 2004.

Source: Missouri Department of Social Services, Division of Medical Services.

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For the Dental claim type, there were a total of 125,236 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid for all MC+ MCOs.

For the Home Health claim type, there were a total of 828 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

For the Inpatient claim type, there were a total of 11,619 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004 (see Table 38).

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate; and 95.12% valid. Invalid dates ranged from 01/22/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 98.35% (with entries of "99999999" by all MCOs, with the exception of Family Health Partners). Valid values were present 94.35% of the time. In addition to the invalid "99999999" entries, invalid dates ranged from 04/01/2004 – 07/29/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete with the correct number of characters (size). This field requires two digits. Missouri Care, FirstGuard and HealthCare USA had two-digit entries of "16", "63", "35", and "24", which were the correct type, but were invalid values.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (45.16%, 35.71%, 13.79%, and 7.81%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 95.84% valid. Invalid dates of service ranged from 01/22/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 52.68% valid. Invalid dates of service ranged from 04/01/2004 – 07/29/2004.
12. The Revenue Code field was 99.98% complete, accurate, and valid. Invalid fields were either blank or contained an invalid entry of "080".
13. The Units of Service field was 100.00% complete, 99.76% accurate and 99.75% valid. Invalid values were primarily accounted for by invalid entries of "00000" from Missouri Care and HealthCare USA.

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Table 38. Encounter Data Validation of Critical Fields, All MC+ MCOs, Inpatient Claim Type.

Critical or Fatal Field	Information Present		Correct Size		Correct Type of Information		Valid Value	
	#	%	#	%	#	%	#	%
Inpatient Claim Type [INPAT-CLAIM-TYPE]	111,619	100.00%	111,619	100.00%	111,619	100.00%	111,619	100.00%
Recipient ID [INPAT-RECIP-ID]	111,619	100.00%	111,619	100.00%	111,619	100.00%	111,619	100.00%
Admission Type [INPAT-ADMIT-TYPE]	111,619	100.00%	111,619	100.00%	111,619	100.00%	111,619	100.00%
Admission Date [INPAT-ADMIT-DT]	111,619	100.00%	111,619	100.00%	111,619	100.00%	106,173	95.12%
Discharge Date [INPAT-MED-DSCHG-DT]	111,619	100.00%	111,619	100.00%	109,772	98.35%	105,315	94.35%
Inpatient Bill Type [INPAT-BILL-TYPE]	111,619	100.00%	111,619	100.00%	111,619	100.00%	111,619	100.00%
Patient Status [INPAT-PATIENT-STAT]	111,619	100.00%	111,619	100.00%	111,543	99.93%	111,543	99.93%
Diagnosis [INPAT-DX]	111,619	100.00%	111,619	100.00%	111,619	100.00%	111,619	100.00%
Diagnosis [INPAT-DX]	50,407	45.16%	50,407	45.16%	50,407	45.16%	50,407	45.16%
Diagnosis [INPAT-DX]	39,858	35.71%	39,858	35.71%	39,858	35.71%	39,858	35.71%
Diagnosis [INPAT-DX]	15,390	13.79%	15,390	13.79%	15,390	13.79%	15,376	13.78%
Diagnosis [INPAT-DX]	8,713	7.81%	8,713	7.81%	8,713	7.81%	8,713	7.81%
First Date of Service [INPAT-FIRST-DT-SVC]	111,619	100.00%	111,619	100.00%	111,619	100.00%	106,972	95.84%
Last Date of Service [INPAT-LAST-DT-SVC]	111,619	100.00%	111,619	100.00%	111,619	100.00%	106,544	95.45%
Revenue Code [INPAT-REVENUE-CD]	111,601	99.98%	111,601	99.98%	111,600	99.98%	111,600	99.98%
Units of Service [INPAT-UNITS-SV]	111,619	100.00%	111,619	100.00%	111,344	99.75%	111,343	99.75%
Total Claims	**111,619**							

Note: Based on state extract file of dates of service from January 1, 2004- March 31, 2004.

Source: Missouri Department of Social Services, Division of Medical Services.

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For the Outpatient Hospital claim type, there were a total of 489,432 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004 (see Table 39).

1. Two of the seven MC+ MCOs (Missouri Care and Mercy Health Plan) had 100.00% complete, accurate and valid data for all fields examined.
2. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
3. The Recipient ID field was 100.00% complete, accurate and valid.
4. The First Date of Service field was 100.00% complete and accurate, and valid.
5. The Last Date of Service field was 100.00% complete and accurate, and valid.
6. The Units of Service field was 100.00% complete, accurate and valid.
7. The Outpatient Procedure Code field was 100.00% complete, 94.77% accurate and 92.75% valid. A large proportion of the invalid codes were accounted for by codes ranging from "0220" – "0983" submitted by FirstGuard. This field requires five alphanumeric characters.
8. The Outpatient Revenue Code field was 100.00% complete, 83.25% accurate and 83.25% valid. Invalid codes were primarily accounted for by invalid entries of "000" from HealthCare USA and Community Care Plus.
9. The first Diagnosis Code field was 100.00% complete, accurate and valid.
10. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 30.39% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 13.98% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 4.56% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 1.33% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Pharmacy claim type, there were a total of 737,511 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid (Recipient ID, First Date of Service, Prescription Number, Quantity Dispensed, Days Supply, and National Drug Code).

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Table 39. Encounter Data Validation of Critical Fields, All MC+ MCOs, Outpatient Hospital Claim Type.

Critical or Fatal Field	Information Present		Correct Size		Correct Type of Information		Valid Value	
	#	%	#	%	#	%	#	%
Outpatient Claim Type [OUTPAT-CLAIM-TYPE]	489,432	100.00%	489,432	100.00%	489,432	100.00%	489,432	100.00%
Recipient ID [OUTPAT-PROCESSED-RECIP-ID]	489,432	100.00%	489,432	100.00%	489,432	100.00%	489,432	100.00%
First Date of Service [OUTPAT-FIRST-DT-SVC]	489,432	100.00%	489,432	100.00%	489,432	100.00%	489,432	100.00%
Last Date of Service [OUTPAT-LAST-DT-SVC]	489,432	100.00%	489,432	100.00%	489,432	100.00%	489,432	100.00%
Units of Service [OUTPAT-UNITS-SVC]	489,432	100.00%	489,432	100.00%	489,432	100.00%	489,432	100.00%
Outpatient Procedure Code [OUTPAT-DTL-PROC]	489,432	100.00%	463,831	94.77%	463,831	94.77%	453,938	92.75%
Revenue Code [OUTPAT-REVENUE-CODE]	489,432	100.00%	489,393	99.99%	407,457	83.25%	407,457	83.25%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	489,428	100.00%	489,428	100.00%	489,428	100.00%	489,428	100.00%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	148,752	30.39%	148,752	30.39%	148,752	30.39%	148,752	30.39%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	68,405	13.98%	68,405	13.98%	68,405	13.98%	68,405	13.98%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	22,299	4.56%	22,299	4.56%	22,299	4.56%	22,299	4.56%
Diagnosis [OUTPAT-DTL-DIAG-CODE]	6,526	1.33%	6,526	1.33%	6,526	1.33%	6,526	1.33%
Total Claims	**489,432**							

Note: Based on state extract file of dates of service from January 1, 2004- March 31, 2004.

Source: Missouri Department of Social Services, Division of Medical Services.

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What is the Level of Volume and Consistency of Services?

One method of examining the level, consistency, and volume of services is to assess the extent to which each MC+ MCO is consistent with the remaining MC+ MCOs and the average of all MC+ MCOs services represented in the SMA encounter claims database. The level, consistency, and volume of services represented in the SMA encounter claims database is a function of the acceptance of encounter claim submissions; the process of manipulation of data from national standard layouts for Medical (NSF/CMS 1500); Dental (NSF/CMS 1500); Inpatient, Outpatient Hospital, Home Health (UB-92); and Pharmacy claims (NCPDP 3.0) into the State MMIS system edits; the entry and transmission of data by MC+ MCOs, vendors, and providers; the accessibility of services; member utilization patterns; and provider practice patterns. Given that there were no baseline data available from the SMA for comparison, analyses are considered exploratory and may be used as a baseline for further analysis or interpretation by the SMA and the MC+ MCOs. With the large number of members enrolled in each MC+ MCO, it was expected that factors such as physician practice patterns and member utilization patterns would not have a statistically significant impact on the findings, resulting in all MC+ MCOs having similar rates of encounters per 1,000 members as the rate for all MC+ MCOs. Statistically significant findings are more likely to be a function of the data quality and completeness resulting from the processing of data by providers, vendors, MC+ MCOs, and the MMIS rather than the accessibility or quality of services.

Using the SMA encounter claims extract file from January 1, 2004 through March 31, 2004, the volume of services for each claim type and MC+ MCO was examined. The rate of each claim type, regardless of the accuracy, consistency, and validity of the data was examined. The rate of claims per 1,000 members based on one quarter of data was calculated by dividing the number of members enrolled as of the last week of March 2004, by 4, then calculating the rate of claims per 1,000 members. Figures 13 through 18 illustrate the rates of claim types and the results of two-tailed z-tests comparing each MC+ MCO with the statewide rate of claims. Statistically significant differences between an MC+ MCO and the rate for all MC+ MCOs at the 95% level of statistical significance are indicated by an asterisk. The 95% upper and lower confidence limits are represented by the black bars on the y-axis. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported. When there was no statistical significance, the significance level is reported as "not significant" (n.s.).

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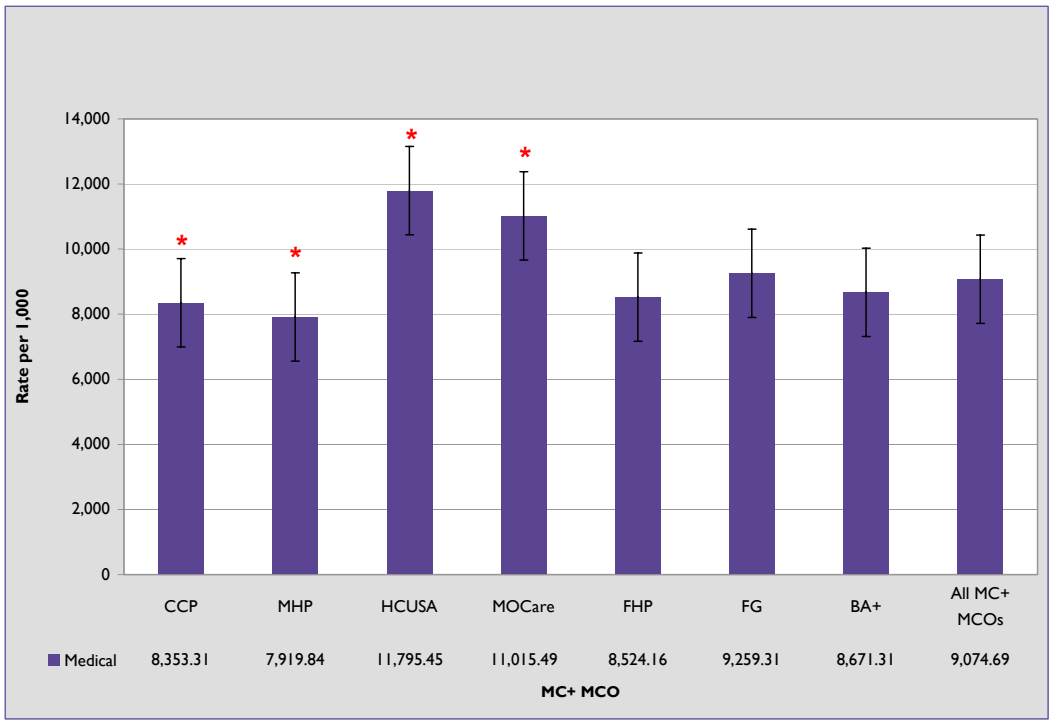
Medical encounter claim types consist of claims submitted by providers, vendors, and MC+ MCOs. As shown in Figure 13, there was some variability across MC+ MCOs in the statewide rate per 1,000 members of Medical encounter claim types compared to the rate for all MC+ MCOs (9,074.69 Medical encounter claims per 1,000 members). Two MC+ MCOs (HealthCare USA, 11795.45, z = 1.66 ; 95% CI: 10707.42, 12883.48; p > .95; and Missouri Care, 11015.49, z = 1.13; 95% CI: 9927.46, 12103.53; p > .95) had significantly higher rates, while two MC+ MCOs (Community Care Plus, 8353.31, z = -.69; 95% CI: 7625.27, 9441.34; p < .05; and Mercy Health Plan, 7919.84, z = -.98; 95% CI: 6831.81, 9007.87; p < .05) had significantly lower rates of Medical encounter claims than the rate for all MC+ MCOs.

Figure 13. Medical Encounters Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

Dental encounter claims consist of claims submitted by providers, vendors, and MC+ MCOs. As shown in Figure 14, there was some variability across MC+ MCOs in the rate per 1,000 members of Dental encounter claims compared to the rate for all MC+ MCOs (1137.19 Dental encounter claims per 1,000 members). Two MC+ MCOs (HealthCare USA, 1523.63, z = 1.54 ; 95% CI: 1337.83,

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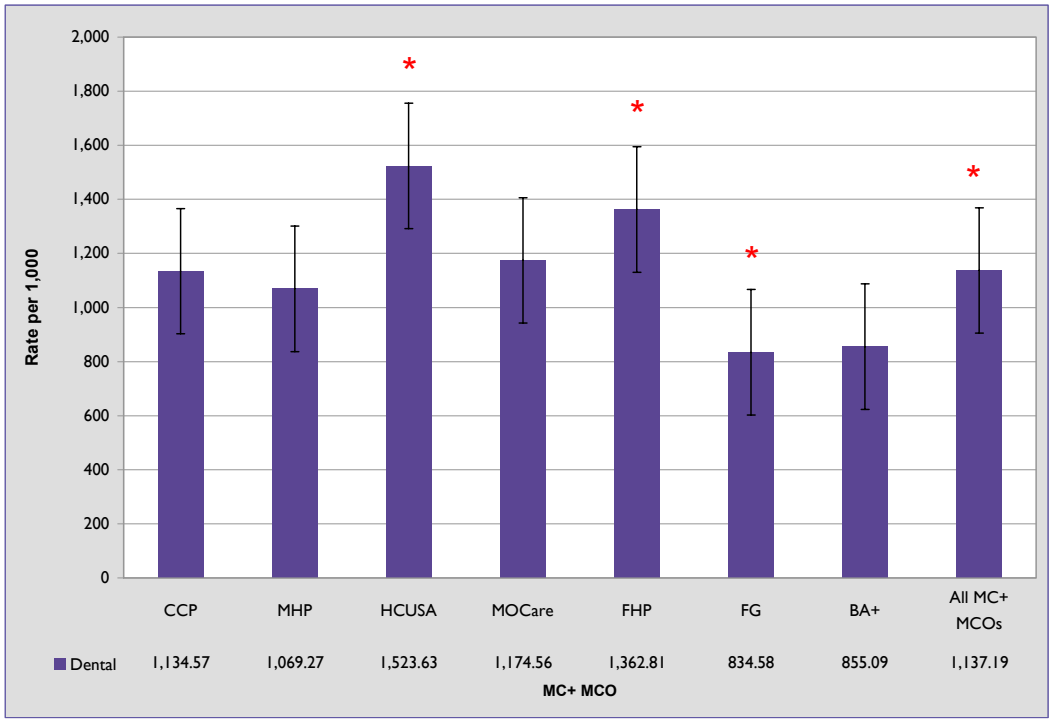
1709.42; p > .95; and Family Health Partners, 1362.81, z = .90; 95% CI: 1177.02, 1548.61; p > .95) had significantly higher rates while two MC+ MCOs (FirstGuard, 834.58, z = -1.20; 95% CI: 648.79, 1020.38; p < .05; and Blue Advantage Plus, 855.09, z = -1.12; 95% CI: 669.29, 1040.88; p < .05) had significantly lower rates of Dental encounter claims per 1,000 members than the rate for all MC+ MCOs.

Figure 14. Dental Encounters per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

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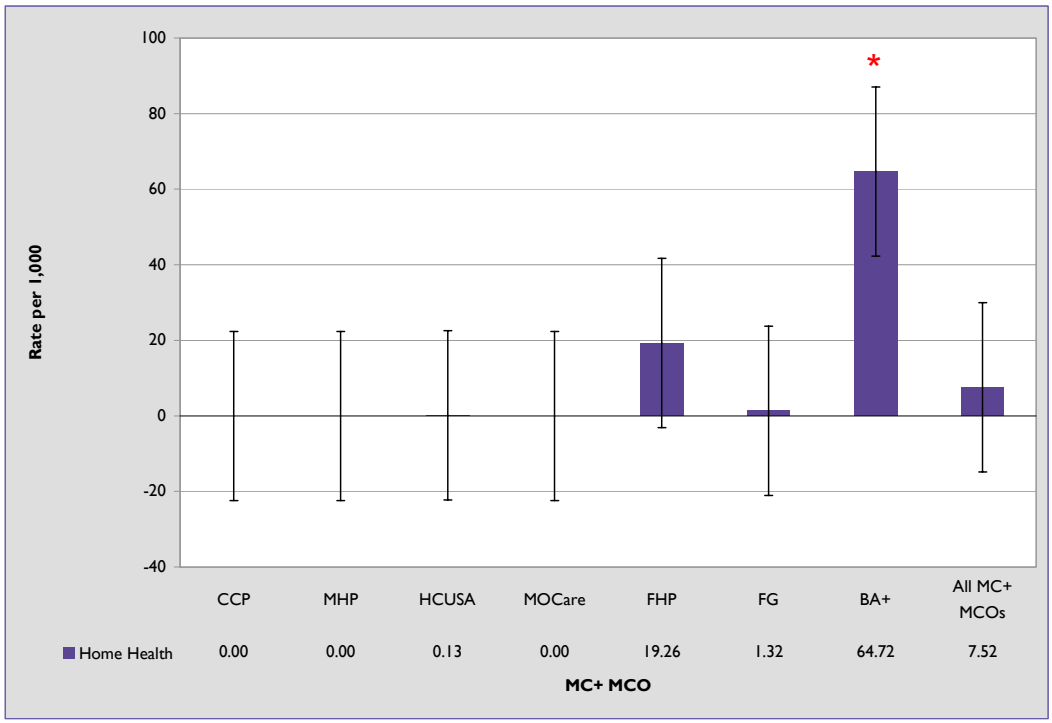
There were very few Home Health encounter claim types submitted by MC+ MCOs. One MC+ MCO (Blue Advantage Plus, 64.72, z = 2.17; 95% CI; p > .95) submitted a significantly higher rate of Home Health encounter claims than the rate for all MC+ MCOs (7.52; see Figure 15.)

Figure 15. Home Health Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

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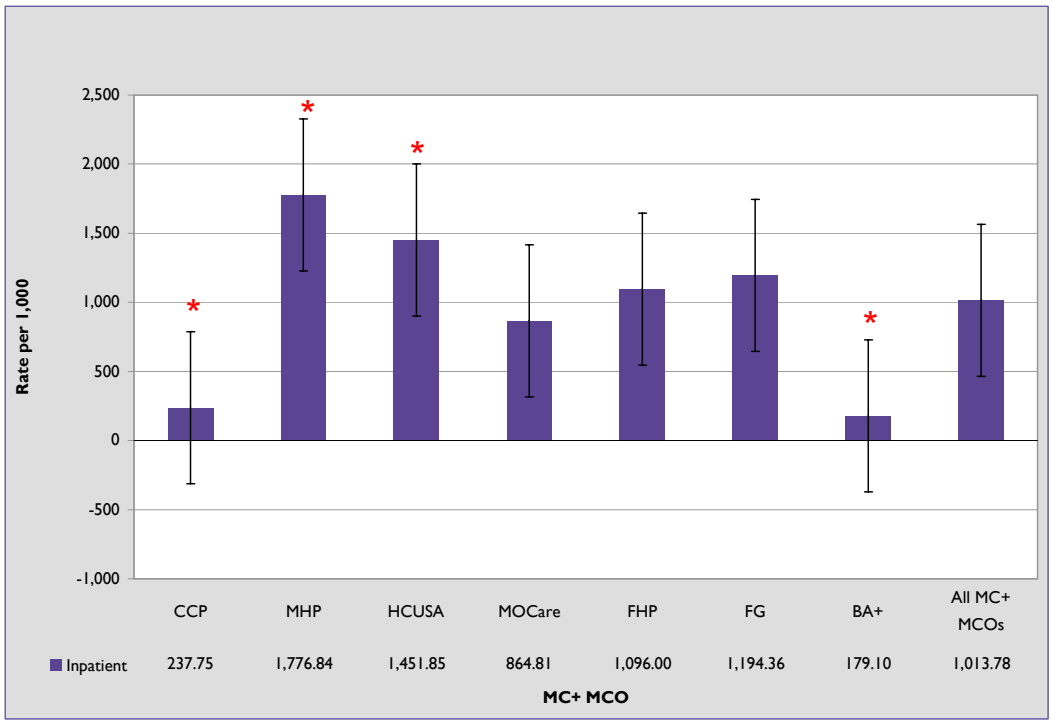
Inpatient encounter claim types consist of claims submitted by hospital facilities and MC+ MCOs. As shown in Figure 16, there was some variability across MC+ MCOs in the rate per 1,000 members of Inpatient encounter claims compared to the rate for all MC+ MCOs (1013.78 Inpatient encounter claims per 1,000 members). Two MC+ MCOs had significantly higher rates of Inpatient encounter claims (Mercy Health Plan, 1776.84, z = 1.35; 95% CI: 1336.27, 2217.41; $p > .95$; HealthCare USA, z = .81; 95% CI: 1011.27, 1892.42, $p > .95$). Two MC+ MCOs had significantly lower rates of Inpatient encounter claims (Community Care Plus, 237.75, z = -1.23; 95% CI: 0, 678.33; $p < .05$; Blue Advantage Plus, 179.10, z = -1.33; 95% CI: 0, 619.67; $p < .05$) than the rate for all MC+ MCOs.

Figure 16. Inpatient Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

Outpatient Hospital encounter claim types consist of claims submitted by outpatient hospital facilities and MC+ MCOs. As shown in Figure 17, there was some variability across MC+ MCOs compared to the rate for all MC+ MCOs (4528.28 Outpatient Hospital encounter claims per 1,000 members). Two MC+ MCOs (Missouri Care, 5985.78, z = .79; 95% CI: 4691.21, 7280.34; $p > .95$

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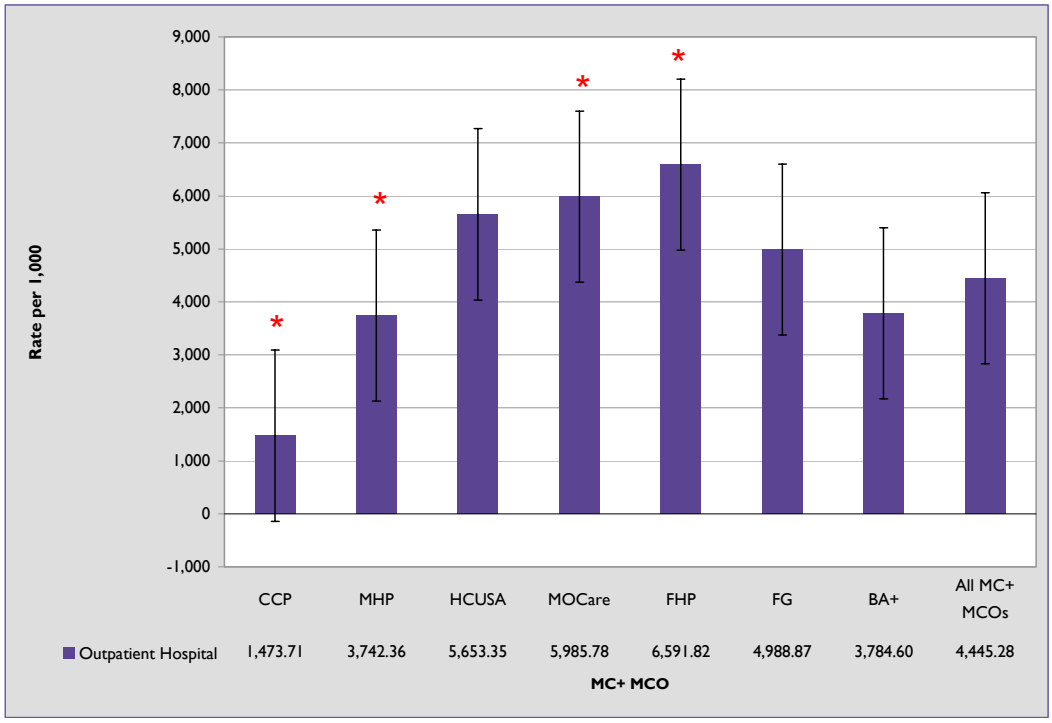
and Family Health Partners, 6591.82, z = 1.14; 95% CI: 5297.25, 7886.38; $p > .95$) had significantly higher rates of Outpatient Hospital encounter claims, while one MC+ MCO had significantly lower rates of Outpatient Hospital encounter claims per 1,000 members (Community Care Plus, z = -1.79; 95% CI: 179.15, 2768.28; $p < .05$) than the rate for all MC+ MCOs.

Figure 17. Outpatient Hospital Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

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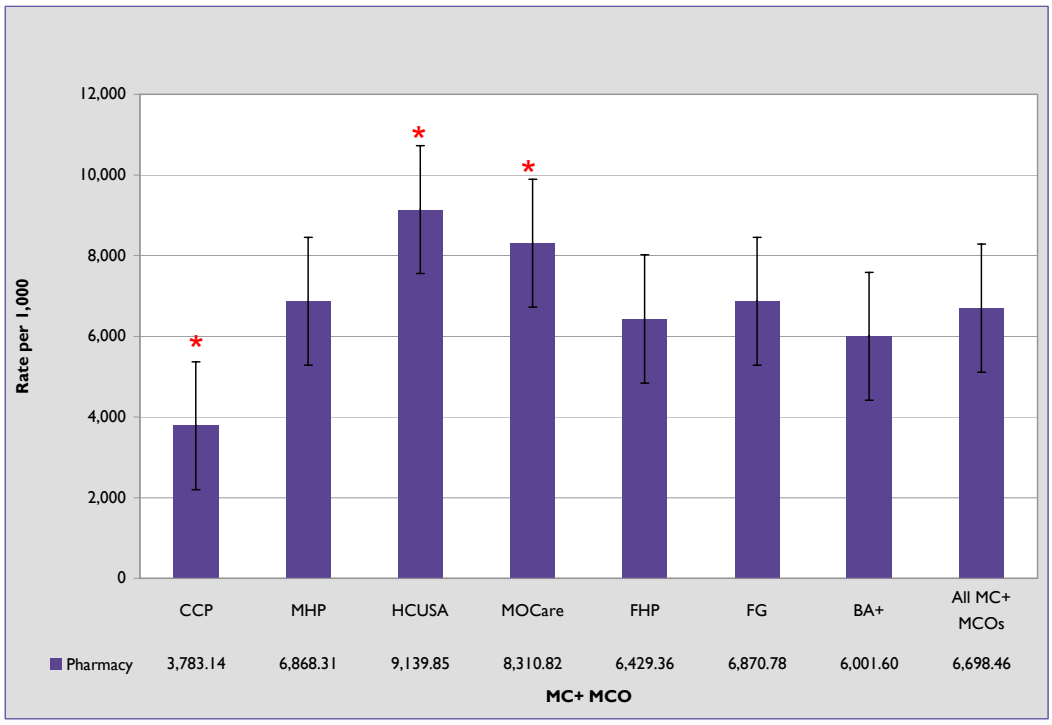
Pharmacy encounter claim types consist of claims submitted by pharmacy providers and MC+ MCOs. As shown in Figure 18, there was some variability across MC+ MCOs in the statewide rate per 1,000 members of Pharmacy encounter claims compared to the rate for all MC+ MCOs (6,698.46 Pharmacy encounter claims per 1,000 members). Two MC+ MCOs (HealthCare USA, 9139.85, z = 1.38, 95% CI: 7869.70, 10409.99; p > .95 and Missouri Care, 8310.82, z = .90, 95% CI: 7040, 9580.97; p > .95) had significantly higher rates of Pharmacy encounter claims, while one MC+ MCO (Community Care Plus, 3783.14, z = -1.74; 95% CI: 2512.99, 5053.29; p < .05) had a significantly lower rate of Pharmacy encounter claims per 1,000 members than the rate for all MC+ MCOs.

Figure 18. Pharmacy Encounter Claim Types per 1,000 Members, January 1, 2004 – March 31, 2004.



Note: Rate per 1,000 members is an estimated annual rate based on first quarter state encounter data; Rate per 1,000 members = Number Claims January 1-2004 – March 31, 2004 / (Number members / 4) X 1,000. Enrollment as of the last week of March 2004 was used to calculate the rate per 1,000 members. Error bars on the y-axis represent 95% confidence intervals; * Indicates values are significant at the 95% level of significance, two-tailed z-test.
Source: Missouri Department of Social Services, Division of Medical Services, State Session MPRI screen, enrollment for all Waivers, week ending March 26, 2004.

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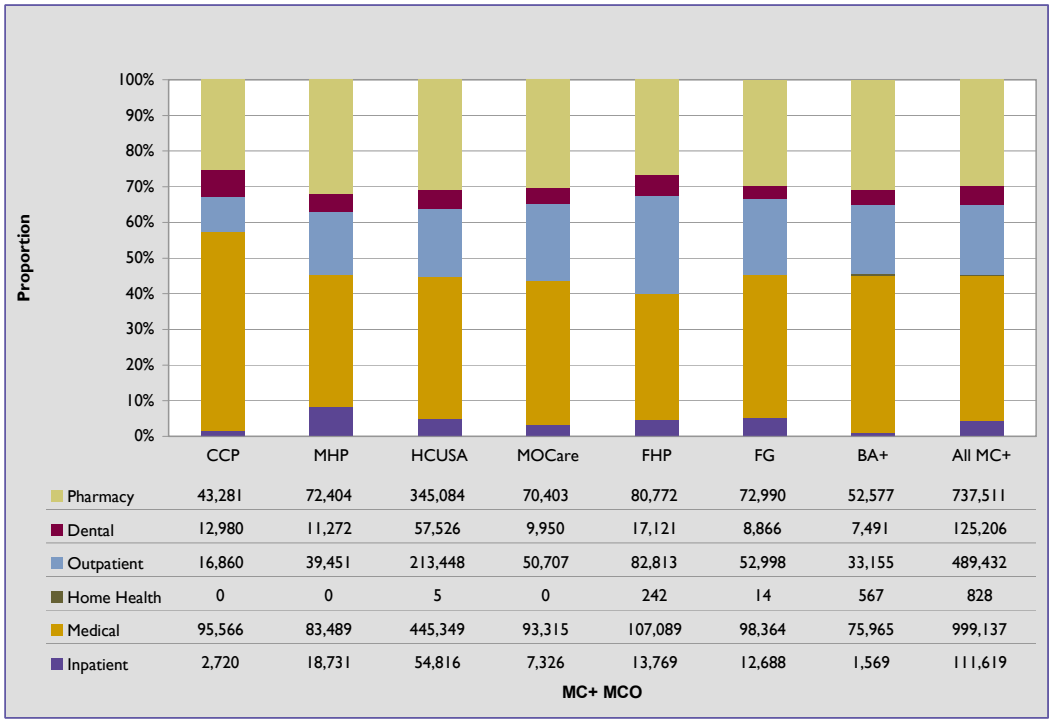
Figure 19 shows the proportion of claim types for each MC+ MCO based on the SMA encounter claims extract file. Community Care Plus had the highest proportion of Dental and Medical claim types relative to all other claim types; Mercy Health Plan had the highest proportion of the Inpatient claim types; and Blue Advantage Plus had the highest proportion of Home Health claim types. There were no patterns observed across MC+ Regions, suggesting that the variations are not related to member or provider practice characteristics.

Figure 19. Proportion of Claim Types per MC+ MCO, January 1, 2004 –March 31, 2004.



	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	All MC+
Pharmacy	43,281	72,404	345,084	70,403	80,772	72,990	52,577	737,511
Dental	12,980	11,272	57,526	9,950	17,121	8,866	7,491	125,206
Outpatient	16,860	39,451	213,448	50,707	82,813	52,998	33,155	489,432
Home Health	0	0	5	0	242	14	567	828
Medical	95,566	83,489	445,349	93,315	107,089	98,364	75,965	999,137
Inpatient	2,720	18,731	54,816	7,326	13,769	12,688	1,569	111,619

Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November11, 2004.

To What Extent Do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State Encounter Claims and Medical Records?

Table 40 shows the population (number of encounters), minimum required sample size, the number of encounters sampled, and the number and rate of records submitted for review. Of the 999,137 Medical encounter claim types in the SMA encounter claims extract file for January 1, 2004 through March 31, 2004, a total of 700 encounters (100 per MC+ MCO) were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms/claim histories for review. For the 700 selected encounters, there were 526 medical records (75.1%) and 161 claim forms (23.0%)

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submitted for review. MC+ MCO submission rates ranged from 64.0% (Mercy Health Plan) to 85.0% (Community Care Plus). Encounters for which no documentation was submitted were unable to be validated. Table 41 and Figure 20 show the results of the match for procedures. Across all MC+ MCOs, 53.3% of the medical records or claim forms contained matching procedure codes or descriptors. MC+ MCO match rates ranged from 44.0% (HealthCare USA) to 63.0% (Blue Advantage Plus). Three MC+ MCOs (Community Care Plus, 59.0%; z = .82, 95% CI: 49.4, 68.6; $p > .95$; Missouri Care, 59.0%, z = .98, 95% CI: 49.4, 68.6; $p > .95$; and Blue Advantage Plus, 63.0%, z =1.39, 95% CI: 53.5, 72.5; $p > .95$) had match rates significantly higher than the rate for all MC+ MCOs; while one MC+ MCO (HealthCare USA, 44.0%, z = -1.33, 95% CI: 34.3, 53.7, $p < .05$) had significantly lower rates. By comparison, the State of Oregon reported a 99.4% match with medical records for the 1995/1996 review year (no methodology was reported).[23] The fault rate for all MC+ MCOs for the procedure was 46.7%, with MC+ MCO fault rates ranging from 37.0% to 56.0%. When considering only the documentation submitted for review, the match rate for all MC+ MCOs for procedures was 70.9%, while the match rate for diagnoses was 73.8%. Thus, improved submission of medical records for review may improve the rate of validation of encounter data.

Table 40. Encounter Data Validation Samples and Medical Record Submission Rate.

MC+ MCO	Number Encounters	Minimum Sample Size	Number Encounters Sampled	Number Medical Records Received	Number Claim Forms Received	Submission Rate
Community Care Plus	95,566	88	100	85	39	85.0%
Mercy Health Plan	83,489	88	100	64	27	64.0%
Health Care USA	445,349	88	100	67	21	67.0%
Missouri Care	93,315	88	100	81	24	81.0%
Family Health Partners	107,089	88	100	71	18	71.0%
FirstGuard	98,364	88	100	74	15	74.0%
Blue Advantage Plus	75,965	88	100	84	17	84.0%
All MC+ MCOs	**999,137**	**616**	**700**	**526**	**161**	**75.1%**

Note: The number of encounters represents the number of unique Medical claim types found in the SMA encounter claims extract file for the period January 1, 2004 through March 31, 2004. The minimum sample size is based on the validation of medical records for two dependent variables, the procedure code and the diagnosis code. Number Encounters Sampled = Number of unique encounters randomly sampled by the EQRO for medical record review validation. Number Medical Records Received = Number medical records submitted by MC+ MCO providers; Number Claim Forms Received = Number claim forms submitted by MC+ MCO providers; Submission Rate = Proportion of medical records submitted of the number of encounters sampled.

Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November 11, 2004. BHC, Inc. 2004 External Quality Review Validation of Encounter Data.

[23] Center for Health Programs Development and Management, University of Maryland, & Actuarial Research Corporation (2003). A Guide to Implementing a Health-Based Risk-Adjusted Payment System for Medicaid Managed Care Programs. Centers for Medicare and Medicaid Services Contract No: 500-98-0004.

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Table 41. Procedure Validation Rate.

MC+ MCO	Number Encounters Sampled	Number Medical Records Received	Number Validated	Rate Validated of Medical Records Received	Actual Validation Rate	Error (Fault) Rate	LCL	UCL
Community Care Plus	100	85	59	69.4%	59.0%	41.0%	49.36%	68.6%
Mercy Health Plan	100	64	49	76.6%	49.0%	51.0%	39.20%	58.8%
Health Care USA	100	67	44	65.7%	44.0%	56.0%	34.27%	53.7%
Missouri Care	100	81	59	72.8%	59.0%	41.0%	49.36%	68.6%
Family Health Partners	100	71	50	70.4%	50.0%	50.0%	40.20%	59.8%
FirstGuard	100	74	49	66.2%	49.0%	51.0%	39.20%	58.8%
Blue Advantage Plus	100	84	63	75.0%	63.0%	37.0%	53.54%	72.5%
All MC+ MCOs	700	526	373	70.9%	53.3%	46.7%	49.6%	57.0%

Note: Number Encounters Sampled = Number of unique encounters randomly sampled by the EQRO for medical record review validation; Number Medical Records Received = Number medical records submitted by MC+ MCO providers for validation; Number Validated = Number of encounters for which there was a similar or matching procedure code or description on the claim form, or adequate documentation in the medical record to support the procedure code as judged by a professional medical coder. Rate Validated of Medical Records Received = Number Validated/Number Medical Records Received; Actual Rate Validated = Number Validated/Number Encounters Sampled; LCL = Lower Confidence Limit at the 95% confidence level; UCL = Upper Confidence Limit at the 95% confidence level.

Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November 11, 2004. BHC, Inc. 2004 External Quality Review Validation of Encounter Data.

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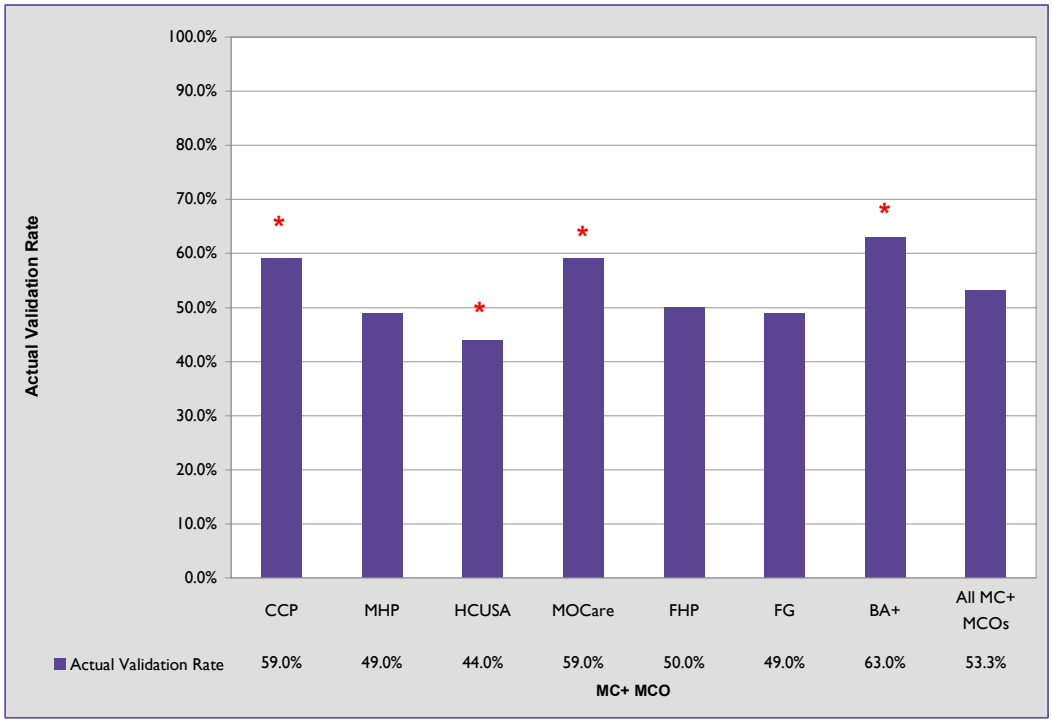
Figure 20. Encounter Data Procedure Validation Rate, January 1, 2004 – March 31, 2004.



Note: * Indicates values are significant at the 95% level of significance, two-tailed z-test. See corresponding tables for 95% confidence intervals.
Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November 11, 2004. BHC, Inc. 2004 External Quality Review Validation of Encounter Data.

For the validation of the diagnosis, 388 (55.4%) matched the diagnosis found in the SMA encounter claims extract file across all MC+ MCOs (see Table 42 and Figure 21). MC+ MCO match rates ranged from 45.0% (Family Health Partners) to 68.0% (Community Care Plus) of the medical records or claim forms for diagnosis codes or descriptors. Two MC+ MCOs (Community Care Plus, 59.0%, z =1.58, 95% CI: 58.9, 77.1; $p > .95$; and Missouri Care, 61%, z =1.58, 95% CI: 51.4, 70.6; $p > .95$) had match rates significantly higher than the rate for all MC+ MCOs; while three MC+ MCOs (Mercy Health Plan, 49.0%, z = - .81, CI: 39.2, 58.8; $p < .05$; Health Care USA, 50%, z = - .68, CI: 40.2, 59.8; $p < .05$; and Family Health Partners, 45.0%; z = -1.31, CI: 35.2, 54.8, $p < .05$) had significantly lower rates. By comparison, the State of Oregon reported an accuracy rate of 88.2% for the 5-digit diagnosis code, and 91.0% for the 3-digit diagnosis code for the 1995/1996 review year (no methodology was reported).[24] The fault rate for all MC+ MCOs on the diagnosis was 44.6%, with MC+ MCO fault rates ranging from 32.0% to 55.0%.

[24] Center for Health Programs Development and Management, University of Maryland, & Actuarial Research Corporation (2003). A Guide to Implementing a Health-Based Risk-Adjusted Payment System for Medicaid Managed Care Programs. Centers for Medicare and Medicaid Services Contract No: 500-98-0004.

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Table 42. Diagnosis Validation Rate.

MC+ MCO	Number Encounters Requested	Number Medical Records Received	Number Validated	Rate Validated of Medical Records Received	Actual Validation Rate	Error (Fault) Rate	LCL	UCL
Community Care Plus	100	85	68	80.0%	68.0%	32.0%	58.9%	77.1%
Mercy Health Plan	100	64	49	76.6%	49.0%	51.0%	39.2%	58.8%
Health Care USA	100	67	50	74.6%	50.0%	50.0%	40.2%	59.8%
Missouri Care	100	81	61	75.3%	61.0%	39.0%	51.4%	70.6%
Family Health Partners	100	71	45	63.4%	45.0%	55.0%	35.2%	54.8%
FirstGuard	100	74	56	75.7%	56.0%	44.0%	46.3%	65.7%
Blue Advantage Plus	100	84	59	70.2%	59.0%	41.0%	49.4%	68.6%
All MC+ MCOs	700	526	388	73.8%	55.4%	44.6%	51.7%	59.1%

Note: Number Encounters Sampled = Number of unique encounters randomly sampled by the EQRO for medical record review validation; Number Medical Records Received = Number medical records submitted by MC+ MCO providers for validation; Number Validated = Number of encounters for which there was a matching diagnosis code, documentation or description in the medical record or on the claim form. Rate Validated of Medical Records Received = Number Validated/Number Medical Records Received; Actual Rate Validated = Number Validated/Number Encounters Sampled; LCL = Lower Confidence Limit at the 95% confidence level; UCL = Upper Confidence Limit at the 95% confidence level.

Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November 11, 2004. BHC, Inc. 2004 External Quality Review Validation of Encounter Data.

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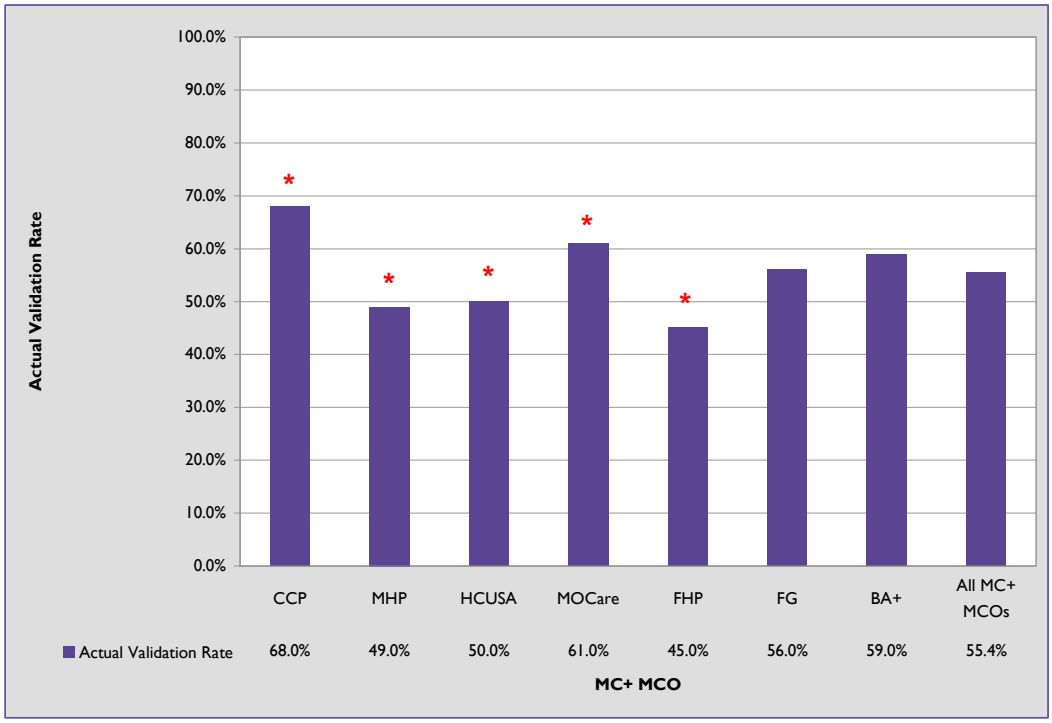
Figure 21. Encounter Data Diagnosis Validation Rate, January 1, 2004 – March 31, 2004.



Note: * Indicates values are significant at the 95% level of significance, two-tailed z-test. See corresponding tables for 95% confidence intervals.

Source: Missouri Department of Social Services, Division of Medical Services encounter claims extract file, November 11, 2004. BHC, Inc. 2004 External Quality Review Validation of Encounter Data.

What Types of Errors Were Noted?

An error analysis for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA encounter claims extract file were missing (n = 630) or incorrect information (n = 13). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA encounter claims extract file were missing or illegible information (n = 333), or no match with the description of the symptoms based on the information in the medical record (n = 59). For the diagnosis code on the claim form, the reasons for diagnosis codes not matching the SMA encounter claims extract file were missing or illegible information (n = 563), or possible data entry or recording error by the provider (n = 7). The reasons for the diagnosis descriptor on the claim form not matching the SMA encounter claims extract file included missing or illegible information (n = 476) and incorrect codes (n = 4).

For the procedure code in the medical record, the reasons for procedure codes in the SMA encounter claims extract file not being supported by documentation in the medical record were missing information (n = 59), downcoding (billing a service that is reimbursed at a lower rate or for less time

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than actually spent with the patient; n = 24), incorrect codes (n = 49), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 38), illegible information (n = 6), and not enough information for coding (n = 17). For the procedure code on the claim form, the reasons for procedure codes not matching the SMA encounter claims extract file were missing or illegible information (n = 559) or incorrect codes (n = 11). For the procedure description on the claim form, the reasons for procedure codes not matching the SMA encounter claims extract file were missing or illegible information (n = 619), and incorrect descriptors (n = 6).

The analysis of the third objective, to compare the SMA encounter claims extract file to MC+ MCO paid and unpaid claims, was unable to be accomplished due to the variability and quality of files submitted by MC+ MCOs. After review by the EQRO Project Director of the files submitted by the MC+ MCOs for the encounter data validation, a summary report was provided to the SMA on February 8, 2005. These findings were used to address the questions posed about data quality and submission of files by MC+ MCOs.

What Problems Are There With How Files Are Compiled and Submitted by the MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claims extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claims extract file. MC+ MCOs were requested to submit data in national standard file layouts for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation. All MC+ MCOs data submitted files in response to the EQRO request for ASCII format with acceptable field delimiters, in the file layout required by the SMA prior to October 2003. The EQRO received feedback from MC+ MCOs that they were unable to submit files in the file layout prior to October 2003 and were unable to submit unpaid claims. MC+ MCOs were then instructed to submit files in the three national standard file layouts (e.g., NSF/CMS 1500, UB-92) in either the pre- or post- October 2003 file layout. MC+ MCOs indicated they were unable to submit unpaid claims in the national standard formats and were instructed by the EQRO to submit the files in available file layouts, in ASCII format with acceptable delimiters and adequate documentation for the files.

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Numerous files were submitted by MC+ MCOs in response to this request. Little to no documentation was provided for non-standard file layouts and the contents of each file. Over the course of several months, the EQRO endeavored to identify the file layouts and contents of each of the MC+ MCO files and assess the viability of a valid analysis comparing the files to the SMA encounter claims extract file. Although several MC+ MCOs were able to submit some files that were able to be loaded for analysis, there was no way to know whether all types of encounter claims (Medical, Dental, Inpatient, Outpatient Hospital, Home Health, and Pharmacy) were included in the files submitted. The EQRO determined that any analysis based on the data provided would not likely be valid.

What Are the Data Quality Issues Associated With the Processing of Encounter Data?

There were several data quality issues with SMA and MC+ MCO encounter data identified during the course of conducting the EQRO. These issues are primarily related to the manner in which data are extracted from single and multiple databases. For the SMA encounter claims extract file, it was not possible to validate procedure code modifiers due to misalignment of data fields. MC+ MCOs were unable to submit unpaid encounter claims from the time period of interest, as they do not retain this data and cannot program unpaid encounter claims into national standard file layouts. Others identified limited data processing and programming resources for the encounter claim data request. This makes it untenable to identify errors of commission (unpaid claims in the SMA encounter claims file). Some examples of the findings from review of MC+ MCO encounter data file submissions are provided below.

- Files which were judged to be unpaid encounters based on the file were unable to be loaded using any of the national standard file layouts.
- One MC+ MCO submitted all three file layouts in one file. Although the three layouts were able to be identified, not all records were able to be loaded for analysis. This occurred primarily with the UB-92 file layouts.
- Records in some files appeared truncated.
- Other files were submitted in Structured Query Language or spreadsheet formats.

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CONCLUSIONS

Strengths

1. All Dental, Home Health and Pharmacy claim type fields examined were 100.00% complete, accurate and valid for all MC+ MCOs. The SMA encounter claims data critical fields examined for accepted and paid claims of this type are valid for analysis. The next step would be to compare MC+ MCO paid claims to the SMA encounter claims database to identify the level of completeness of this data.
2. Missouri Care had 100.00% complete, accurate and valid data for all critical fields examined in the Outpatient Hospital claim type.
3. For the Medical claim type, all critical fields examined were 100.00% complete and accurate for all MC+ MCOs.
4. For all MC+ MCOs, the Inpatient claim type critical fields examined were 100.00% complete, with the correct length of data 100.00% of the time. The Claim Type, Recipient ID, Admission Type, Bill Type, and Diagnosis Code fields were 100.00% valid for all MC+ MCOs.
5. For all MC+ MCOs, the Outpatient Hospital claim type critical fields examined were 100.00% complete.
6. For all MC+ MCOs, the Outpatient Hospital Claim Type field, Recipient ID, First Date of Service, Last Date of Service, Units of Service, and the first Diagnosis Code fields were 100.00% complete, accurate and valid.
7. The examination of the level, volume, and consistency of services found significant variability between MC+ MCOs in the rate of each type of claim (Medical, Dental, Inpatient, Outpatient Hospital, Home Health, and Pharmacy), with no patterns of variation noted by MC+ Managed Care Region or type of MC+ MCO.
8. Of the medical records received for review, the rates of matching on the procedure and diagnosis were 73.8% and 70.9%, respectively. However, the medical records not submitted were unable to be validated.

Areas for Improvement

1. For the Medical claim type, there were invalid values for the Outpatient Units of Service and Outpatient Procedure Code fields. Mercy Health Plan reported invalid values of "00000" for Outpatient Units of Service; and there were invalid procedure codes from Community Care Plus, Mercy Health Plan, Missouri Care, HealthCare USA, Family Health Partners, and FirstGuard.
2. For the Inpatient claim type critical fields, the Admission Date, Discharge Date, Patient Status, and Revenue Code fields contained invalid values. Invalid Admission Dates from 12/06/2003 - 12/31/2003 were present for Community Care Plus; from 11/11/2003 - 12/31/2003 for Missouri Care; 11/16/2003 – 12/31/2003 for Family Health Partners; 01/22/2003 – 12/31/2003 for HealthCare USA; 11/30/2003 – 12/31/2003 for Mercy Health Plan; and 09/13/2003 for Blue Advantage Plus. These findings may be a function of the manner in which the SMA encounter claims extract file was constructed. Invalid Discharge Date fields consisted of entries of "99999999" from Community Care Plus, Mercy Health Plan, HealthCare USA, Missouri Care, FirstGuard, and Blue Advantage Plus. The Patient Status field consisted of invalid codes of "00", "63", and "16" for HealthCare USA, Missouri Care, and FirstGuard. Invalid Revenue Code fields

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included blank fields and an invalid value of "080" (Mercy Health Plan, HealthCare USA, Missouri Care, Family Health Partners, and FirstGuard). The Units of Service field contained blank fields and invalid values of "00000" (Community Care Plus, Mercy Health Plan, HealthCare USA, Missouri Care, and Family Health Partners).

3. For the Outpatient Hospital claim type, critical fields with invalid data were the Outpatient Procedure and Revenue Code fields. Invalid Outpatient Procedure Code fields included invalid values of "0000", values less than five characters, and invalid procedure codes (Community Care Plus, Family Health Partners, and FirstGuard). The Revenue Code field contained invalid values of "00000", "0" –"035" (Community Care Plus, HealthCare USA, and Family Health Partners).
4. The match rates between the SMA database and MC+ MCO medical records for Medical claim type procedures and diagnoses were 53.3% and 55.4%, respectively. There was significant difficulty identifying the rendering providers, as the SMA database does not accept this information, and MC+ MCOs had difficulty providing reliable contact information for medical record requests. The ability to link the rendering provider with the encounter being sampled is critical for any validation process requiring medical record review. Medical records that did not have diagnosis or procedure codes that matched the SMA encounter claims extract file were in error primarily due to missing or illegible information.
5. Clarification on the potential source of variability in each claim type across MC+ MCOs is needed to rule out the possibility of incomplete data or identify data issues to target for improvement.
6. Comparison data from other State Medicaid programs using similar claim types and with similar benefit packages is needed.
7. Due to the variability in the data submitted by MC+ MCOs, the present validation process was not able to address the level of completeness of the SMA encounter claims database to identify material omissions in the SMA encounter claims database for claims paid by the MC+ MCOs.
8. The completeness, accuracy, and validity of the procedure modifier fields was unable to be validated due to EQRO concerns about the representativeness of the SMA encounter claims extract file. MC+ MCOs were not uniformly able to submit paid and unpaid claims; or revert to file layouts to those in effect prior to the changes made in October 2003.
9. The accuracy and completeness of the SMA encounter claims database was unable to be evaluated based on the MC+ MCO encounter claim file submissions. MC+ MCOs are unable to identify unpaid claims.

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Recommendations

1. The SMA should prioritize examination of the level of completeness of the SMA Dental, Home Health, and Pharmacy paid encounter claim types relative the claims submitted by MC+ MCOs. These claim types are likely to be more complete and valid sources of data on which to base initial rate setting. This can be done once an identified method of obtaining paid and unpaid claims form MC+ MCOs is developed.
2. It is recommended that the SMA institute additional edits for the Medical, Inpatient and Outpatient Hospital claim types to edit claims with blank fields or dummy values (e.g., "000" and "99999999"). Edits for discontinued procedure codes and local codes should also be implemented.
3. It is recommended that MC+ MCOs examine potential data quality issues associated with the variability in identification of eligible members and administrative hits for the performance measure validation process.
4. MC+ MCOs are required to submit Revenue Codes on the Outpatient Hospital (UB-92) claim file layout regardless of the Procedure Code. The SMA should institute edits for missing data.
5. It is recommended that future encounter data validation efforts explore the variability in the number of members who are enrolled with capitated providers to assess whether or not the variability in the proportion of each claim type or rate of encounters is related to the payment method.
6. The SMA should continue to provide timely feedback to MC+ MCOs regarding the rate of acceptance of each claim type and the types of errors associated with rejected claims.
7. To improve the completeness of encounter data submission by providers, it is recommended that MC+ MCOs discontinue capitated payments in favor of discounted Fee-for-Service arrangements as contracts with provider groups are renewed. MC+ MCOs should emphasize to providers the importance of documenting diagnosis and procedure information in the medical record.
8. Encounter data validation efforts should examine the rate of claims by date of service, date of payment, and claim type on a monthly basis, for at least one year. This would identify the level of consistency of accurate claims submission, permit the identification of patterns and issues associated with any changes in system level edits or MC+ MCO information system changes, and identify claims submission timeliness of MC+ MCOs.
9. Additional analysis on the rate of consistency of services should examine demographic (e.g., age and gender distribution), epidemiological (diagnostic variables), and service delivery (e.g., number of users per month, rate of procedures or claim types, units of service rates) characteristics to explain variation across MC+ MCOs or Regions.
10. Medical record reviews should continue to be targeted toward validation of diagnosis and procedure codes.
11. The SMA should provide to the EQRO individual claim identifiers (ICNs) when extracting encounter claims for medical record review purposes.
12. When targeting fields for validation, the SMA should provide the EQRO with the parameters to be used for analyzing the completeness, accuracy, and validity of the data fields. This was conducted by the EQRO this year, but ideally should be developed by the SMA to ensure credible analysis and conformity to SMA requirements for MC+ MCOs. This should be supplied to and discussed with the EQRO prior to the initiation of validation activities.

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13. The SMA should clarify the expectations for MC+ MCOs in the level of completeness, accuracy, and validity and which data fields are required (e.g., Diagnosis Code fields 2 through 5); provide timely feedback to MC+ MCOs when standards are not met; and develop corrective action plans when standards are not met within a reasonable amount of time established by the SMA.
14. The SMA should provide more time for MC+ MCOs to implement data file layout conversions. This transition may have accounted for the poor quality of data and availability of MC+ MCO staff to comply with EQRO data submissions.
15. MC+ MCOs will need to submit data to the EQRO in requested formats, using the field names and file formats requested. Given the resources involved in programming extract files for encounter validation, MC+ MCOs will need at least one month to fulfill requests. For the encounter data validation, it is recommended that paid claims be submitted in the current file layouts as required by the SMA and indicated in the Health Plan Record Layout Manual. These should all be submitted in one format, such as comma-delimited text file formats. Other formats and incomplete data should be treated as missing or invalid. It is recommended that the SMA and MC+ MCOs identify valid and consistent file layouts and definitions for paid and unpaid encounter claims extract files to be validated.
16. Another issue associated with file submissions was related to the submission of provider addresses, the layouts, and the accuracy of addresses for the rendering provider. MC+ MCOs should use standard database formats for provider network databases and addresses (e.g., US Postal service standards[25]). MC+ MCOs should submit medical records for encounter data and performance measure validation directly to the EQRO due to the error associated with identifying providers and provider addresses. The elimination of the process of requesting addresses from MC+ MCOs for the sampled encounters would allow more time for medical record collection and submission.
17. The American Health Information Management Association (AHIMA) has published, "A Checklist to Assess Data Quality Management Efforts"[26] that should be reviewed by MC+ MCOs. Data management and data quality efforts should include the ability to provide the SMA and the EQRO with valid encounter claims data for quality improvement and encounter data corrective action planning purposes.
18. It is recommended that the SMA identify similar State Medicaid managed care programs (e.g., recipient, eligibility, and benefit characteristics), obtain findings of encounter data validation activities for external comparison, and use the present findings as a baseline for assessing improvement in the validity of encounter data for the MC+ Managed Care Program over time.

[25] US Post Office (2000). Postal Addressing Standards. Publication 28. http://pe.usps.gov/text/pub28/welcome.htm, retrieved 05/26/2005.
[26] American Health Information Management Association (1998). Practice Brief: A Checklist to Assess Data Quality Management Efforts. Journal of AHIMA. http://library.ahima.org/xpedio/groups/documents/ahima/pub..., retrieved 05/09/2005.

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SECTION FOUR: MC+ MCO COMPLIANCE WITH MANAGED CARE REGULATIONS

Purpose and Objectives

The External Quality Review (EQR) is conducted annually in accordance with the "Medicaid Program; External Quality Review of the Medicaid Managed Care Organizations: Final Rule, 42 CFR Part 438, Subpart E." The objective of this portion of the review was to analyze and evaluate the MC+ Managed Care Organizations (MC+ MCOs) to assess their level of compliance with federal regulations regarding the quality, timeliness and access to health care services. To complete this, the "Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A Protocol for Determining Compliance with Medicaid Managed Care Regulations" (Compliance Protocol) requirements were applied to the review process. The specific objectives of the compliance review were to assess MC+ MCO compliance with federal Medicaid managed care regulations; MC+ MCO compliance with the State Quality Strategy; the quality, timeliness and access to services; and the progress of MC+ MCOs from the previous year.

Technical Methods

PLANNING COMPLIANCE MONITORING ACTIVITIES

Establishing Contact with the MC+ MCOs

All MC+ MCOs were contacted during October 2004. Conversations were held with QI/UM Coordinators, the Medicaid Plan Administrator, or their designee about the requirements for the EQR. Each MC+ MCO was sent information on all the protocols. A conference call was scheduled for the end of October 2004. During this conference call, all aspects of the EQR were discussed and details provided regarding all data submissions that would be required for the EQR. Follow-up telephone contacts and written communications occurred providing information and answering questions before and after the on-site review.

Gathering Information on the MC+ MCO Characteristics

During 2004, there were seven MC+ MCOs contracted with the State Medicaid Agency (SMA; Missouri Department of Social Services, Division of Medical Services; DMS) to provide MC+ Medicaid managed care in three Regions of Missouri. The Eastern MC+ Region, which included St. Louis City, St. Louis

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County, and eight surrounding counties had access to three MC+ MCOs: Community Care Plus (CCP), HealthCare USA (HCUSA), and Mercy Health Plan (MHP). The Western MC+ Region, which included the Kansas City Area/Jackson County and eight surrounding counties, was served by four MC+ MCOs: Family Health Partners (FHP), FirstGuard, Blue Advantage Plus (BA+), and HealthCare USA (HCUSA). The Central MC+ Region included eighteen counties in the center of the state. These counties were served by two MC+ MCOs: Missouri Care (MOCare), and HealthCare USA. HealthCare USA operated in all three MC+ Regions.

Determining the Length of Visit and Dates

On-site reviews were conducted in one day, with several reviewers conducting interviews and activities concurrently. Interviews, presentations and document reviews were scheduled throughout the day utilizing different team members for Validating Performance Measures, Validating Performance Improvement Projects, and Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs). The time frame for on-site reviews was approved by the SMA before scheduling each MC= MCO. The first week was spent reviewing the MC+ MCOs in the Eastern MC+ Region. The second review week was spent in the Western MC+ Region. A final visit occurred with the MC+ MCO in the Central MC+ Region. Site visits occurred during the month of March 2005 on the following schedule:

- March 1, 2005 – Community Care Plus
- March 2, 2005 – Mercy Health Plan
- March 3, 2005 – HealthCare USA
- March 14, 2005 – Family Health Partners
- March 15, 2005 – Blue Advantage Plus
- March 16, 2005 – FirstGuard
- March 23, 2005 – Missouri Care

Reviewers

Three reviewers conducted the Compliance Protocol activities, including interviews and document review. The External Quality Review Organization (EQRO) Project Director conducted four prior EQRs for the SMA and several evaluations of the MC+ For Kids 1115 Waiver Program. She had in-depth knowledge about the MC+ Managed Care Program and MC+ MCO operations. The second reviewer participated in three previous MC+ Managed Care Program EQRs and on-site visits. This reviewer was knowledgeable about the MC+ Managed Care Program through her experience as a former SMA employee responsible for quality assessment and improvement, an RN, and consultant.

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The third reviewer had experience with the MC+ Managed Care Program implementation and operations, interviewing, program analysis, and Medicaid managed care programs in several other states. All reviewers were familiar with the federal regulations and the manner in which these were operationalized by the MC+ Managed Care Program prior to refining the protocols.

Establishing an Agenda for the Visit

An agenda was developed to maximize the use of available time, while ensuring that all relevant individuals necessary were interviewed. A sample schedule was developed that specified times for the entrance conference, document review, Validating Performance Improvement Project evaluation, Validating Performance Measures review, the interview schedule for the Compliance Protocol, and the exit conference. A coordinated effort with each MC+ MCO, grouping individuals together for interviews based on functions performed, was developed. The schedule for the on-site reviews was approved by the SMA in advance. Arrangements were then made directly with each MC+ MCO. Appendix 7 provides a sample agenda for on-site reviews.

Providing Preparation Instructions and Guidance to the MC+ MCOs

A letter (see Appendix 7) was sent to each MC+ MCO indicating the information and documents required on-site and the individuals who were requested to attend each interview session. The MC+ MCOs ensured that staff was available and that all requested documentation was present at the beginning of the on-site review day.

OBTAINING BACKGROUND INFORMATION FROM THE STATE MEDICAID AGENCY

Interviews and meetings occurred with individuals from the SMA from September 2004 through March 2005 to prepare for the on-site review and obtain information relevant to the review prior to the on-site visits. Individuals from the SMA included in these meetings were:

- Sandra Levels, Director – Program Management
- Billie Waite, Legal Counsel
- Judith Muck, Assistant Deputy Director
- Susan Bishop, Auditor III
- Andrea Smith, Quality Program Liaison
- Kimberly Carter, MC+ Managed Care QA & I Manager

Following EQRO review of SMA Compliance findings for each MC+ MCO, EQRO personnel met with the SMA MC+ Managed Care QA & I Manager on February 8 and 9, 2005. Clarification of the MC+ Medicaid Managed Care contract compliance information shared by the SMA was obtained, and additional MC+ MCO documentation was reviewed to ensure that reviews measured the standard of

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care expected by the SMA in each MC+ Managed Care Region. The SMA staff were in the process of reviewing prior authorization policies for each MC+ MCO and a determination of contract compliance was not yet finalized by the SMA. Therefore, the EQRO reviewed prior authorization practices during the on-site visits to accurately assess compliance with federal regulatory provisions. SMA expectations, requirements, and decisions specific to the MC+ Managed Care Program were identified during these meetings.

DOCUMENT REVIEW

Documents chosen for review were those that best demonstrate the MC+ MCOs' ability to meet federal regulations. Certain documents, such as the Member Handbook, provided evidence of communication to members about a broad spectrum of information from enrollee rights through the grievance and appeal process. Provider handbooks and provider agreements were also reviewed to ensure that consistent information was shared regarding enrollee rights and responsibilities. SMA MC+ Medicaid Managed Care contract compliance worksheets, specific policies yet to be approved by the SMA, and other information requested from or shared by the MC+ MCOs were reviewed to verify the presence or absence of evidence that regulations were met. When it was found that specific regulations were not met or Partially Met , additional documents were requested by each MC+ MCO and interview questions were developed to address the areas for which compliance was not able to be established through the pre-site document review process.

The following documents were reviewed for all MC+ MCOs:

- State contract compliance ratings from 2004 and updated policies accepted through February 2005
- Results, findings, and follow-up from 2003 External Quality Review
- 2003 Annual MC+ MCO Evaluation, submitted April 2004

CONDUCTING INTERVIEWS

After completing the document review, it was necessary to determine how policies were implemented by the MC+ MCOs. Interviews on-site with the staff enabled reviewers to obtain a clearer picture of the degree of compliance achieved by each MC+ MCO and often revealed the extent to which the MC+ MCO was implementing policies. Additionally, interviews provided reviewers with the opportunity to explore issues not fully addressed in the documentation, including follow-up areas from the previous EQRO evaluation. A site visit questionnaire was developed for each MC+ MCO based on the MC+ MCO's compliance with the MC+ Medicaid Managed Care contract, issues identified for

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clarification, information presented in the 2004 Annual Report, document review, and follow-up items from the previous External Quality Review.

COLLECTING ACCESSORY INFORMATION

Additional information used in completing the compliance determinations included discussions with the EQR reviewers and MC+ MCO QI/UM staff regarding management information systems, Validating Encounter Data, Validating Performance Measures, and Validating Performance Improvement Projects. The review evaluated information from these sources to validate MC+ MCO compliance with the pertinent regulatory provisions in the Compliance Protocol. These findings were documented on the BHC MC+ MCO Compliance Review Scoring Form and used to make final rating recommendations.

ANALYZING AND COMPILING FINDINGS

The review process included gathering information and documentation from the SMA about policy submission and the MC+ Medicaid Managed Care contract compliance for each MC+ MCO, followed by a detailed review of this information and how it related to compliance with the federal regulations. The next step included preparing MC+ MCO specific questions based on the need to investigate if practice existed in areas where approved policy was not available, and if local policy and procedures were in use if official approved policy was not complete. The interview responses obtained during the on-site review were then analyzed in combination with the evaluation of all documentation obtained and reviewed on-site. This information was assessed and re-reviewed to be translated into recommended compliance ratings for each regulatory provision, and were recorded on the MC+ MCO Scoring Form. Comments were recorded to identify positive practices and deficiencies.

REPORTING TO THE STATE MEDICAID AGENCY

Individual worksheets were submitted to the SMA in late March and early April 2005 for review and an evaluation of the recommended rating determinations. Some discussion occurred with staff from the SMA to clarify information and the rationale for decisions. The SMA approved the process and ratings on April 19, 2005, but wanted to ensure that the worksheets would include sufficient detail to substantiate the ratings. Additional detail for each MC+ MCO and item not meeting compliance was provided, and final worksheets were submitted to the SMA. The final ratings are presented in this report.

COMPLIANCE RATINGS

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In January 2005, a worksheet identifying each federal regulation to be reviewed by the EQRO along with a crosswalk referencing applicable SMA MC+ Medicaid Managed Care contract compliance references was submitted to the SMA for review and comment. Given that there was no rating system developed by the SMA, the EQRO recommended a three-point scale ("Met", "Partially Met", "Not Met") for measuring compliance and provided preliminary ratings to be reviewed and finalized by SMA. This document, with suggestions for MC+ Medicaid Managed Care contract references to be utilized in making the recommendations for final ratings for the MC+ MCOs was returned to the EQRO on March 21, 2005.

Appendix 7 contains the BHC MCO Compliance Review Scoring Form worksheet that was used for all MC+ MCOs. In some instances, additional MC+ Medicaid Managed Care contract compliance sections were included in determining the final rating. Compliance ratings considered SMA contract compliance review findings, MC+ MCO policy, ancillary documentation, and MC+ MCO practices in making a final recommendation for ratings. In many instances, the SMA MC+ Medicaid Managed Care contract compliance tool rated a contract section as "Met" if policies were submitted, even if the policy had not been reviewed and finally approved. Ratings were based upon a three-point scale approved by the SMA. This scale allowed for credit when a requirement was Partially Met . Ratings were defined as:

Met:	All documentation listed under a regulatory provision, or one of its components was present. MC+ MCO staff were able to provide responses to reviewers that were consistent with one another and the available documentation. Evidence was found and could be established that the MC+ MCO was in full compliance with regulatory provisions.
Partially Met :	There was evidence of compliance with all documentation requirements, but staff were unable to consistently articulate processes during interviews; or documentation was incomplete or inconsistent with practice.
Not Met:	Incomplete documentation was present and staff had little to no knowledge of processes or issues addressed by the regulatory provision.

Findings

ENROLLEE RIGHTS AND PROTECTIONS

Subpart C of the regulatory provisions for Medicaid managed care (Enrollee Rights and Protections) sets forth 13 requirements of MCOs for the provision of information to enrollees in an understandable form and language; written policies regarding enrollee rights and assurance that staff and contractors take them into account when providing services; and the provision of access to care in compliance with requirements for payment and no liability of payment for enrollees. There were very few items across

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MC+ MCOs (3 items) that were Not Met for Enrollee Rights and Protections (see Table 43). Across MC+ MCOs, 54.9% of the regulations were Met . MC+ MCOs Met 15.4% (Community Care Plus, Mercy Health Plan) to 100% (First Guard) of the requirements for Enrollee Rights and Protections.

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Table 43. Subpart C: Enrollee Rights and Protections.

Federal Regulation	MC+ MCO							All MC+ MCOs			
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Rate Met
438.100(a) Enrollee Rights: General Rule	1	1	1	1	1	2	2	2	5	0	28.6%
438.10(b) Enrollee Rights: Information Requirements	0	1	1	2	2	2	2	4	2	1	57.1%
438.10(c)(3) Alternative Language: Prevalent Language	1	2	2	2	2	2	2	6	1	0	85.7%
438.10(c)(4,5) Language and Format: Interpreter Services	1	1	1	1	2	2	2	3	4	0	42.9%
438.10(d)(1)(i) Information Requirements: Format/Easily Understood	1	1	2	2	2	2	2	5	2	0	71.4%
438.10(d)(1)(ii)and (2) Information Requirements: Format Visually Impaired, and Limited Reading Proficiency	0	1	1	2	2	2	2	4	2	1	57.1%
438.10(f) Information for All Enrollees: Free Choice, etc.	1	1	1	2	2	2	1	3	4	0	42.9%
438.10 (g) Information to Enrollees: Specifics/Physician Incentive Plans	2	1	2	2	2	2	2	6	1	0	85.7%
438.10(i) Special Rules: Liability for Payment/Cost Sharing	1	1	1	1	2	2	1	2	5	0	28.6%
438.100(b)(2)(iii) Enrollee Rights: Provider-Enrollee Communications	1	2	2	2	2	2	2	6	1	0	85.7%
438.100(b)(2)(iv,v) Rights to Refuse Services/Advance Directives	1	1	1	1	1	2	2	2	5	0	28.6%
438.100(b)(3) Right to Services	1	0	1	1	1	2	2	2	4	1	28.6%
438.100(d) Compliance with Other Federal/State Laws	2	1	2	1	2	2	2	5	2	0	71.4%
Number Met	2	2	5	7	10	13	11	**50**	**38**	**3**	**54.9%**
Number Partially Met	9	10	8	6	3	0	2				
Number Not Met	2	1	0	0	0	0	0				
Rate Met	15.4%	15.4%	38.5%	53.8%	76.9%	100.0%	84.6%				

Note: 0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

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The MC+ MCOs had procedures in place to work across departments to resolve problems that members brought to their attention. They assisted members in obtaining timely appointments, finding transportation, and in locating community resources. One MC+ MCO (HealthCare USA) had designated staff in the case management section that were identified as "Outreach Coordinators." These staff members made a concerted effort to engage any member who had a special healthcare need. They ensured that these members were appropriately identified and received the services required.

All MC+ MCOs had policies and practices that reflected the members' right to a second opinion, and a third opinion if the first two disagreed [438.206(b)(3)]. A second area where all MC+ MCOs were fully compliant was in Provider Cultural Competency [438.206(c)(2)]. The MC+ MCOs made solid efforts to insure that providers understood or became aware of cultural issues that may affect healthcare decisions for members. They were respectful of language differences and made a concerted effort to offer choices of providers who spoke their language to members whose primary language was not English.

Five of the seven MC+ MCOs (Community Care Plus, Mercy Health Plan, HealthCare USA, Family Health Partners, and FirstGuard) contracted for services with behavioral health organizations (BHOs). One MC+ MCO (Missouri Care) was in the process of developing internal behavioral health services. Behavioral health services evolved into an important resource for members with behavioral or mental health needs. A number of MC+ MCO BHOs (Community Care Plus, Mercy Health Care, HealthCare USA) approved in-home services to reach members who would not attend appointments in an office setting. This not only ensured that the member obtained the help they needed, but also prevented a provider from scheduling an appointment that would not be kept. Providers reported gaining valuable insight into environmental issues that contributed to the members' behavioral or mental health problems through the use of in-home services. One MC+ MCO BHO (Unity Management Mental Health) that contracts with Community Care Plus and Mercy Health Plan indicated that they contract with providers who specialized in serving the Medicaid population. One MC+ MCO BHO (New Directions Behavioral Health) contracted with a provider agency that delivered short-term intensive in-home services to avert crises that may lead

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to inpatient treatment or other serious family problems such as out-of-home placement for the children. The MC+ MCOs and BHOs described a number of interventions that met members' needs, but were extraordinary in normal Medicaid managed care systems. This reflected a level of performance indicative of their strong commitment to access to services for all members.

Problems in the area of access to care were evident. Required documentation and approved policies did not exist in all areas. Some policies were not developed, some had not been through the MC+ MCO internal approval process, and some were not yet submitted to the SMA. Two of the seven (28.6%) MC+ MCOs Met regulations for having written policies in place to ensure consistent application of review criteria for the authorization of services [438.210(b)]; and for the prohibition against limiting or refusing emergency or post-stabilization services for enrollees without cost and allowing the attending physician to determine stabilization for discharge or transfer (438.114). Several instances of questionable language were identified in Member Handbooks. In one Member Handbook (Mercy Health Plan), there was language indicating that the member could go to an OB/GYN after receiving a referral from the PCP. Later in the Handbook, there was language explaining that the member could go to the women's health provider of their choice, but the language did not clarify the original statement implying that the member would need a referral to go to an OB/GYN (see 438.206(b)(2)]. Another Member Handbook (Blue Advantage Plus) included a statement that a member must have prior approval to seek prenatal care. This distinction could easily discourage a member from seeking prenatal care, particularly in the early stages of pregnancy. One MC+ MCO (Mercy Health Plan) acknowledged that they did not have nurse midwives in their network and were not actively recruiting this resource. They understood that they were obligated to provide this service, but it was not available in the current network.

All MC+ MCOs struggled with having an adequate network in some specific areas of healthcare specialization. Five of the seven MC+ MCOs (71.4%) Met the criteria for ensuring an adequate provider network [438.206(b)(1)(i-v)]; and three (42.9%) Met regulations for timely access to care [438.206(c)(1)(i-vi)], and direct access to specialists [438.208(c)(4)]. The most prevalent problem was in the area of orthopedic surgery. MC+ MCO staff explained that the orthopedic surgeons as a group, made the decision that they would not contract to serve Medicaid patients due to the low reimbursement rate. Each MC+ MCO was able to explain the actions taken to overcome this dilemma. A number of the MC+ MCOs (Mercy Health Plan, HealthCare USA, Missouri Care) partnered with the teaching hospitals in their Regions, which increased the available surgical

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capacity. Others (Blue Advantage Plus, Mercy Health Plan) have been able to engage specialists through their commercial network and have paid these providers at the commercial rather than the Medicaid rate. The MC+ MCOs did not believe that MC+ Members went without needed orthopedic services, but these services have been more difficult to obtain. The MC+ MCOs reported that the same situation was true for neurosurgery, but this specialty was required less often.

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Table 44. Subpart D: Quality Assessment and Performance Improvement: Access Standards.

Federal Regulation	MC+ MCO							All MC+ MCOs			
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Rate Met
438.206(b)(1)(i-v) Availability of Services: Provider Network	2	1	2	2	2	1	2	5	2	0	71.4%
438.206 (b) (2) Access to Well Woman Care: Direct Access	1	0	2	2	2	2	1	4	2	1	57.1%
438.206(b)(3) Second Opinions	2	2	2	2	2	2	2	7	0	0	100.0%
438.206(b)(4) Out of Network Services: Adequate and Timely Coverage	1	2	1	2	1	2	2	4	3	0	57.1%
438.206(b)(5) Out of Network Services: Cost Sharing	1	1	1	2	2	2	1	3	4	0	42.9%
438.206(c)(1)(i-vi) Timely Access	1	1	1	2	2	1	2	3	4	0	42.9%
438.206(c)(2) Provider Services: Cultural Competency	2	2	2	2	2	2	2	7	0	0	100.0%
438.208(b) Care Coordination: Primary Care	1	2	2	2	1	2	2	5	2	0	71.4%
438.208(c)(1) Care Coordination: Identification	2	2	1	2	2	2	2	6	1	0	85.7%
438.208(c)(2) Care Coordination: Assessment	1	1	2	1	2	2	2	4	3	0	57.1%
438.208(c)(3) Care Coordination: Treatment Plans	1	1	1	2	2	2	2	4	3	0	57.1%
438.208(c)(4) Care Coordination: Direct Access to Specialists	0	1	2	2	1	2	1	3	3	1	42.9%
438.210(b) Authorization of Services	0	1	1	1	1	2	2	2	4	1	28.6%
438.210(c) Notice of Adverse Action	1	1	1	1	2	2	2	3	4	0	42.9%
438.210(d) Timeframes for Decisions, Expedited Authorizations	1	1	2	1	2	2	2	4	3	0	57.1%
438.210(e) Compensation of Utilization Management Activities	1	2	2	2	2	2	2	6	1	0	85.7%
438.114 Emergency and Post-Stabilization Services	0	0	1	1	1	2	2	2	3	2	28.6%
Number Met	4	6	9	12	12	15	14	72	42	5	60.5%
Number Partially Met	10	9	8	5	5	2	3				
Number Not Met	3	2	0	0	0	0	0				
Rate Met	23.5%	35.3%	52.9%	70.6%	70.6%	88.2%	82.4%				

Note: 0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

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QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT: STRUCTURE AND OPERATION STANDARDS

There are 10 Structure and Operations Standards for ensuring compliance with State policies and procedures for the selection and retention of providers, disenrollment of members, and accountability for activities delegated to subcontractors. There were two items across MC+ MCOs that were not Partially Met or Met for Structure and Operation Standards [438.214(c) and 438.12; and 438.228]. Across MC+ MCOs, 65.7% of the regulations were Met (see Table 45).

The Provider Services departments of all MC+ MCOs exhibited a sound and thorough understanding of the requirements for provider selection, credentialing, nondiscrimination, exclusion, and MC+ Managed Care Program requirements. Four of the seven MC+ MCOs (57.1%) Met the regulation for provider selection [438.214(a,b)]. For six of the seven (85.7%) MC+ MCOs, there were policies that ensured against provider discrimination for those providers serving members with high risk or high cost conditions [438.214(c) and 438.12]. In some cases, MC+ MCOs (Blue Advantage Plus, Mercy Health Plan, FirstGuard) described credentialing and re-credentialing policies that exceeded the requirements of the regulations. Providers were willing to submit to these stricter standards to maintain network qualification in both the MC+ and commercial networks of these MC+ MCOs. MC+ MCOs Met 30.0% (Mercy Health Plan) to 90.0% (FirstGuard, Blue Advantage Plus) of the standards for Structure and Operations.

The staff at each MC+ MCO understood the requirements for disenrollment of members, with four of the seven MC+ MCOs (57.1%) that Met the applicable regulations [438.226 and438.56(b)(1-3)]. Several MC+ MCOs (Mercy Health Plan, First Guard) were able to claim a very small proportion of members who chose to disenroll due to a problem or complaint about the MC+ MCO. Most changes occurred due to members relocating outside of a MC+ Region, or a change in eligibility status. All Member Handbooks included sections explaining how members can change MC+ MCOs but did not describe the topic of disenrollment.

All MC+ MCOs had member grievance systems in place, and this area of practice was a strength for them. Six of the seven (85.7%) MC+ MCOs Met the regulation for having a grievance system in place. In general, the MC+ MCO policies met most federal and MC+ Managed Care Program

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requirements and respected member rights. In one case (Community Care Plus), the policy was outdated, referring to the previous process of complaint, grievances and appeals. This MC+ MCO's policy had not yet been revised or submitted to the SMA for review and approval.

The MC+ MCOs all understood the required oversight of subcontractors, but one MC+ MCO (14.3%; Missouri Care) Met the regulation for oversight and accountability for any functions and responsibilities designated to the subcontractor by providing for mechanisms of revoking the delegation, imposing sanctions, monitoring performance, and identifying deficiencies for improvement [438.230(a,b)]. MC+ MCOs gave examples of issues that derived from member complaints. As these were investigated, a number of issues led to corrective actions for the subcontractor. In one instance (Family Health Partners), a series of grievances occurred regarding a transportation provider that had inadequate car seats. The MC+ MCO and transportation provider collaborated to correct this problem. They ensured that every transportation subcontractor had a functioning car seat available. Grievances dropped dramatically, and the MC+ MCO believed the transportation provider was monitoring the network to ensure that the use of car seats was in compliance with accepted child safety practices and Missouri law.

All deficiencies for Structure and Operation standards related to a lack of developed or submitted policies. In some cases (Family Health Partners, Mercy Health Plan) no policies existed and it did not appear that there was a firm understanding of the need for a policy. In most instances, the MC+ MCOs could describe existing practices that achieved compliance with regulations, but written policies were not submitted for review and approval by the SMA. Four MC+ MCOs (Mercy Health Plan, HealthCare USA, Community Care Plus, Family Health Partners) conceded that they were aware of this gap in compliance with MC+ Managed Care Program requirements or federal regulations. The importance of having approved documentation in place was emphasized to the MC+ MCOs by the EQRO at exit conferences.

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Table 45. Subpart D: Quality Assessment and Performance Improvement: Structure and Operation Standards.

Federal Regulation	MC+ MCO							All MC+ MCOs			
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Rate Met
438.214(a,b) Provider Selection: Credentialing/Recredentialing	1	1	2	2	1	2	2	4	3	0	57.1%
438.214(c) and 438.12 Provider Selection: Nondiscrimination	2	2	2	1	2	2	2	6	1	0	85.7%
438.214(d) Provider Selection: Excluded Providers	1	2	2	2	0	2	2	5	1	1	71.4%
438.214(e) Provider Selection: State Requirements	2	1	2	2	1	2	2	5	2	0	71.4%
438.226 and 438.56(b)(1-3) Disenrollment: Requirements and limitations	1	1	1	2	2	2	2	4	3	0	57.1%
438.56(c) Disenrollment Requested by the Enrollee	2	1	1	2	2	2	2	5	2	0	71.4%
438.56(d) Disenrollment: Procedures	2	1	1	2	2	2	2	5	2	0	71.4%
438.56(e) Disenrollment: Timeframes	1	1	2	2	2	2	2	5	2	0	71.4%
438.228 Grievance System	1	2	2	2	2	2	2	6	1	0	85.7%
438.230(a,b) Subcontractual Relationships and Delegation	1	0	1	2	1	1	1	1	5	1	14.3%
Number Met	4	3	6	9	6	9	9	**46**	**22**	**2**	**65.7%**
Number Partially Met	6	6	4	1	3	1	1				
Number Not Met	0	1	0	0	1	0	0				
Rate Met	40.0%	30.0%	60.0%	90.0%	60.0%	90.0%	90.0%				

Note: 0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

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QUALITY ASSESSMENT AND PERFORMANCE IMPROVEMENT: MEASUREMENT AND IMPROVEMENT

There are 12 Measurement and Improvement Standards addressing the selection, dissemination, and adherence to practice guidelines; implementation of performance improvement projects, calculation of performance measures, evaluation of utilization, and assessment of services for enrollees with special healthcare needs; and the maintenance of information systems that can be effectively used to examine service utilization, grievances and appeals, and disenrollment. All items were either Met or Partially Met for compliance with Measurement and Improvement (see Table 46). A total of 61.0% of the criteria were Met by MC+ MCOs.

During the on-site review, all MC+ MCOs provided information that indicated the implementation and promulgation of national standards for practice guidelines. In the Western MC+ Region, members of MC+ MCO staff attended a quality enhancement group meeting for members of the healthcare community (Kansas City Quality Improvement Consortium). Regional standards and practices were discussed and new standards were developed by this organization. If the regional standards exceeded those of the national groups, the regional standards were applied. All MC+ MCOs related that they expected providers to use the practice guidelines combined with their experience and patient knowledge in their decision-making. If conflicts occurred, the Medical Director reviewed the situation with the provider in an effort to approve services that were most beneficial to the member. MC+ MCOs Met 18.2% (Community Care Plus) to 72.7% (Family Health Partners, Blue Advantage Plus, and Mercy Health Plan) of the regulations for Measurement and Improvement.

All MC+ MCOs were using nationally accredited criteria for utilization management decisions [438.240(b)(3)]. The tools most commonly used were the InterQual Clinical Decision Support Tool and Milliman Care Guidelines. Both sources provided evidence-based criteria and best practice guidelines for healthcare decision-making. MC+ MCO staff discussed how they utilized these tools and applied them to member healthcare management issues. Utilization management staff stated that they used all the information they had available that fostered evidence-based practice and ensured member safety while controlling medically unnecessary care.

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The MC+ MCOs were actively involved in developing and improving their Quality Assessment and Improvement Programs. Several of the MC+ MCOs (Missouri Care, Blue Advantage Plus, First Guard, Mercy Health Plan, Health Care USA) convened internal groups that reviewed policies, practices, grievances and appeals. This information was used to identify problem areas and to improve and enhance their programs. Several MC+ MCOs (Mercy Health Plan, Family Health Partners, and FirstGuard) were also in the process of incorporating members into the quality improvement process. One MC+ MCO (Family Health Partners) used members to review and recommend improvements of their written member materials. Two MC+ MCOs (Mercy Health Plan, FirstGuard) were recruiting members to become part of member advisory committees to ensure that their perspective was included in decisions about changing and enhancing programs.

Several problem areas that led to deficiencies in this portion of the protocol involved the Validating Performance Improvement Projects, Validating Performance Measures, Validating Encounter Data, and Health Information Systems(HIS). Detailed findings and conclusions for these items are provided in previous sections of the report and MC+ MCO summaries.

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Table 46. Subpart D: Quality Assessment and Performance Improvement: Measurement and Improvement.

Federal Regulation	MC+ MCO							All MC+ MCOs			
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Rate Met
438.236(b)(1-4) Practice Guidelines: Adoption	1	2	2	2	2	2	2	6	1	0	85.7%
438.236(c) Practice Guidelines: Dissemination	1	2	2	2	2	2	2	6	1	0	85.7%
438.236(d) Practice Guidelines: Application	2	2	1	2	2	2	2	6	1	0	85.7%
438.240(a)(1) QAPI: General Rules	1	2	2	2	2	2	2	6	1	0	85.7%
438.240(b)(1) and 438.240(d) QAPI: Basic Elements of MCO Quality Improvement and PIPs	1	2	1	1	1	1	2	2	5	0	28.6%
438.240(b)(2)(c) and 438.204(c) QAPI: Performance Measurement	1	1	2	1	2	1	1	2	5	0	28.6%
438.240(b)(3) QAPI: Basic Elements/Over and Under Utilization	1	2	2	2	2	2	2	6	1	0	85.7%
438.240(b)(4) QAPI: Basic Elements regarding Special Healthcare Needs	1	2	2	2	2	2	2	6	1	0	85.7%
438.240(e) QAPI: Program Review by State	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
438.242(a) Health Information Systems	2	2	2	2	2	2	2	7	0	0	100.0%
438.242(b)(1,2) Health Information Systems: Basic Elements	1	1	1	1	1	1	1	0	7	0	0.0%
438.242(b)(3) Health Information Systems: Basic Elements	1	1	1	1	1	1	1	0	7	0	0.0%
Number Met	2	8	7	7	8	7	8	**47**	**30**	**0**	**61.0%**
Number Partially Met	9	3	4	4	3	4	3				
Number Not Met	0	0	0	0	0	0	0				
Rate Met	18.2%	72.7%	63.6%	63.6%	72.7%	63.6%	72.7%				

Note: Regulation 438.240(e) refers to program review by the state. The regulation requires the state to review, at least annually, the impact and effectiveness of each MCO's quality assessment and performance improvement program. The regulation refers to the state QA & I program review process and is not applicable to External Quality Review of the MC+ Managed Care Program. This percent is calculated for the regulations that are applicable tot the MC+ Managed Care Program.

0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

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GRIEVANCE SYSTEMS

Subpart F of the regulatory provisions for Medicaid managed care (Grievances and Appeals) sets forth 18 requirements for notice of action in specific language and format requirements and communication to providers and subcontractors regarding grievance and appeal procedures and timelines available to enrollees and providers. Six of the seven MC+ MCOs (85.7%) excelled in their compliance with the regulations related to grievances and appeals (see Table 47). A total of 91.3% of the items Met compliance with regulations for Grievance Systems. Four MC+ MCOs (Mercy Health Plan, HealthCare USA, Family Health Partners, and Blue Advantage Plus) were fully compliant with the regulations, while one MC+ MCO (Community Care Plus) Met 50.0% of the requirements.

Grievance and appeal records reviewed for members and providers indicated that the MC+ MCOs did not discourage this process, and that they took timely actions when grievances or appeals were filed. MC+ MCO staff understood their role in assisting members when they experienced problems in completing paperwork or in understanding the grievance or appeal process. Notices contained appropriate language, and informed members of their right to request a State Fair Hearing if an appeal was negative, or concurrently if the member wished for the action to be reviewed at the State level while the MC+ MCO was taking action. Member Handbooks and notices informed members of their right to retain their benefits while an appeal was pending, but also notified them of their responsibility to reimburse providers for services, if an appeal or State Fair Hearing upheld the actions taken by the MC+ MCO. Records of appeals filed by providers demonstrated that they were comfortable filing on behalf of a member. Providers were informed in their policy that they must have the member's written permission to file on their behalf.

There were several deficiencies in the area of policy submission to the SMA. Two MC+ MCOs Partially Met compliance with regulations for establishing and maintaining an expedited review process for appeals (Community Care Plus, Missouri Care; 438.410); and two Partially Met compliance with regulations for providing information regarding the grievance and appeal process to all subcontractors at the time of contracting (Community Care Plus, FirstGuard; 438.414). One MC+ MCO (Community Care Plus) did not have updated policies reflecting the current language and structure of the grievance and appeal process. Appropriate practice for addressing grievances and appeals appeared to be in place for all MC+ MCOs.

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Table 47. Subpart F: Grievance Systems.

Federal Regulation	MC+ MCO							All MC+ MCOs			
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	Number Met	Number Partially Met	Number Not Met	Rate Met
438.402(a) Grievance and Appeals: General Requirements	2	2	2	2	2	2	2	7	0	0	100.0%
438.402(b)(1) Grievance System: Filing Requirements - Authority	2	2	2	2	2	2	2	7	0	0	100.0%
438.402(b)(2) Grievance System: Filing Requirements - Timing	2	2	2	2	2	2	2	7	0	0	100.0%
438.402(b)(3) Grievance System: Filing Requirements - Procedures	2	2	2	2	2	2	2	7	0	0	100.0%
438.404(a) Grievance System: Notice of Action - Language and Format	1	2	2	2	2	2	2	6	1	0	85.7%
438.404(b) Notice of Action: Content	1	2	2	2	2	2	2	6	1	0	85.7%
438.404(c) Notice of Action: Timing	1	2	2	2	2	2	2	6	1	0	85.7%
438.406(a) Handling of Grievances and Appeals: General Requirements	1	2	2	2	2	2	2	6	1	0	85.7%
438.406(b) Handling of Grievance and Appeals: Special Requirements for Appeals	2	2	2	2	2	2	2	7	0	0	100.0%
438.408(a) Resolution and Notification: Basic Rule	2	2	2	2	2	2	2	7	0	0	100.0%
438.408(b,c) Resolution and Notification: Grievances and Appeals - Timeframes and Extensions	2	2	2	2	2	2	2	7	0	0	100.0%
438.408(d)(e) Resolution and Notification: Grievance and Appeals - Format and Content of Notice	1	2	2	2	2	2	2	6	1	0	85.7%
438.408(f) Resolution and Notification: Grievances and Appeals - Requirements for State Fair Hearings	1	2	2	2	2	2	2	6	1	0	85.7%
438.410 Expedited Resolution of Appeals	1	2	2	1	2	2	2	5	2	0	71.4%
438.414 Information about the Grievance System to Providers and Subcontractors	1	2	2	2	2	1	2	5	2	0	71.4%
438.416 Recordkeeping and Reporting Requirements	0	2	2	2	2	2	2	6	0	1	85.7%
438.420 Continuation of Benefits while Appeal/Fair Hearing Pend	2	2	2	2	2	2	2	7	0	0	100.0%
438.424 Effectuation of Reversed Appeal Resolutions	2	2	2	2	2	2	2	7	0	0	100.0%
Number Met	9	18	18	17	18	17	18	115	10	1	91.3%
Number Partially Met	8	0	0	1	0	1	0				
Number Not Met	1	0	0	0	0	0	0				
Rate Met	50.0%	100.0%	100.0%	94.4%	100.0%	94.4%	100.0%				

Note: 0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

Table 48 provides a summary of the compliance ratings across all sections of the Compliance Protocol. All MC+ MCOs Met 68.3% of the applicable regulations, with individual MC+ MCOs meeting 30.4% (Community Care Plus) to 88.4% (FirstGuard) of all applicable regulations. Four MC+ MCOs (HealthCare USA, Missouri Care, FirstGuard and Blue Advantage Plus) Met or Partially Met all regulations.

Table 48. Summary of MC+ MCO Compliance with Medicaid Managed Care Regulations.

Federal Regulation	MC+ MCO							ALL MC+ MCOs
	CCP	MHP	HCUSA	MOCare	FHP	FG	BA+	
Number Met	21	37	45	52	54	61	60	330
Number Partially Met	42	28	24	17	14	8	9	142
Number Not Met	6	4	0	0	1	0	0	11
Number Applicable	69	69	69	69	69	69	69	483
Percent Met	30.4%	53.6%	65.2%	75.4%	78.3%	88.4%	87.0%	68.3%

Note: 0 = Not Met; 1= Partially Met ; 2 = Met

Sources: Department of Health and Human Services Centers for Medicare & Medicaid Services (2003). Monitoring Medicaid Managed Care Organizations (MCOs) and Prepaid Inpatient Health Plans (PIHPs): A protocol for determining compliance with Medicaid Managed Care Proposed Regulations at 42 CFR Parts 400, 430, et al. Final Protocol Version 1.0.; BHC, Inc., 2004 External Quality Review Monitoring MCOs Protocols.

Follow-Up

The EQRO conducted follow-up of recommendations based on the 2003 EQRO Report findings submitted to the SMA on August 31, 2004 that related to the Compliance Protocol.

1. The findings of the 2003 EQRO evaluation revealed rates lower than the national average for follow-up after psychiatric hospitalization at seven and thirty days, based on Mental Health Indicator data. Review of case management records found the presence of a treatment plan in 29% of the records reviewed, with 24% containing objective and measurable treatment goals. Referrals comprised the primary case management activity. Review of behavioral health case management processes to determine compliance with federal guidelines related to members with special healthcare needs, access to care, and ensuring appropriate access to and follow-up of care was recommended for MC+ MCOs. MC+ MCOs implemented case management to improve follow-up contact of members and observed a reduced frequency of re-admission rates, as well as an increase in aftercare appointments. There were no specific initiatives focused on improving the documentation of case management and change in 7- and 30-day follow-up rates.

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2. Findings of the 2003 EQRO evaluation indicated MC+ MCO needs for understanding sampling, study question development, statistical analysis, and the implementation of PIPs. Recommendations were directed toward MC+ MCOs for the inclusion of all QI/UM staff in PIP implementation and study design, the targeting of resources on PIP implementation, and training for staff. MC+ MCOs were referred to the CMS Protocols for conducting and evaluating PIPs. At the time of the 2004 EQRO review, and after training conducted by the EQRO specific to the implementation of PIPs, personnel at MC+ MCOs remained unaware of the PIP Protocols and requirements.
3. Results of a childhood lead poisoning evaluation focused study, conducted for the 2003 EQRO, found that although there was continued improvement in the rates of blood lead level testing for children 12 and 24 months of age, the rates were low (51.5% and 38.7%, respectively). The rate for 24-month-olds was particularly low. The HCY Lead Risk Assessment Guide (LRA), the verbal lead screen items, was administered 73.9% of the time to MC+ MCO members six year of age and under. Only 10.6% of MC+ Members with a positive response on the LRA received a blood lead level test within three months of the positive response. Recommendations were made for improving the follow-up of verbal lead screens with a capillary sample or blood lead level test, improving the rate of 24-month-olds' blood lead level tests, and an incorporation of verbal lead screening items into the baseline health assessment at enrollment and for MC+ MCO new member welcome calls. The MC+ MCOs continued case management, education, and follow-up services for members with lead exposure. Monitoring of the rate of blood lead levels for 12- and 24-month-olds also continued, but there were no concerted efforts to improve follow-up for members under six years of age with a positive verbal lead screen.
4. The provider network adequacy study conducted for the 2003 EQRO evaluation year found that MC+ MCO submissions to the State Department of Insurance (Missouri Department of Insurance, MDI) contained duplicate entries of providers and showed high rates of closed provider panels. Additionally, the MDI submissions no longer addressed dental and behavioral health provider network adequacy. To ensure adequate access to provider networks, it was recommended that the SMA and MC+ MCOs identify and monitor several indices for provider network adequacy in addition to the continued monitoring of after hours, emergency, and next appointment availability standards for individual providers. Quarterly evaluation of the adequacy of dental and behavioral health providers using net gain/loss indices by provider specialty, and index (proportion) of closed panels, and Provider:Member ratios was recommended. Additional indicators of provider adequacy that are collected for other purposes (e.g., member satisfaction) and were recommended as proxies of provider availability were access to care indicators (well-care visits, annual dental visits, follow-up after psychiatric hospitalization). MC+ MCOs continued to conduct provider after-hours access monitoring, and coordinated referrals to out-of-network providers, but there were no efforts to develop and review specific indicators for ensuring that members who need specialized care (e.g. dental, behavioral health, orthopedic) are receiving it in a timely manner.

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Conclusions

STRENGTHS

1. Four MC+ MCOs Met or Partially Met all applicable federal regulations and State compliance requirements.
2. Ten of the 13 regulations for Enrollee Rights and Protections were Met or Partially Met by MC+ MCOs. Communicating MC+ Members rights to respect, privacy, and treatment options as well as providing written information in prevalent non-English languages were areas of strength. MC+ MCOs maintained an awareness of and appropriate responses to cultural and language barriers to communication and obtaining care. The MC+ MCOs responded to barriers, whether physical, emotional, or cultural with diligence and creativity.
3. Another area of strength related to Enrollee Rights and Protections was the provision of information to MC+ Members regarding advanced directives, grievance and appeals processes, and potential liability for payment.
4. Twelve of the 17 regulations for Access Standards were Met or Partially Met by MC+ MCOs. MC+ MCOs Met regulations for having in place policies and procedures to provide for second, and if necessary, third opinions in meeting the healthcare needs of MC+ Members. Access to culturally competent care was also a strength. MC+ MCOs monitored high risk MC+ Members by employing specialized nurses who had regular contact with the members or their families to perform case management. At each MC+ MCO, procedures were described for obtaining the identities of members who had special health care needs from the SMA on a monthly basis. Additionally, MC+ Members in need of case management were identified and included in case management services by the MC+ MCOs. Members immediately assessed for case management services included children who were:
    - Eligible for Supplemental Security Income (SSI);
    - In foster care or other out-of-home placement;
    - Receiving foster care or adoption subsidy; and
    - Receiving services through a family-centered community-based coordinated care system that receives grant funds under Section 501(a)(1)(D) of Title V, as defined by the state agency in terms of either program participant or special health care needs.

    Additionally, MC+ MCOs attempted to identify members with a number of high risk conditions that included:
    - Lead poisoning;
    - Prenatal risk factors;
    - Behavioral health needs: or
    - Other chronic medical conditions.
5. Ten of the 12 regulations for Structure and Operations Standards were Met or Partially Met by MC+ MCOs, as there were mechanisms in place to avoid discrimination of providers specializing in treating MC+ Members with high risk or high cost conditions, and grievance systems. The MC+ MCOs made positive changes in their oversight and involvement with the behavioral health contractors. Some were in the process of integrating delivery of mental and behavioral health services into the function of the MC+ MCO. The MC+ MCOs acknowledged that

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theprovision of meaningful mental health services complemented and strengthened their efforts to provide sound physical healthcare initiatives for many MC+ members. M

6. All 11 regulations for Measurement and Improvement were Met or Partially Met by MC+ MCOs. MC+ MCOs adopted, disseminated, and applied practice guidelines to measure the improvement in quality of care and health outcomes. They also used health information systems to examine the appropriate utilization of care using national standard guidelines for utilization management. MC+ MCOs incorporated methods of quality assessment and program improvement into the daily operations of their organizations. Several MC+ MCOs started incorporating member suggestions into program improvement, planning and development. Their grievance and appeals systems were used to inform and drive improvements in practice. Improvements were found in the adoption and implementation of nationally accepted clinical practice guidelines with additional Regional standards that exceeded the national guidelines. The Provider Services or Relations departments of the MC+ MCOs exhibited a commitment to relationship building and monitoring providers to ensure that all standards of care were met and that good decision-making and sound healthcare practices occurred on behalf of MC+ Members.
7. Seventeen of 18 regulations for Grievance Systems were Met or Partially Met by MC+ MCOs. Nine of the 18 were Met by all seven MC+ MCOs, with strong systems in place for the management of member grievances.
8. MC+ MCOs were invested in developing programs and providing services beyond the scope of contractual requirements. Partnerships with the local universities and medical schools provided opportunities to obtain cutting-edge and occasionally experimental treatment options, which would not otherwise be available to MC+ Members.

AREAS FOR IMPROVEMENT

1. MC+ MCOs did not submit Member Handbooks, Marketing and Educational Materials, and dissemination plans to the SMA for review and approval. Given that these are primary modes of communication with MC+ Members for rights and protections, a number of regulations were Partially Met or Not Met. These included providing MC+ Members with assurances that they are not liable for MCO insolvency or services not paid for by the SMA, or for fees in excess of those paid by the MCO that are furnished under contract, referral, or other arrangement.
2. MC+ MCOs did not all have written policies to ensure the consistent application of review criteria for the authorization of services or for addressing the need for access to emergency and post-stabilization services.
3. There was a lack of understanding by some MC+ MCOs of the need for written policies addressing subcontractor oversight and delegation, disenrollment, and credentialing and re-credentialing. Although process may have been in place, specific policies were not developed or updated and submitted to the SMA for review and approval.
4. The use of data for quality improvement purposes and examination of healthcare outcomes or processes strongly associated with healthcare outcomes is an area in need of improvement. MC+ MCOs collect monitoring data for various requirements, but do not compile or evaluate the findings in a way to address specific clinical or nonclinical issues related to quality and access to care.

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5. The MC+ MCOs continue to struggle with regular access to certain types of specialist care. Throughout discussions at each MC+ MCO, the lack of orthopedic surgeons, neurosurgeons and child psychiatrists was mentioned as a problem. The MC+ MCOs have all made accommodations to ensure that members received the services they required. Through the use of advance practice nurses, cooperative agreements with medical schools, and willingness to reimburse at commercial insurance rates, the MC+ MCOs attempt to ensure that members have access to these services. MC+ MCOs expressed concern for improvement in this area.
6. The MC+ MCOs could improve their local understanding of the data and information in the health information systems, and what is required to extract this data and information. The MC+ MCOs maintained a hands-off attitude regarding their health information systems. In some cases, there was very little local expertise about what is contained in these systems, and how to make pertinent requests for information when data extraction is necessary. The information collected in these systems could be used to inform and strengthen performance improvement and program development efforts.

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RECOMMENDATIONS

1. As part of the process for conducting the review of MC+ MCO compliance with federal regulations for Medicaid managed care, the EQRO developed a tool to conduct the Compliance Protocol based on the SMA contract compliance findings and EQRO on-site reviews. This tool was completed for each MC+ MCO, with detailed comments for each regulation that was not Met. The findings for each MC+ MCO were provided to the SMA. It is recommended that the completed tools be distributed to MC+ MCOs to aid in improving compliance with specific regulations.
2. One reason that MC+ MCO compliance with federal regulations was Partially Met or Not Met was the lack of development and/or submission of established policies to the SMA for review and approval. It is recommended that MC+ MCOs prioritize those documents used for MC+ Member communication (e.g., Member Handbooks and Marketing and Education Materials) for revision, internal approval, and submission to the SMA.
3. It is recommended that MC+ MCOs finalize and submit any pending policies relating to review criteria for authorization of services and access to emergency and post-stabilization services.
4. To address provider network timeliness, access and availability issues, it is recommended that MC+ MCOs review the regulations, revise policies and procedures for SMA review and approval, and develop methods of monitoring how well the needs of members for specialists are being met. As recommended in the 2003 EQRO Report, MC+ MCOs should be evaluating the monitoring data collected from several sources on at least a quarterly basis to ensure that MC+ Members are not encountering barriers in accessing needed specialty services due to closed panels or specialty provider unavailability within the network. Specialties for which MC+ MCOs were granted exceptions through the Missouri Department of Insurance geographic network adequacy analysis would be appropriate targets, in addition to the specialties no longer included in this process (dental and behavioral health) and those identified by MC+ MCOs as difficult or impossible to engage (neurologists, orthopedic specialists). Surveys of MC+ Members with specific diagnoses suggesting the need for specific specialties can also be conducted to determine the extent to which MC+ Members feel their needs for specialty care are met, and the barriers, if any, they encounter in accessing specialty care. The National Survey of Children with Special Health Care Needs[27] may provide some ideas for items that may be adapted for such a purpose.
5. MC+ MCOs should review regulations and contract requirements related to subcontractual relationships and delegation. Specific policies and procedures should be developed and submitted to the SMA for review and approval. It is recommended that MC+ MCOs review regulations on credentialing and re-credentialing of providers and disenrollment of members, revise policies as necessary and review them with staff.
6. Specific recommendations for conducting Performance Improvement Projects that result in significant, sustained improvement over time; using health information systems to calculate performance measures; and providing encounter data to the SMA and EQRO for validation purposes are provided in previous sections of this report.
7. MC+ MCOs should develop a system to monitor the need for revision of internal policies and procedures, review and update annually or when contract revisions occur (whichever comes first), and ensure submission of policy changes to the SMA within appropriate timeframes.

[27] Centers for Disease Control (2002). SLAITS National Survey of Children with Special Health Care Needs, retrieved May 31, 2005, http://cshcndata.org/anonymous/documents/survey.pdf.

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COMMUNITY CARE PLUS

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Document Review

Community Care Plus supplied the following documentation for review:

- Performance Improvement Project: 2004: Twenty-Four Hour Provider Access Monitor
- Performance Improvement Project 2004: Emergency Room Utilization

Interviews

Interviews were conducted with the project leaders for each of the projects on-site by the EQRO Project Director, on Tuesday, March 1, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. The following questions were addressed on-site:

- Who was the Project Leader?
- How was the topic identified?
- How was the study question determined?
- What were the findings?
- What was the intervention?
- What was the time period of the study?
- Was the intervention effective?
- How do you know?
- Why or why not?
- What does Community Care Plus want to study or learn from their PIPs?

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FINDINGS

The first PIP evaluated was "Emergency Room Utilization". This project "is a program designed to decrease inappropriate use of the emergency room, contain costs and to provide education to providers and members." The project involved daily utilization management and phone calls and letters to members. There was a reference to, but no explanation of the role of educating providers about the referral process. There were no study questions presented, but the implied question might be, "Does education of members and providers about the importance of routine office visits reduce inappropriate use of the emergency room and contain cost?"
The demographic characteristics of members were not described, but included all members attending one pediatric facility. It was not clear whether the study population included all MC+ Members. No sampling was conducted.

The selected study indicators consisted of the number of emergency room visits, number of members receiving telephonic education, number of members receiving letters regarding Nurse Line, and the number of regularly scheduled office visits with a PCP. There was no measure of the number of inappropriate emergency room visits. The measures were not clearly defined and no benchmarks or baseline data were presented. It was unclear how the indicators were going to be evaluated or what would indicate success in the intervention. There were no measures for change in health status or processes strongly associated with health status. Emergency room utilization data were collected for all members included in the study. The requirements for data collection procedures were not met, as there was no information about measures and methods for calculation. There was no specific survey tool, but there was a flowchart for conducting telephone calls. The emergency room follow-up flowchart suggested possible process data to be collected. Process data on the ability to contact members and the number of phone calls and letters were provided, as well as were graphs of time periods for high ER utilization and patterns of ER utilization during the week. However, the connection between this information and the measurement of emergency room use was not made.

There was no data analysis plan identified in the narrative, so it was not possible to evaluate the findings against the data analysis plan. Also, the definition of inappropriate utilization was made by nurse judgment on a case-by-case basis for members that were not admitted to the hospital. The characteristics and a definition of inappropriate utilization should be presented and described. The analysis of PIP findings should include clearly labeled figures and graphs as well. Finally, pre- and

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post-intervention analysis would be important in determining the effectiveness of the intervention. For example, "Did the rate of inappropriate department use actually decline following the intervention or not?"

This study is not likely to result in credible or interpretable findings. This project was focused on utilization and cost alone, which is not considered appropriate as a PIP. There was good measurement of the implementation of the intervention. A number of process measures regarding the intervention were presented, but there was no clear link between the education of members and the outcome. It would be critical to operationally define and measure "inappropriate emergency room use," as defined by medical staff. Descriptive data regarding the characteristics of individuals and referrals for those with "inappropriate emergency room use" might suggest a focus for additional interventions.

A study which examines the impact of an intervention on patient outcomes or processes of care that are highly associated with patient outcomes rather than utilization or cost alone is necessary. It is recommended that a study which examines the reasons for self-referral to the emergency room or the impact of the intervention of case management on health outcomes and access to preventive care be considered. While collecting data from members about the reason for self-referral, questions about accessing care and the potential viability of urgent care options could be explored and analyzed as potential barriers for future intervention. The reasons or symptoms for which people present to the emergency room may also be useful for identifying unmet needs. When calculating measures, examine the change in the rate of the measures prior to and following the intervention to determine effectiveness of the intervention.

The second PIP evaluated was the "Twenty-Four Hour Access Monitor". Data showing high levels of member satisfaction were presented as a rationale for monitoring provider accessibility, but there was no evidence of a specific problem other than the need to meet contract compliance requirements.

The study questions stated at the end of the narrative were: 1) "Does the PCP provide coverage for the member 24/7?"; 2) "Are members being told to go to the ER without options provided?"; 3) "Are members going to the ER instead of checking with the PCP or do the members go to the ER knowing that the PCP is not available?"; 4) "How does this affect Community Care Plus's ER

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utilization cost?"; 5) "Should there be a co-pay for ER to control utilization?"; 6) "Could utilization have improved if there had been urgent care centers?"; 7) "How does this issue affect our membership?"; and 8) "Have we lost members?" It was not clear how the measures presented were related to provider network accessibility, nor was it possible to identify interventions aimed at improving the provider network accessibility other than monitoring and reporting. There was no description of the members or providers that were surveyed on the satisfaction measure. It was assumed that the Consumer Assessment of Health Plans survey (CAHPS) included only Community Care Plus and MC+ Members, but this should be clearly stated. It was not clear how many providers, offices, and/or what types of providers were called for the 24-hour access monitoring process. The calculation of one of the many measures was described (the portion of providers that met "after hours" requirement). Other measures for which data were reported to be collected included appointment availability, office waiting times, responsiveness to calls, number of members calling providers for help, members with an illness or injury that needed help right away, members that did not need to go to the ER in the past 12 months, and members who got help when calling the doctor's office after hours. It is likely that there is a link between member satisfaction and provider network adequacy, but it was unclear what intervention or outcomes were being measured. There were no demographic characteristics of members that were sampled described, or members who responded to the satisfaction survey. The reader knowledgeable of CAHPS methodology would be aware that the sampling methods are random. However, this should be described.

There was a description of the criteria for inclusion of providers in the after hours access monitoring measure (i.e., the number of PCPs in the network who submitted a claim during the measurement year). However, "high volume" providers were subsequently described as being targeted, but in the analysis there is an indication that "all PCPs" were surveyed. The definition of PCPs (e.g., internist, OB/GYN, mental health), high-volume providers was also unclear. There were no sampling techniques, response rates, or non-response biases described for the member satisfaction survey. It was assumed there was no sampling for the provider network access monitor.

The sources of data (member satisfaction and provider office availability) were clear. There was no data analysis plan described in the narrative. In terms of the intervention, there appeared to be some interventions for non-compliant providers, but there were no causes or barriers to access issues or member satisfaction problems identified. In the analysis, raw data for the number of

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providers meeting after-hours availability were presented for 2002 and 2003. There was no time period reported for re-measurement or indication of the number of PCPs that were contacted in 2003, nor was there discussion of the effectiveness of the intervention. It is possible that the same source of data for the provider after-hours monitoring was used from year to year, although there was some sampling in 2002, so the method of data collection seems to have varied. It appears that a new tool was developed for the 2004 data collection. Variation in data collection, sampling, and methods from year to year should be described and taken into account when interpreting data. It was not possible to identify whether improvement had occurred as a result of the intervention.

This study is not likely to result in credible or valid findings. This was a monitoring project using indicators of required compliance items for the State and MCO contracts for MC+ as the main indicator. Although monitoring is an important aspect of program compliance and process evaluation, it does not constitute a targeted activity designed to improve outcomes. In the study described, there was no connection between the data, measures, methods, and study questions presented. It was unclear what interventions might have taken place to improve the quality, access, timeliness or outcomes of care. Although the measures and indices proposed may be useful for answering specific questions, it is important to identify indices, methods, measures, and analyses that will allow one to answer the study questions posed. The satisfaction measures used indicate a high level of satisfaction of members with providers and the data presented show higher than the national average levels of member satisfaction, so it is not clear how or why this topic was chosen.

It is recommended that a topic that has potential for significant improvement in the processes (access or timeliness) or outcomes (health) of care be identified. This will require establishing a rationale and presenting data describing the necessity of the study and scope of the problem. A PIP should be designed to answer specific questions, which should be presented in the narrative, and those questions should be directly associated with the topic of the study, measurements, and outcomes.

STRENGTHS

1. PIP topics were concerned with nonclinical issues such as utilization and access.
2. There was some description of the study rationale and measures used, and some background information for the purpose of the studies.
3. Measures and their calculation were well-defined.

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4. Satisfaction data from members was incorporated into measures. The Consumer Assessment of Health Plans Survey (CAHPS) findings were used as background data.
5. There were good measures of the implementation of the interventions. The findings summarized the process of the implementation, describing the numbers of phone calls made to providers and members.
6. Since the site visit, Community Care Plus has instituted personnel changes to focus on and improve the implementation of PIPs.

AREAS FOR IMPROVEMENT

1. The focus of PIP studies was primarily on utilization, cost, and monitoring of compliance. Performance Improvement Projects need to focus on interventions that improve the processes and outcomes of care over and above utilization or cost alone. Although measures used for monitoring compliance can be useful as measures of process or outcome for PIPs, there must also be interventions for improving the process or outcome of care for a broad portion of the population served.
2. Study questions, measures, and analyses were not related to one another. At least quarterly data analysis should be conducted to monitor the outcomes.
3. Measures of the implementation of the intervention (e.g., contacting members or providers) should be evaluated continuously.
4. Data analysis should incorporate tests of statistical significance to assess whether the resulting change or lack of change was related to the intervention.
5. Interventions were not likely strong enough to produce changes in the indices measured.

RECOMMENDATIONS

1. The study design of PIPs need to link the question(s), the intervention(s), and the outcomes to determine whether or not an intervention is effective. This can be accomplished by developing a logic model for the PIP at the planning stage.
2. Community Care Plus should develop study questions that have measurable results and repeat measures at least quarterly. Annual evaluation of measures does not allow for frequent enough feedback to adjust interventions or address barriers in a timely manner to improve the quality of care.
3. Include tests of statistical significance to compare pre- and post-intervention changes. Chi-square analysis and upper and lower confidence intervals are useful indices for comparing rates over re-measurement periods.

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Validation of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Community Care Plus. Community Care Plus submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by Community Care Plus (prepared by Novasys)
- The Baseline Assessment Tool (BAT) submitted by Community Care Plus (prepared by Novasys)
- Healthcare Research Associates' (HRA) HEDIS 2004 Compliance Audit Report
- NovaSys Health Network, LLC, policies and procedures related to the HEDIS rate calculation process.
- NovaSys Health Network, Community Care Plus electronic eligibility process
- Data files from the HEDIS repository containing eligible population, numerators and denominators for each of the three measures
- Decision rules & queries in the HEDIS 2004 repository used to identify eligible population, numerators and denominators for each of the three measures
- Query result files from the repository

The following are the data files submitted by Community Care Plus for review by the EQRO:

- Community Care Plus CLAIM PULL SC.mdb
- Community Care Plus ADMIN SC.mdb
- Community Care Plus HEDIS 2004 SC.mdb
- EQRO TO BHC.mdb
- HEDIS 2004 COMBINE MRR HRA SC.mdb

Interviews

The EQRO conducted on-site interviews with Michael Boone (representing Novasys, the third party administrator for Community Care Plus) and Lee Kneibert on Tuesday, March 1st, 2005. Michael Boone of Novasys was responsible for calculating the HEDIS 2004 performance measures.

FINDINGS

Community Care Plus calculated the Adolescent Immunization Status, Combination #1 measure using the Hybrid Method. The Adolescent Well-Care Visits and Use of Appropriate Medications for Asthma measures were calculated using the Administrative Method. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent Well-Care Visits, and Use

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of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

The rate for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure reported to the SMA and the State Public Health Agency (SPHA) by Community Care Plus was 35.04%. This was comparable to the statewide rate for all MC+ MCOs (14.36%; z = .36; 95% CI: 20.18%, 49.90%; n.s.).

The rate for Community Care Plus for the HEDIS 2004 Adolescent Well-Care Visits measure was 18.75%, which was significantly lower than the statewide rate for all MC+ MCOs (30.13%; z = -1.43, 95% CI: 13.87%, 23.63%; $p < .001$;). The 2004 HEDIS rate for Community Care Plus for the Use of Appropriate Medications for People with Asthma was 53.71%, which was significantly lower than the statewide rate for MC+ MCOs (63.92%, z = -1.54; 95% CI: 50.07%, 57.35%; $p < .001$).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

Information systems management policies and procedures for rate calculation were evaluated consistent with the Validating Performance Measures Protocol. This included both manual and automatic processes of information collection, storing, analyzing and reporting. The EQRO was provided with a demonstration of the HEDIS repository with the assistance of a remote connection from Community Care Plus location in St. Louis to the vendor's system in Little Rock, Arkansas. For the Adolescent Immunization Status, Combination #1 and the Use of Appropriate Medications for People with Asthma measures, Community Care Plus was found to meet most of the criteria for having procedures in place to produce complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which Community Care Plus transferred data into the repository used for calculating the HEDIS 2004

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measures. The Adolescent Well-Care Visits measure was not valid, as the prescribed service dates were not followed (data from the year prior to the measurement year were counted as numerators). This suggests that the report runs during the production process were not adequately reviewed for values outside the specified ranges.

Documentation of Data and Processes

Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). Community Care Plus met nearly all criteria that applied for all three measures. For all three measures, the two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by the MCO to assess the significance of change related to quality improvement activities and operational changes. For the Adolescent Immunization Status, Combination #1 measure, the State Public Health Immunization Registry (MOHSAIC) data were not incorporated into the calculation of the rates, which may have contributed to an underestimate of the actual rate.

Processes Used to Produce Denominators

Community Care Plus met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of members eligible for the services being measured. Four hundred eleven (411) sampled members were reported and validated for the Adolescent Immunization Status, Combination #1 measure. A total of 9,887 members eligible were reported and validated for the Adolescent Well-Care Visits measure; and 849 members eligible were reported for the denominator of the Use of Appropriate Medications for People with Asthma measure. Age ranges, dates of enrollment, medical events, and continuous enrollment criteria were programmed to include only those members who met HEDIS 2004 criteria. Member identification numbers and dates of birth were within valid ranges for each of the three measures. The dates of enrollment represented valid gaps in enrollment and met continuous enrollment requirements. Medical event codes were also valid for all three measures. There were no exclusions, contraindications, or replacements reported by the MCO.

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Processes Used to Produce Numerators

All three measures included the appropriate administrative data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria (see Attachment XIII: Numerator Validation Findings) for the Adolescent Immunization Status and Use of Appropriate Medications for People with Asthma measures. Medical record reviews were conducted for the Adolescent Immunization Status measure.

For the Adolescent Immunization Status measure, Community Care Plus excluded administrative events from the State Public Health Immunization Registry (MOHSAIC). There were 143 hits from medical record review reported by Community Care Plus. Thirteen (13) of 30 medical records requested for review were received and 12 records resulted in validated hybrid hits. One record reviewed had neither administrative nor medical record review data for meeting the criteria of either two MMRs or three Hep B vaccinations. The medical record review validated 57 of the 143 hybrid hits reported. The estimated bias from medical record review was 20.88%. Based on the number of hits validated by the EQRO, the rate calculated by the EQRO was 14.11%. The total estimated bias for the Adolescent Immunization Status, Combination # 1 measure was 20.92%. This bias may be largely accounted for by the low submission rate of records for validation. The EQRO worked very closely with Community Care Plus in attempting to educate regarding the measure being validated and the need for actual medical record data.

For the Adolescent Well-Care Visits measure, there were a total of 1,873 administrative hits found in the data file. Although the dates of birth were found to be within range for the given set of patients, the dates of service ranged from 1/2/2002 – 12/31/2002, which was not within the valid range of the year 2003. The visits were identified using CPT codes 99383-99385, W0025, 99393-99395 and ICD-9CM codes V20.2, V70.0, V70.3, V70.5-6, and V70.8-9. There were 1,247 'W0025' codes that are universal codes covering well-care visits for ages from 0-21 years. The final rate could not be calculated because of the invalid date of service. The estimated bias with the submission in the DST was 18.75%, and the rate reported is not valid. On follow-up, CC Plus resubmitted the calculations for this measure and the final rate for this measure was 25.39%, which was higher than reported to the SPHA and SMA.

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The Use of Appropriate Medications for People with Asthma measure was the third measure validated. There were a total of 456 administrative numerator events reported and validated. There were a total of 818 events that were captured. The diagnosis codes and dates of service were not provided. The dates of birth were in the valid range. The dates of service were not provided. The dates of enrollment were in the range of 9/1/1998-12/20/2003 and, as explained by Community Care Plus, the dates in 2002-2003 were the re-enrollment dates and primary dates were within valid range. The final rate was calculated to be 53.71%, with no bias observed.

Sampling Procedures for Hybrid Methods

The Hybrid Method was used for the Adolescent Immunization Status measure. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings were completed for each of these measures. Community Care Plus employed a 10% oversampling rate for a final sample size (FSS) of 453, which is within specified parameters. No exclusions or replacements were reported from administrative or medical record review data.

Submission of Measures to the State

Community Care Plus submitted the DST for each of the three measures validated to the SPHA (the Missouri Department of Health and Senior Services; DHSS) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy. Upon feedback from the EQRO that the Adolescent Well-Care Visits measure was not valid due to the use of 2002 service dates for the numerator, the MCO re-submitted corrected findings to SPHA.

Determination of Validation Findings and Calculation of Bias

The following table summarizes the estimates of bias and the direction of the bias. It should be noted that the estimated bias for the Adolescent Immunization Status, Combination #1 measure takes into account the findings of the medical record review, which indicate an overestimate. It is also possible that there was an underestimate of the actual rates related to excluding State Public Health Immunization Registry (MOHSAIC) data.

Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures.

Measure	Estimate of Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	20.92%	Overestimate
Adolescent Well-Care Visits	18.75%	Overestimate
Use of Appropriate Medication for People with Asthma	0.00%	None

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Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure. Table 2 shows that the Adolescent Immunization Status measure was not valid due to the validated rate falling below the 95% lower confidence limit reported by Community Care Plus. The Adolescent Well-Care Visits measure is not valid due to the use of 2002 service dates for the numerator.

Table 2. Final Audit Rating for Performance Measures.

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Not Valid
Adolescent Well-Care Visits	Not Valid
Use of Appropriate Medication for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by the MCO. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

STRENGTHS

1. Calculation of the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was fully compliant with specifications.
2. The data repository was very well-designed and had methodically arranged queries. Most of the queries were 'make table' queries which received the data online from the Amisys database. The data is then 'frozen' into the HEDIS repository built in MS Access. The source code was reviewed for accuracy and results were verified.
3. The arrangement of the tables and queries was step-by-step and facilitated a detailed overview of the process. It also minimized the possibility of error. An example of such a step-by-step methodology was having a separate member span table, which was updated as soon as the MCO received changes in members' status. This table calculated continuous enrollment in a detailed fashion and also ruled out gaps in enrollment. the EQRO conducted a validation test on the Asthma measure. Standard codes such as ICD-9 and UB-92 were checked for accuracy and updated versions.
4. Up-to-date code versions were provided to Novasys by their auditor, HRA and were integrated well into the system for producing reliable results.
5. There was excellent data integration with automated quality checks and reports. Data was collected from Amisys, the claims management system for membership, enrollment and encounter data. Pharmacy data was merged from ExpressScripts via Amisys into the warehouse. Controls for data checking and error handling were present within the Amisys system.
6. The data resides in a secure location within Perot Systems, the owners of Amisys, in Dallas, Texas. The data is transferred through a secure ODBC connection.
7. Information system policies are present within Novasys to maintain the integrity of the data.

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8. Community Care Plus was responsible to feedback from the EQRO exit interview and report of preliminary findings by immediately recalculating and reporting the HEDIS 2004 Adolescent Well-Care Visits measure to the SPHA and EQRO; and by seeking assistance in improving the process of rate calculation and performance measure validation.

AREAS FOR IMPROVEMENT

1. Data from external databases such as the State Public Health Immunization Registry (MOHSAIC) for collection of adolescent immunization data was excluded from the rate calculation. The current rates are likely underestimated by 8% to 25% as a result of omitting MOHSAIC data.
2. The rate for Use of Appropriate Medications for People with Asthma measure was significantly lower than the average for all MC+ MCOs.
3. Documentation of the working mechanisms of the HEDIS repository to provide external observers and subsequent users with data field definitions and the workflow within the repository is needed.
4. The data quality checks did not detect the incorrect dates of service for the Adolescent Well-Care Visits measure.
5. Retention of copies of medical records used for performance measure development and validation is needed.

RECOMMENDATIONS

1. Community Care Plus should document the working mechanisms of the HEDIS repository and integrate them into the IS policies.
2. Data from MOHSAIC for the Adolescent Immunization Status measure should be incorporated into measure calculation to produce rates in a reliable manner for comparison with other MC+ MCOs. This can be done by developing a data exchange procedure with the SPHA. Once a year, MCOs send a list of eligible members to the SPHA, which will return immunization data for the members. These procedures were outlined for the MCO in April, 2005.
3. Maintain copies of medical records used for HEDIS hybrid rate calculation. This may be an area for oversight and including a provision where subcontracts for medical record reviews can specify a need to retain copies of medical records for audit and validation purposes.
4. Continue the move to a structured data warehouse such as SQL Server from the current MS Access repository, as it will facilitate better data retrieval and analysis.
5. Incorporate stronger review and validation processes into the rate production process and stronger MCO oversight for performance measure calculation. Training for staff of the MCO involved in the oversight and coordination of measure calculation is strongly recommended. The NCQA conducts several workshops on the process of measure calculation.

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Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical Fields?

For the Medical claim type, there were a total of 95,566 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete and accurate, and 99.99% valid. There were 5 invalid dates of service ranging from 01/05/2001 – 12/16/2003.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, and 99.99% valid. There were 5 invalid dates of service ranging from 04/02/2004 – 04/24/2004.
5. The Outpatient Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 99.96% valid. Invalid procedure codes included 24 "W0025" and 14 "Z7000" codes.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 55.52% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 34.09% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 23.02% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

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For the Dental claim type, there were a total of 12,981 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

For the Home Health claim type, there were no encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

For the Inpatient claim type, there were a total of 2,720 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate, and 93.90% valid. There were 166 invalid dates ranging from 12/06/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 97.79% (with 60 entries of "99999999"). Valid values were present 90.81% of the time. In addition to the invalid "99999999" entries, 190 invalid dates ranged from 04/01/2004 – 06/08/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (89.15%, 70.59%, 52.17%, 36.69%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 93.90% valid. There were 166 invalid dates of service ranging from 12/06/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 91.84% valid. There were 222 invalid dates of service ranged from 04/01/2004 – 06/08/2004.
12. The Revenue Code field was 100.00% complete, accurate and valid.
13. The Units of Service field was 100.00% complete and 99.38% accurate and valid. There were 4, 765 blank fields.

For the Outpatient Hospital claim type, there were a total of 16,860 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.

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3. The First Date of Service field was 100.00% complete and accurate, and valid.
4. The Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 61.82% valid. The invalid codes were 6,437 codes of "00000".
7. The Revenue Code was 100.00% complete and 71.74% accurate and valid. There were 4,765 invalid codes of "00000".
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 47.47% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 17.67% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 4.89% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 1.61% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Pharmacy claim type, there were a total of 43,281 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for Community Care Plus, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. There were very few errors encountered in the critical fields examined across all claim types. For the Medical claim type, the Outpatient Procedure Code field contained some invalid entries contained large proportions of invalid codes (see findings above). The Hospital Outpatient Procedure Code and the Revenue Code fields contained a large proportion of invalid entries. Although the Procedure Code is optional if the Revenue Code is between 300 – 319, the Revenue Code is always required1. For the Inpatient claim type, the Discharge Date field contained invalid entries, and there was no data in some of the Units of Service fields.

[1] Personal communication with Judy Muck, Assistant Deputy Director, MC+ Managed Care, April 07, 2005.

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What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, Community Care Plus demonstrated significantly lower rates than the average for all MC+ MCOs for the Medical, Inpatient, Outpatient Hospital, and Pharmacy claim types. This may be a function of provider panel composition or claims administration, but a lower rate of one claim type (e.g., Outpatient Hospital) would likely be associated with a higher rate of another claim type (e.g., Medical). The possibility of incomplete data cannot be ruled out given the consistent pattern of low rates across claim types. Another possible explanation is less access to care for members, or a healthier member population.

The findings from the performance measure analysis also supports the possibility of missing data from the NSF/CMS 1500 claims data based on the significantly lower rates of administrative hits for the HEDIS 2004 Adolescent Immunization Status, Combination #1 Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures.

To What Extent do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State Encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms or claim histories for review. There were 85 medical records (85.0%) and 39 claim forms (39.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 59.0%, with a fault rate of 41.0%. The match rate for diagnoses was 68.0%, with a 32.0% fault rate.

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing or illegible information (n = 91). For the diagnosis description in the medical record, the reasons for diagnoses

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not matching the SMA extract file were missing or illegible information (n = 44), or no match with the description of the symptoms based on the information in the medical record (n = 9). For the diagnosis code on the claim form, the reasons for diagnosis codes not matching the SMA extract file were missing or illegible information (n = 66), or incorrect information (n = 2). The reasons for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 74), and an incorrect code (n = 1).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 11), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 6), incorrect codes (n = 8), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 4), and not enough information for coding (n = 6). For the procedure code on the claim form, the reason for procedure codes not matching the SMA extract file were missing or illegible information (n = 65), or incorrect codes (n = 4). For the procedure description on the claim form, the reason for procedure codes not matching the SMA extract file was missing or illegible information (n = 78).

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, Community Care Plus had difficulty submitting files in the requested file layouts for the performance measure validation and encounter data validation processes. Files were requested in flat file (comma-delimited), machine readable format. Microsoft Access files with no associated data were submitted in response to the request for performance measure extract files, and comma delimited files with special characters were provided in response to the request for file layouts in national standard formats. This precluded the validation of MC+ MCO encounter claims

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data against the SMA encounter claims extract file. The following section summarizes the issues found when attempting to load files submitted for encounter data validation analysis.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

Steve Shelton, Vice President of Novasys Health forwarded the following files to BHC on December 30, 2004 on behalf of Community Care Plus. A brief letter indicated that no unpaid claims data were available. This letter indicates "the pharmacy data is in the format used prior to October 2004, but, as discussed earlier, we were unable to produce the medical and facility data in the format used prior to October 2004."

1. NS41230.txt 364KB Text Document 12/30/2004 4:26 PM
   Given that the NSF/CMS 1500 file layout includes Medical and Dental encounter claim types and that a sample of 100 Medical encounter claim types was selected for retrieval, it is expected that there would be at least 100 claims represented in this file, based on the data from the SMA encounter claims extract file. All records submitted were able to be loaded for analysis.

2. RX41230.TXT 6,562 KB Text Document 12/30/2004 10:04 AM
   All 18 records provided were able to be loaded for analysis, despite the presence of special and control characters in several fields.

3. UB41230.txt 8,815 KB Text Document 12/30/2004 10:54 AM
   This file contained invalid characters and was not able to be loaded for analysis.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields evaluated for the Dental and Pharmacy claim types were 100.00% complete, accurate, and valid.
3. Community Care Plus demonstrated significantly higher rates of validation of the SMA encounter claims extract file against the medical record for the diagnosis and procedure relative the average for all MC+ MCOs. This was likely related to the higher rate of submission of medical records by Community Care Plus providers for medical record review. Reasons for medical records not matching the SMA encounter claims extract file primarily involved missing or illegible information.
4. Paid encounter data for Medical, Dental, and Pharmacy claim types were able to be loaded.

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AREAS FOR IMPROVEMENT

1. The findings of the present investigation and validation reflect more the limitations of the SMA and MC+ MCOs to submit data to the EQRO in machine-readable and non-corrupt format than the actual validity of the SMA encounter database.
2. For the Medical claim type, the Outpatient Procedure Code field contained some invalid entries, resulting in a 99.96% rate of valid data in the field.
3. For the Inpatient claim type, the Discharge date field contained invalid entries for the date field, resulting in a 90.81% rate of valid data in the field. The Units of Service field contained 99.38% valid data in the field.
4. The Outpatient Hospital claim type had invalid codes in the Outpatient Procedure Code and Revenue Code fields. The Revenue Code field is always required.
5. Community Care Plus demonstrated significantly lower rates than the average for all MC+ MCOs for the Medical, Inpatient, Outpatient Hospital, and Pharmacy claim types.
6. Data for Inpatient and Outpatient Hospital claim types were not able to be loaded due to special and control characters not present in the standard file layout. Record type 61 appeared incomplete.

RECOMMENDATIONS

1. The MC+ MCO should examine the rate of claims per 1,000 members across claim types and the rate of rejected claims for each claim submission format (UB-92, NSF/CMS 1500, NCPDP 3.0) over time to examine the consistency in claims submission and identify issues for data submission. The access to care should also be examined as a possible reason for the lower rates of encounter claims per 1,000 members.
2. Always include the Revenue Code regardless of the Procedure Code for the Outpatient Hospital and Inpatient claim types (UB-92 layout).
3. Examine and revise as needed internal system edits for invalid procedure codes in the NSF/CMS 1500 file layout and run validity checks after the programming of new edits.
4. For the Inpatient claim type (UB-92 file layout), improve the rate of valid Discharge Dates to flag invalid entries of "99999999", and ensure completion of Units of Service field.
5. For audit purposes, submit extract files for performance measures and encounter data in the requested file layouts with the requested documentation of files.

MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures were described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations protocol for Community Care Plus (Community Care Plus). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site

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review time was used to conduct follow-up questions, review additional documentation made available by Community Care Plus, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MC+ MCO, Community Care Plus was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Contracts
- Grievance and Appeal Policies
- Samples of both Grievances and Appeals related to member and providers
- Fraud and Abuse Policy

Additional documentation made available by Community Care Plus:

- Medical Management – Low Birth Weight Babies Report
- Member Newsletter – Spring 2005
- Provider Monthly Payment Schedule FQHC/RHC Services
- 2004 Member Services Monthly Metrics
- Community Care Plus Instructions for Submitting Policies and Procedures – 2005
- Required Policies and Procedures Review Order – 01/2005
- Policy Tracking Log

Unity Managed Mental Health supplied the following documents regarding their services to Community Care Plus members:

- Over/Under Utilization Report
- Use of Services Trends
- Readmissions Report
- 2004 Denial/Appeal Report
- 2004 Grievances Report/Resolution Timeliness
- 2004 Adverse Events Outcomes Report
- Pregnant Women Care Coordination Report
- 2004 Provider Record Survey Results
- Depression Treatment Standards
- 2004 Provider and Member Satisfaction Reports
- UMMH ADD Best Practices Screening/Treatment Protocol and Medication Guideline
- Member Transition and Care Policy

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Interviews

The following individuals were interviewed on March 1, 2005 during the on-site review:

Plan Administration
Jerry Linder, President and CEO
Cris Cristea. Chief Operations Officer
Dr. Parikh, Chief Medical Officer
Lee Kneibert, QI Manager

Quality Assurance
Cris Cristea, Chief Operations Officer
Lee Kneibert, QI Manager

Member Services/Case Management/Utilization Management
Vicki Eisenbeis, Director, Claims/Member Services
Beverly Thompson, Director, Medical Management

Provider Services
Cris Cristea, Chief Operations Officer
Kathy Mocca, Manager, Network Development

Mental Health
Scott Frederick, PhD, Director, Managed Mental Health
Marge Viehland, RN, Manager, Utilization Management and Quality Improvement
Kathy Mocca, Manager, Network Development

FINDINGS

Enrollee Rights and Protections

Community Care Plus Member and Provider Services staff exhibited an understanding of the requirements of the regulations concerning members' rights and responsibilities. They actively attempted to engage all new members, to distribute member information material, and to participate in community-sponsored events that were of interest to members. These staff were aware of and encouraged the use of interpreter services and TTD lines for members who did not speak English or had a physical disability. The Member Services staff were enthusiastic about their role in assisting their members in receiving the healthcare services they needed.

Ratings for compliance (15.4%) with regulations concerning Enrollee Rights and Protections were the result of a failure to develop and submit MC+ Managed Care Program required policy and procedures. When questioned about a number of policies relating to member rights, the MCO responded that these policies were "under development." One policy shared was on the topic of Fraud and Abuse. It appeared to meet all of the requirements of the regulation and MC+ Medicaid Managed Care contract. The policy was well written and appeared to be thorough. This policy had not been sent through the MCO internal review process and had never been submitted to the SMA for their review and approval. The MCO did share their "Policy Tracking Log" to validate that an organizational method existed for informing staff about the need to develop, review, and submit policy. It did not appear that the MCO utilized this tool effectively as no dates were recorded in this document. Another area of concern was that this MCO had changed locations in November 2004. At the time of the on-site review all MCO specific documents, including brochures that were given to members and prospective members, and distributed at sites such as county Family Support

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and Children's Division offices, included the previous address and telephone number. MCO staff could not verify if updated materials had been printed or distributed.

Quality Assessment and Performance Improvement

Access Standards

Community Care Plus had an adequate provider network. The Provider Services staff maintained strong working relationships with providers to assist with problem solving. The MCO believed that these relationship building efforts assisted in preserving their network. The Provider and Member Services sections of the MCO worked together to ensure that members received timely appointments, PCPs that best met their needs, and access to specialists. They assisted members and worked directly with providers so that the best healthcare was available.

Ratings for compliance with Access Standards (23.5%) reflected responses from staff that were vague and policy that was not complete. Staff and policy were not clear about the use of specialists as a PCP in the situations specified in the regulations. Other problems regarding access to care revolved around undeveloped, incomplete, and unapproved policy. No approved policy was in place regarding prior authorizations, which was an essential component of managed care. The policy had been submitted to the SMA, but was returned for revisions in July 2004. No further action to obtain policy approval was observed. Policy surrounding members obtaining emergency and post-stabilization services did not meet requirements. It appeared the MCO required prior authorization for some types of services, even in an emergency, if a member used an out-of-network facility. One of the ten (10) counties in this MC+ Region was not included in information regarding obtaining emergency services and there were no in-network emergency service facilities listed in the Member Handbook. This county had two hospitals, but neither was included in the list of facilities where members could obtain emergency room services. Undeveloped and conflicting policy and member information could create confusion for members and providers.

Structure and Operation Standards

Ratings for compliance with Structure and Operation Standards regulations (40%) reflect the need for policy and procedures. Practice that could be determined through the interview process appeared to be in place. All outstanding issues concerned submission of completed policy. With the submission of required policies this section of regulations will be in compliance.

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Measurement and Improvement

An area of marked improvement for the MCO was the adoption, dissemination and application of clinical practice guidelines. The MCO recognized guidelines established by professional organizations pertaining to prenatal care and asthma. Community Care Plus has joined Medical Directors from other MC+ MCOs in the adoption of these standards. The MCO encouraged the use of clinical guidelines by providers. During interviews the Provider Relations staff denied knowledge of this practice. They would benefit from training in this area.

The Medical Director discussed his proactive involvement in peer-to-peer contacts when there was a problem or question regarding medical necessity or denial of requested authorizations. The MCO developed a system of applying InterQual standards in utilization review, and applied nationally accepted clinical guidelines in medical decision-making. The MCO had not developed or implemented an actual definition of medical necessity. This policy was required.

Ratings for compliance with Measurement and Improvement (18.2%) reflect a number of problems including lack of required policy, an inability to provide adequate data, and a lack of understanding by staff of requests for technical information. Community Care Plus exhibited a number of problems in the area of Measurement and Improvement throughout the EQR. Understanding the parameters of requested information and data was a pervasive problem. This lack of understanding and lack of internal organizational communication led to problems in providing required information for validating performance measures and validating encounter data. In several cases the EQRO attempted to provide technical assistance to ensure proper data submission, but this had little positive impact on the outcome. Community Care Plus did not have complete policy regarding these regulations, which created additional barriers to compliance with their MC+ Medicaid Managed Care contract and the federal regulations.

Grievance Systems

Community Care Plus was operating a grievance and appeal system as required. Both grievance and appeal files were reviewed. The MCO appeared to initiate and complete this process within required timeframes. The decision-making observed in the files reviewed indicated that grievances and appeals were researched thoroughly, and decisions were made with regard to the member's well-being as a primary concern.

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The ratings for Grievance Systems regulations (50%) indicated lack of complete or approved MCO policy. The areas of deficiency included lack of approved notifications for members, and the admission by Community Care Plus staff that this policy was still "under development." Policy reviewed on-site continued to refer to the "Complaint, Grievance, and Appeal" process. The MCO staff admitted that this policy was out-of-date and that new policy was not completed.

Policy and Procedures

Written policy and procedures were a serious problem area for the MCO. Numerous examples of contradictory or inaccurate information were found.

1. In the Member Handbook, approved by the SMA in January 2005, there is a statement "The following page contains a list of hospitals where you can get ER services." There is no clarification with this statement about going to the nearest hospital or emergency room. The listing did not contain one hospital for the geographically largest county in the region. The county was not included in the listing. One hospital that was listed in St. Louis County was Ranken Jordan Pediatric Rehabilitation Center. This facility had recently received hospital accreditation, but did not have Emergency Room services. The facility only provided rehabilitation, transition, and care services for seriously involved pediatric patients. The address and phone number listed for Ranken Jordan was incorrect as the facility moved in the fall of 2004.
2. On page 3 of the Policy and Procedure Manual there was a list of non-precertification services and procedures. The list did not include all exemptions required by the MC+ Medicaid Managed Care Contract (e.g. emergency services). A sentence following the list states, "…precertification is required for anything not listed on the non-precertification list."
3. The signature page for the Policy and Procedure Manual was dated 2002. Individual policies, if signed and dated, showed signatures and dates from 2000 and 2001.
4. There was no policy covering the comprehensive benefit package.
5. The Prior Authorization Policy was dated March 2002. This policy had been submitted to the SMA and was returned for revisions. No further action was observed.
6. It was noted that the Denials and Appeals Policy was to be resubmitted to the SMA for approval, but this had not occurred.
7. Policies regarding transfer and transition of care were outdated. These were to be resubmitted to the SMA for approval, but this had not occurred.
8. The Subcontractor Oversight Policy was dated September 2002.
9. Fraud and Abuse policy was shared. It was clearly written, thorough, and concise. It appeared to include all required language. The policy had not been approved internally, nor was it submitted to the SMA for final approval.

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Summary and Follow-up

Behavioral Health

Community Care Plus made a transition in behavioral health contractors from Magellan to Unity Mental Managed Health (UMMH) in January 1, 2004. A smooth transition was effected through use of the MCO NovaSys information system. High risk members and hospital discharges were identified and followed. Claims data was utilized to identify Magellan providers. Behavioral health services were continued using out-of-network providers until new contracts were negotiated or a therapeutic transition to in-network providers could be achieved. Ninety-five percent of the Magellan providers were retained in the UMMH network. The contract with UMMH resolved a number of issues in the area of behavioral health services.

A follow-up issue involved improving the number of mental health appointments members attended. The BHO expressed the belief that keeping appointments was related to the relationship developed with the provider. Therefore, UMMH utilized Medicaid dedicated providers as often as possible. Case managers contacted members to remind them of appointments. In-home services were scheduled with members who chronically missed appointments due to transportation problems or an unwillingness to participate in therapy. Home visits appeared to have been instrumental in reducing the number of hospital admissions in 2004. In the first quarter of 2004 there was a noteworthy upward spike in in-patient readmissions. In-home treatment and additional case manager follow-up brought this number down throughout the rest of the calendar year.

UMMH added nurse practitioners as physician extenders to the provider network in an effort to address the shortage of child psychiatrists. Use of traveling psychiatrists and in-home services also supplemented the UMMH network in rural areas.

UMMH developed a "Clinical Guide for Major Depression" based on national clinical guidelines. The BHO included variables in treatment based on the population served and locally accepted practices. UMMH also developed clinical guidelines for ADHD based on a combination of local variables and national guidelines entitled UMMH Attention Deficit Disorders – Best Practice Screening and Treatment Protocol. This protocol was based on American Academy of Pediatrics: ADHD Practice Guidelines, and Children and Adults with ADHD (CHADD) guidelines. The protocol included ADHD Medication Guidelines.

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UMMH initiated a pregnant women study focusing on prenatal, pre-delivery, and post partum depression. Eight-two percent of the women in the study had been identified by Community Care Plus case managers as members who needed mental health services. There was good communication between UMMH and Community Care Plus case managers for coordination of care including outreach and referral.

UMMH used the data they collected to inform their system on trends, utilization rates, survey results, and service outcomes. They used the reports produced to provide analysis and to create quality improvement actions.

Low Birth-Weight Babies Report

Community Care Plus developed a report in an attempt to utilize available data regarding the incidence and cause of low birth-weights. The report developed collected data to provide information on the number of low birth-weight infants born during 2004. The story these numbers told was difficult to discern. It was unclear what questions the data attempted to answer or how the gathered data was analyzed. How this information was evaluated to make recommendations for program development or enhancement remained vague.

EPSDT and Lead Poisoning Education

A number of recommendations or observations regarding areas for improvement were identified for the EPSDT program. Community Care Plus provider relations staff reported that they continued to provide education to PCPs, particularly general practitioners, family practitioners, and pediatricians, on the importance of completing EPSDT examinations and reporting on the outcomes. Community Care Plus completed an audit and was able to report significant improvement in reporting. They expressed a continued commitment to improving the completion and accurate reporting of EPSDT examinations.

Community Care Plus's Utilization Management department continued to track reported elevated lead levels. Case managers tracked individual cases and monitored ongoing progress. It was unclear if the MCO intended to develop a performance improvement project based on this data.

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New Member Contacts

Community Care Plus staff continued to make attempted contacts by telephone, as well as mailing packets to new members. The MCO used any call or contact from members to ensure that they had correct contact information in their system. If these calls were first contacts they used them to educate members on plan benefits. It was not clear if the MCO had developed a "shadow system" for retaining separate member contact information. The Member Services staff considered the issue of maintaining accurate member contact information a problem.

STRENGTHS

1. The behavioral health organization (BHO) serving Community Care Plus members was Unity Managed Mental Health (UMMH). These two organizations developed a strong partnership working specifically to the needs of the MCO's members. UMMH defined best practices and clinical guidelines for two issues with which Community Care Plus members struggle. These guidelines addressed depression management and ADHD. UMMH made a practice of approving and using in-home therapy to meet the needs of the member population. They used this service in rural areas when members needed transportation. They also authorized in-home treatment when members (adolescents for example) did not adhere to treatment plans by attending office-based sessions. Their focus was on providing service to the member.
2. The provider relations section of Community Care Plus focused on being available to the provider to answer questions, to assist in problem solving, and to ensure that providers served members according to state and federal requirements. Provider Relations field staff that visited offices frequently. The field staff also did network development to ensure that access standards were met. They reviewed appointment calendars and performed other spot checks to learn if provider offices were meeting their contractual obligations. The Provider Services department exhibited an understanding and commitment to ensuring that members' rights were met and protected.
3. Throughout interviews with Community Care Plus staff, it was obvious that each section was aware of their integral part in providing effective and efficient services to MCO members. Even though specific sections of the organization had their own assignments, they were all aware of their role in providing member services as their ultimate goal. Individuals within the organization exhibited an understanding of MCO's goal of providing good member services. The staff was aware of the influence their actions had on the organization and its members.
4. Community Care Plus staff understood the importance of continually assessing their members' needs and using this information to improve their product.

AREAS FOR IMPROVEMENT

1. Work with DHSS to obtain data downloads from MOHSAIC to enable the MCO to obtain data on its member immunizations. A contact name was provided to Community Care Plus during the site visit in 2004 and was requested again in 2005. MCO follow-up was needed.

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2. It appeared that Community Care Plus did not always effectively use its resources to complete documentation of their practice and submit necessary policy to the SMA within required timeframes. Many of the positive practices that occurred at Community Care Plus were lost, as these practices were not reflected in current policy or procedure.
3. Community Care Plus did not have medical necessity defined in their policy. Community Care Plus staff was able to discuss how they define medical necessity in practice, and how they use InterQual criteria and standards. However, they did not have these practices documented in policy as required.
4. The grievance and appeal process as reflected in the Member Handbook complied with MC+ Managed Care standards. However, the policy seen on-site continued to reflect the "Complaint, Grievance, and Appeal" process and was not up-to-date. Community Care Plus staff shared that continued enhancement of this written policy and practice was occurring, but documentation was not complete.
5. Written materials shared for the on-site review contained Community Care Plus's prior address and telephone number. It was not clear if current documents available to the public, such as those placed in local Family Support or Children's Division offices had been updated. Brochures and other information encouraging members or potential members to contact Community Care Plus should contain correct contact information.

RECOMMENDATIONS

1. Raise the importance of complying with documentation requirements to the same standards as those reflected in the daily practice within the MCO. The MCO must give attention to the details of developing clear and complete policy and procedures. On-site interviews provided evidence that staff had substantive working knowledge of the MC+ Managed Care Program requirements and the federal regulations regarding providing services to members. A systematic method for review and approval of policy should be developed. The MCO must demonstrate that it can put its knowledge of both MC+ Managed Care Program and federal requirements into writing to ensure consistent compliance with regulations.
2. Continued MCO development in the area of utilizing available data and member information to drive change and create opportunities for organizational growth and development.
3. Continued partnership with UMMH to ensure that communication between behavioral health and PCPs is strengthened. Look at UMMH program improvement projects, and trend development reports. Utilize available data as a model to replicate these efforts throughout the MCO.
4. Complete the development and implementation of written policy regarding medical necessity. Continue to develop a process for monitoring provider adherence to clinical guidelines and the introduction of findings into a system for provider profiling. Provide training and information involving Provider Relations staff. Include this staff in the dissemination of clinical guidelines to providers.
5. Accurately articulate the questions to be answered, or the study problems at the beginning of a project. State this information in written reports. Develop and state a hypothesis about the issue or problem being studied. Create narrative information to make the data and accompanying charts and graphs understandable.

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6. A written plan of action is needed to create a methodology for attacking the problem of EPSDT performance and identifying members with elevated lead levels. Include current screening rates, educational input, and tracking on screenings reported. An analysis about the origin of the problem could include questions that clarify if screenings occur, and if so, are they reported. This information would compliment quality improvement activities for both elevated lead levels and EPSDT. A plan of action should also contain a system for validation of EPSDT claims submitted by providers. Use and track information gathered by contacts or attempted contacts, by telephone and mail, to provide data that can inform the system, and assist in quality improvement efforts. Information gathered should be retained in a "shadow system" to ensure its capture.

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MERCY HEALTH PLAN

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Document Review

Mercy Health Plan supplied the following documentation for review prior to the site visit:
NCQA Quality Improvement Activity Form: Improve the Health Outcomes of Babies Born to Missouri Medicaid High Risk Pregnant Mothers
NCQA Quality Improvement Activity Form: Improving the Quality-of-life of Members Living with Asthma

Additional documentation for each of the two projects validated was reviewed on-site, including but not limited to:

- Charter
- Policies and procedures
- Methods
- Care plan
- Assessment tools
- Surveys
- Training tools
- Interviews

Project Leaders, participants, and the Medical Director were interviewed on-site by the EQRO Project Director on Wednesday, March 2, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. The following questions were addressed for specific performance improvement projects on-site:

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Improving Quality of Life of Members Living with Asthma

- What is MCD?
- What is the analysis plan?
- It appears as though the intervention is to identify and stratify. How well was this implemented?
- How is quality of life and improved health measured through encounter/claims data?
- It appears that quality of life is being defined as inpatient admissions and ER visits. How is improved health being measured?
- Health visits were mentioned as a rationale for conducting the study. Was this measured?
- How is the Use of Appropriate Medications helping to identify the effectiveness of the identification and stratification process?
- How were members identified? Stratified? Based on what criteria?

High-Risk Pregnancy

- What is the purpose of following the infant hospital length of stay, and the APGAR scores?
- What is being done with these data?
- What was the difference between "identified" and "risk stratified"?
- How effective was the identification and stratification?
- What was the re-measurement rate for 2004 on the number identified? What were the barriers to identification?
- Why was Tier 1 discontinued?
- The High Risk Pregnancy program policy and procedure for stratification of pregnant Medicaid members into level of risk was referenced, but not included.

FINDINGS

The first PIP evaluated was "Improving Quality of life of Members Living with Asthma". As stated in the narrative, "the project was designed to impact the health and quality of life of Mercy Health Plan members living with asthma." There was an excellent review of the literature to develop the rationale for the topic and select the most appropriate interventions. The goal of the project was to improve quality of life and health care outcomes. The intervention involved the identification and stratification of members to various levels of intensity of care based on the intensity of their needs. All MC+ Members had equal chances of being included in the study and intervention for identification, needs assessment, and assignment to various disease management interventions. Although there was no study question in the quality improvement activity form used for documenting this PIP, the study question was clarified on the site visit documentation and interviews to be, "Does the identification and stratification of MC+ members with asthma into various levels of intervention lead to improved health outcomes and quality of life?"

Indicators included the HEDIS Use of Appropriate Medications for People with Asthma measure, the number of inpatient admissions per 1,000 members, and the number of emergency department visits per 1,000 members. There was a good presentation of methods of calculating measures and the benchmarks used for comparison. There were references to HEDIS measures, but the denominator definitions were not consistent with HEDIS technical specifications. The continuous

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eligibility criteria were not used so as not to exclude members from the intervention, which is acceptable and preferable, as it does not exclude members who may benefit from an intervention based solely on measurement criteria. Eligibility criteria were very well specified and defined in additional documentation provided on-site.

The role of the routine healthcare visits measure mentioned in the rationale for the study was unclear, but may be used as a measure of accessibility. There were no long-term outcomes indicated, but the connection between the measures of process and outcomes was able to be determined. It is possible that ER and inpatient utilization were considered measures of quality of life. Additional functional measures such as activity limitation for those in various disease management groups would be excellent additional measures for this study.

Demographic information of participants was not described and it was unclear whether MC+ Members only were part of the study. From the study rationale and the data table, it was ascertained that MC+ members were participating in the study. However, demographic description of the study population should not be assumed and should be fully described in the narrative. Additional documentation provided on-site indicated that the MC+ members and commercial populations were examined separately, so that the findings of the study pertained only to MC+ members. The data collection approach appeared to capture all enrollees to whom the study question applied. Participants were identified through emergency department, hospital, PCP utilization, and pharmacy claims data. The study included all members meeting the study criteria.

Stratification of analyses by level of need (none, low, moderate, high) could be useful in comparing groups on outcomes at baseline and over time. Although it was possible to determine the source of some of the data, this should be more clearly stated in the Quality Improvement Activity (QIA) Form. Data collection procedures were not specifically described and should be specified. Some of the measures (HEDIS) were calculated using methods with established reliability and validity. However, the available information did not provide reliability validity information for some of the measures. There was no data analysis plan identified in the narrative. Planned data analyses should attempt to identify the significance of changes since baseline. Since the project was underway, there were no analyses of findings.

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This study has moderate potential for producing credible findings. Some minor modifications in data analysis would result in highly credible findings that could be used on a continuous basis for improvement in functional outcomes and quality of life. The QIA Form provided limited information about the entirety of the quality improvement and PIP that was implemented. However, it was clear upon interviews and site visit documentation that this is an active and viable PIP with potential for identifying real improvement and evaluating the success of interventions over time.

The second PIP evaluated was, "High Risk Pregnancy." "The purpose of the study is to evaluate changes in operations that would lead to increased identification of pregnant Medicaid members for risk stratification and placement in the High Risk Pregnancy Program." The rationale was that the timely identification of pregnant members at risk can prevent negative health outcomes and improve birth outcomes (e.g., estimated gestational age, birthweight, newborn length of stay, and APGAR scores) for children. Low birthweight (LBW) and gestational age were linked to infant mortality in the background discussion. There was no study question stated, but it could have been, "Does the identification and stratification of pregnant MC+ members into a 3-tiered model of prenatal care case management improve the pre- and post-natal outcomes of MC+ members?"

No information about the participants included in study was presented in the narrative. From the topic of this project it can be inferred that only women participated in the study. Details need to be included in the narrative regarding demographics of study population. It appeared as though all MC+ members were targeted for the intervention and had equal chances of being included in the intervention and study. Sampling was not used. All pregnant members had equal chances of being screened and selected for the intervention. It is not entirely clear how study participants were being identified or recruited. This is important, as one of the key indicators of the implementation of the intervention is the number that was identified for the prenatal care program.

A very thorough description of measures and methods of calculation was presented in the narrative. Measures and methods of their calculations were very well summarized and explained. They were relevant to the stated purpose, although the APGAR scores are not likely to be impacted by the intervention. There were several sources of data identified on the Quality Improvement Activity form, but there was no association of the source of the data with the measure. It is necessary to link the source with each measure if there is more than one source of data. It appears that Mercy Health Plan has done re-measurement of indicators specified in the study, and they plan to continue

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this project in the future. Given that the intervention (identification and stratification) was applied to the entire population of eligible (pregnant) members, the entire population should be included in the outcome measures.

Risk stratifications were well defined and incorporated medical judgment. There was a risk assessment form shown, but no instructions for use or implementation. The use of a standard form is important for standardizing data collection and should be continued. No data analysis plan was identified in the narrative.

It is unclear how the barriers were identified, however Mercy Health Plan staff seemed to develop a reasonable interventions to address the barriers encountered. There should be an explanation for the reason for discontinuing the Tier 1 intervention rather than a list of barriers alone. The main intervention stated in the purpose and the hypothesis was identification and stratification. The study narrative will need to address and consider the low rate of identification of members (36% relative to the stated goal of 85%). If the intervention is not being effectively implemented, there will not be strong enough findings to conclude that it is effective even if it truly is effective. On-site discussion revealed that there were issues with implementation that were appropriately being addressed for the next cycle.

This project has moderate potential for producing credible findings with minor modifications in the outcome measures and improvement in the implementation of the intervention (identification and stratification). There was a very good presentation of study rationale and description of measures calculation. When conducting the re-measurement, it is recommended that Mercy Health Plan calculate the outcome measures (three through seven) using the entire population of MC+ eligible members, recalculate the baseline using the same definition, and conduct statistical analyses for comparison. There may not yet be statistically significant improvement, but continue to refine the intervention to improve the rate of reaching members (36%) each year. Explain the data analysis plan and limitations of the findings given the success of implementing the intervention, and provide a rationale for the discontinuation for the Tier 1intervention and any implications on the findings.

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STRENGTHS

1. Performance improvement projects were designed as long-term, continuous programs of quality improvement designed to identify large groups of members early, identify their needs, determine barriers to access, and test the effectiveness of specific disease management programs. Mercy Health Plan's implementation of performance improvement projects exemplifies continuous quality improvement programming. The PIPS underway during 2004 have the potential for identifying Best Practice for MC+ Member Care. Findings of effectiveness of the PIPs will likely produce Best Practices for widespread application for MC+ Members.
2. Study topics were well defined. Literature reviews were well summarized to define the problem and study topic, and were used to identify appropriate interventions to be implemented by the MCO.
3. The study rationales were supported by literature reviews and baseline data.
4. Interventions were appropriate and were likely to account for change in most of the measured outcomes.
5. Relevant measures were identified for change.
6. Specific criteria were used for identification and stratification of members into disease management programs. These criteria were developed in collaboration with the Medical Director and staff, using clear operational definitions for interventions at various levels of need as well as allowing for clinical judgment and practitioner input into levels of risk assignment.
7. Medical expertise was incorporated from the Medical Director and provider network practitioners.

AREAS FOR IMPROVEMENT

1. Re-measurement and presentation of findings could be improved.
2. Documentation of measures of the implementation (process measures) is important. There was good discussion of the issues with implementation and Mercy Health Plan staff understand the need to include implementation measure as well as improve implementation before evaluating the effectiveness of the intervention.

RECOMMENDATIONS

1. For the asthma PIP, analyze data on the entire population rather than high risk members only.
2. Compare pre- and post-intervention data using the entire population eligible for identification, regardless of the risk group. Stratification of analyses can then be conducted for pre- post-intervention analyses within groups (no, low, moderate, and high risk).
3. Continue using state data as comparison, as this is the most proximal (most comparable to the same population being evaluated) level of data available.
4. Continue to document the success of the implementation of the intervention through the incorporation of functional measures and member feedback.

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5. Include tests of statistical significance to compare pre- and post-intervention changes. Chi-square analyses and upper and lower confidence intervals could readily be calculated using the available data.
6. When submitting PIPs for EQRO, submit the following sections: Charter, policies and procedures, methods, care plan, assessment tools, surveys, QIA form, and training tools.

Validation Of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Mercy Health Plan. Mercy Health Plan submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by Mercy Health Plan
- The Baseline Assessment Tool (BAT) submitted by Mercy Health Plan
- Healthcare Research Associates' (HRA) HEDIS Compliance Audit Report for 2004
- Mercy Health Plans Information Systems (IS) policies and procedures pertaining to HEDIS 2004 rate calculation
- Mercy Health Plans IS policies on disaster recovery
- CRMS & HEDIS project plan
- NCQA HEDIS software certification report
- Medical record review process flowchart
- CareEnhance Resource Management System (CRMS) data warehouse and Health Plan Reporter (HPR) Manual

The following are the data files submitted by Mercy Health Plan for review by the EQRO:

- Adollmms Denominator.txt
- Final_Adolescent_Imm_Denomiator_File.txt
- Final_Adolescent_Imm_Numerator_File.txt
- Final_Asthma_Denomiator_File.txt
- Final_Asthma_Numerator_File.txt
- Final_Well_Care_Denomiator_File.txt
- Final_Well_Care_Numerator_File.txt
- MC File Specification.doc

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Interviews

The EQRO conducted a site visit and interviews at Mercy Health Plan with Patricia Snodgrass, Charles McLaughlin, Corey Waters and Dave Reisinger on Wednesday, March 2nd, 2005. This group was responsible for calculating the HEDIS 2004 performance measures. The objective of the visit was to verify the methods and processes behind the calculation of the three HEDIS performance measures. The information systems (IS) management policies and procedures for rate calculation were evaluated consistent with the CMS Final Protocol for the Validating Performance Measures. This included both manual and automatic processes of information collection, storing, analyzing and reporting.

FINDINGS

Mercy Health Plan calculated the Adolescent Immunization Status, Combination #1 and the Adolescent Well-Care Visits measures using the Hybrid Method. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

The rate for the HEDIS 2004 Adolescent Immunization Status, Combination #1 reported to the SMA and the State Public Health Agency (SPHA) by Mercy Health Plan was 19.22%. This was comparable to the statewide rate for all MC+ MCOs (14.36%; z = -.37; 95% CI: 4.36%, 34.08%; n.s.).

The rate for Mercy Health Plan for the HEDIS 2004 Adolescent Well-Care Visits measure was 24.82%, which was significantly lower than the statewide rate for all MC+ MCOs (30.13%; z = -.62, 95% CI: 19.94%, 29.70%; $p < .01$). The 2004 HEDIS rate for Mercy Health Plan for the Use of Appropriate Medications for People with Asthma was 60.63%, which was comparable to the statewide rate for MC+ MCOs (63.92%, z = -.30; 95% CI: 56.99%, 64.27%; n.s.).

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The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

For all three measures, Mercy Health Plan was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which Mercy Health Plan transferred data into the repository used for calculating the HEDIS 2004 measures.

Documentation of Data and Processes

Mercy Health Plan used NCQA-certified software from McKesson Inc, for the sampling and calculation of HEDIS measures. The EQRO was provided with a demonstration of the Health Plan Reporter (HPR), the application module for rate calculation, along with the CareEnhance Resource Management System (CRMS) data warehouse. Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). Mercy Health Plan met all criteria that applied for all three measures. The two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by the Mercy Health Plan to assess the significance of change related to quality improvement activities and operational changes. The use of NCQA-certified calculation software is considered adequate for calculating the rates.

Processes Used to Produce Denominators

Mercy Health Plan met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of members eligible for the services being measured. The denominator file for the

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Adolescent Immunization Status measure contained a total of 411 members. These members represented the sample drawn from the eligible population. No files were provided containing the eligible population. There were no members represented more than once. The dates of birth and enrollment were valid.

For the Adolescent Well-Care Visits measure, the denominator file contained a total of 411 and there were no duplicate entries. The dates of birth and enrollment were within the valid ranges.

For the Use of Appropriate Medications for People with Asthma measure, there were a total of 447 eligible members. There were no duplicate members included. The dates of birth and enrollment were in the valid ranges. There were a total of 1,836 events that were mapped by ICD-9, CPT, GCN and Revenue Codes.

Processes Used to Produce Numerators

Data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria were reviewed in the files submitted by Mercy Health Plan (see Attachment XIII: Numerator Validation Findings). Medical record reviews were conducted for the Adolescent Immunization Status and Adolescent Well-Care Visit measures.

For the HEDIS 2004 Adolescent Immunization Status Combination #1 measure, Mercy Health Plan appropriately included administrative events from the State Public Health Immunization Registry (MOHSAIC). Mercy Health Plan submitted data files for the Combination #2 Measure and attempts were made to validate the Combination #1 measure using this file (which is included in the Combination #2 measure). A total of 28 unique members were validated in the file, consistent with that reported on the DST for the Adolescent Immunization Status Combination #2 Measure. Two (2) administrative hits were validated for the Combination # 1 measure. The dates of birth and dates of service were within the valid ranges. There were 62 numerator hits by medical records reported. The EQRO sampled 27 of the records for validation. The maximum of 30 was not requested, as it was initially assumed the file represented the Combination #1 measure. Given that files relating to the Combination #2 measure were submitted, there were only 27 numerator hits by medical records reported so the MCO was requested to send all the medical record hits. Nearly all (26 of 27) of the medical records requested were received for review, and 24 of them were validated by the EQRO. Two records met the criteria for two MMRs by the member's 13th

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birthday, but not the criteria for three Hepatitis B vaccinations. The rate calculated by the EQRO based on validated administrative and hybrid hits was 13.87%, an overestimate of approximately 5.35%. However, it was learned during the on-site interviews that not all medical records for members not meeting numerator criteria were requested for review. Mercy Health Plan systematically excluded 211 of 394 members from the Adolescent Immunization Status measure medical record review by not requesting medical records for members who had no claim in the past three years. The total estimated bias as a result of not following the HEDIS 2004 Technical Specifications is difficult to determine.

For the HEDIS 2004 Adolescent Well-Care Visits measure, Mercy Health Plan reported 87 administrative hits and 15 hybrid hits. In the files submitted, one hybrid hit had a date of service of 7/26/2002 and was not considered valid for this measure. The medical event codes for administrative hits were within valid parameters. The EQRO requested all medical records reported as hits from the medical record review (15). Fourteen (14) of the 15 measures were received for review, and 4 were validated. When examining the criteria for a complete well-care visit, it was found that 6 of the 14 records reviewed showed evidence of a medical history; 6 showed evidence of anticipatory guidance, and 12 showed evidence of a physical examination. Four records met all three criteria to be counted in the numerator. The rate calculated by the EQRO based on validated administrative and medical record hits was 22.14%. This results in an estimated bias of 2.68% overestimate by Mercy Health Plan. However, the systematic exclusion of 181 of 324 medical records from the medical record review process makes it difficult to accurately estimate the real bias.

The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was the third measure validated. There were a total of unique 271 numerator hits reported and validated. There were a total of 1,780 events that were captured for all members. The dates of birth, enrollment and services were within the valid ranges. The final rate calculated by the EQRO was 60.63%, with no observed bias.

Sampling Procedures for Hybrid Methods

The Hybrid Method was used for the Adolescent Immunization Status and the Adolescent Well-Care Visits measures. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings were completed for each of these measures. There were no

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replacements, contraindications, or exclusions reported by the MCO. All criteria for sampling were met for the two measures, except the criteria relating to following specifications regarding the treatment of sample exclusions. This rating was based on the exclusion of eligible members from the samples.

Submission of Measures to the State

Mercy Health Plan submitted the DST for each of the three measures validated to the SPHA, the (Missouri Department of Health and Senior Services; DHSS) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy.

Determination of Validation Findings and Calculation of Bias

Table 1 shows a summary of the estimated bias in the rates calculated by Mercy Health Plan. Both the Adolescent Immunization, Combination #1 and Adolescent Well-Care Visits measures were overestimated, but were within the 95% confidence interval for the rates reported by the MCO. The direction and magnitude of total bias, taking into account the systematic exclusion of eligible members from the record review is difficult to estimate and unknown.

Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures.

Measure	Estimate of Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	5.35% or more	Difficult to determine
Adolescent Well-Care Visits	2.68% or more	Difficult to determine
Use of Appropriate Medication for People with Asthma	0.00%	None

Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure (See Table 2). Although the overestimates found on calculation of the Adolescent Immunization Status, Combination #1 and the Adolescent Well-Care Visits measures were within the 95% confidence interval reported by the MCO, the methods for calculating the measures using the Hybrid Method did not follow the HEDIS 2004 Technical Specifications by systematically excluding medical records from the review process. As such, they were determined to be Not Valid. The Use of Appropriate Medications for People with Asthma measure was Fully Compliant and valid.

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Table 2. Final Audit Rating for HEDIS 2004 Performance Measures.

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Not Valid
Adolescent Well-Care Visits	Not Valid
Use of Appropriate Medication for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by the MCO. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

STRENGTHS

1. Mercy Health Plan was fully compliant with the specifications for the Use of Appropriate Medications for People with Asthma Measure.
2. Mercy Health Plan used NCQA-certified HEDIS software, CRMS/HPR of McKesson Inc. Most of the data for HEDIS measures are stored in the CRMS warehouse from which HPR is used to automatically calculate rates. There were clearly defined data fields within the application and it automatically feeds the rates as required by the State into the HEDIS Data Submission Tool.
3. Numerous validation checks in the reporting process, both manual and automatic within the software system were conducted. There were sufficient edit checks for data entry. This helps in minimizing errors.
4. There were well-documented policies and procedures for the HEDIS rate calculation measures.
5. There was food data integration, retrieval and analysis processes in place. This facilitates efficient collection of data from claims, credentialing provider, pharmacy, lab, utilization, ophthalmic and dental data sources. The State Public Health Immunization Registry (MOHSAIC) was used for collection of immunization data which are well-integrated into the system.
6. There was a focused software development and technical analysis group for data collection, programming and analysis.

AREAS FOR IMPROVEMENT

1. Mercy Health Plan systematically excluded 211 of 394 members from the HEDIS 2004 Adolescent Immunization Status measure and 181 of 324 members from the HEDIS 2004 Adolescent Well-Care Visits measure from the medical record review for the Hybrid Method by not requesting medical records for members who did not have a claim in the past three years. This is not consistent with HEDIS methodology.
2. There is an opportunity for better understanding the mechanisms and output results of the CRMS/HPR system. There is a need for better ownership and control over the application processes.
3. Data analysis should incorporate tests of statistical significance to assess whether the observed changes in rates are related to a specific intervention.

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RECOMMENDATIONS

1. Calculate HEDIS performance measures using the Hybrid Method according to HEDIS technical specifications or use the Administrative Method for calculation. For the Adolescent Immunization Status measure, the Hybrid Method is strongly recommended.
2. Improve the collection of medical records from providers by stipulating or reinforcing policies and procedures referring to medical records storing, archiving and retrieval.
3. Conduct statistical comparisons on rates from year to year.
4. Improve ownership and control by responsible managers of the application to have a better understanding of query structures. There is a need for the Mercy Health Plan to have a better understanding of the CRMS/HPR system and how this relates to the HEDIS calculation rates.
5.

Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical Fields?

For the Medical Claim type, there were a total of 83,489 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate, and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate, and valid.
3. The Outpatient First Date of Service field was 100.00% complete and accurate, and 99.46% valid. There were 455 invalid dates of service ranging from 12/23/2002-12/31/2003.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, 99.00% valid. There were 854 invalid dates of service ranging from 4/01/2004-8/21/2004.
5. The Outpatient Units of Service field was 100.00% complete, 99.19% accurate, and 99.19% valid. There were 679 invalid entries of "00000."
6. The Outpatient Procedure Code field was 100% complete and accurate, and 99.99% valid. Invalid procedure codes consisted of 5 "W0025", one "Y0025", and one "Y0029" entries.
7. The Outpatient Place of Service field was 100.00% complete, accurate, and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate, and valid.

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9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second through fifth Diagnosis Code fields were 0.00% complete, accurate, and valid.

For the Dental claim type, there were a total of 11,273 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate, and valid.

For the Home Health claim type, there were no encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

For the Inpatient claim type, there were a total of 18,731 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate, and valid.
2. The Recipient ID field was 100.00% complete, accurate, and valid.
3. The Admission Type field was 100.00% complete, accurate, and valid
4. The Admission Date field was 100.00% complete and accurate, and 95.56% valid.
5. There were 831 invalid dates ranging from 11/30/2003-12/31/2003.
6. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 99.07% (with 174 entries of "99999999". Valid values were present 96.07% of the time. In addition to the invalid "99999999" entries, 763 invalid dates ranged from 04/01/2004-07/29/2004.
7. The Bill Type field was 100.00% complete, accurate, and valid.
8. The Patient Status field was 100.00% complete, accurate, and valid.
9. The first Diagnosis Code field was 100.00% complete, accurate, and valid.
10. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (86.07%, 68.20%, 0.00%, and 0.00%, respectively).
11. The First Date of Service field was 100.00% complete and accurate, and 95.56% valid. There were 831 invalid dates of service ranging from 11/30/2003-12/31/2003.
12. The Last Date of Service field was 100.00% complete and accurate, and 95.57% valid. There were 829 invalid dates of service ranging from 04/01/2004-07/29/2004.
13. The Revenue Code field was 99.99% complete, accurate, and valid, with one blank field (incomplete, inaccurate, and invalid).
14. The Units of Service field was 100.00% complete and accurate, and 99.99% valid, with one blank field (incomplete, inaccurate, and invalid).

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For the Outpatient Hospital claim type, there were a total of 39,451 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.0% complete, accurate, and valid.
2. The Recipient ID field was 100.00% complete, accurate, and valid.
3. The First Date of Service field was 100.00% complete, accurate, and valid.
4. The Last Date of Service field was 100.00% complete, accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate, and valid.
6. The Revenue Code field was 100% complete, accurate, and valid.
7. The first Diagnosis Code field was 99.99% complete, accurate, and valid, with two blank fields (incomplete, inaccurate, and invalid).
8. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 53.39% complete, accurate, and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 24.48% complete, accurate, and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 0.00% complete, accurate, and valid.

For the Pharmacy claim type, there were a total of 72,404 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate, and valid.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for Mercy Health Plan, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. There were very few errors encountered in the critical fields examined across all claim types. For the Medical claim type, the Outpatient Units of Service and Procedure Code fields had invalid entries (see above findings); and the Inpatient claim type had invalid Admission and Discharge Date fields. There was one blank Revenue Code field in the Inpatient claim type and two bland Diagnosis code fields in the first Diagnosis Code field. The Units of Service field had one blank field.

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It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

To what Extent do the Claims in the State Encounter Claims Database reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State Encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms or claim histories for review. There were 64 medical records (64.0%) and 27 claim forms (27.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 49.0%, with a fault rate of 51.0%. The match rate for diagnoses was 49.0%, with a fault rate of 51.0%.

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing information (n = 87) or incorrect information (n = 4). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 56), or no match with the description of the symptoms based on the information in the medical record (n = 7). For the diagnosis code on the claim form, the reasons for diagnosis codes not matching the SMA extract file were missing or illegible information (n = 76), or possible data entry or recording error by the provider (n = 2). The reasons for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 54), and an incorrect code (n = 1).

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For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 4), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 2), incorrect codes (n = 7), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 1), illegible information (n = 3), and not enough information to code (n = 3). For the procedure code on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 75), or incorrect code (n = 1). For the procedure description on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 88), and incorrect descriptors (n = 1).

What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, Dental and Pharmacy claim types for Mercy Health Plan were consistent with the average for all MC+ MCOs. The Inpatient encounter claim type rate was significantly higher than the average for all MC+ MCOs, while the rates for Medical and Outpatient Hospital claim types were significantly lower than the average for all MC+ MCOs. This could indicate a possible access to care for preventive services that is related to a higher need for inpatient services; or may be associated with claims administration.

The findings from the performance measure analysis of the HEDIS 2004 Adolescent Well-Care Visits measure are consistent with the lower rates of Medical and Outpatient Hospital claim types. Mercy Health Plan identified significantly fewer administrative hits for the HEDIS 2004 Adolescent Well-Care Visits measure than the average for all MC+ MCOs, which again may be associated with claims submission or access to preventive care. Mercy Health Plan also identified a significantly lower rate of eligible members for the Use of Appropriate Medications for People with Asthma measure, which are identified through claims data.

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What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, Mercy Health Plan had difficulty submitting files in the requested file layouts for the encounter data validation and performance measure validation and processes. Files were requested in flat file (comma-delimited), machine-readable format, using the SMA layout in effect prior to October 2003 for the encounter data analysis. For the performance measure data submission, extract files for the HEDIS 2004 Adolescent Immunization Status, Combination #2 measure were provided rather than the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure. This limited the validation of the performance measure. There was no documentation associated with any of the files submitted. The following section summarizes the issues found when attempting to load files submitted for analysis.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

A letter from Liz Scott dated December 30, 2004 indicates submission of the following three files (including the provider file requested for the medical record review, which is not listed). There was no other documentation of the files, layouts, definitions, or type of claims submitted (e.g., paid, unpaid). There were no unpaid claims submitted for analysis.

1.	Dental.txt	22MB	Text Document	12/29/2004	1:17 PM
	This file was in NSF/CMS 1500 file layout and was able to be loaded.				
2.	MCDI1229	25 MB	File	12/29/2004	1:43 PM
	This file was not provided in the requested format, but was able to be opened as a text file and appeared to be in the UB-92 file layout. There was incomplete data for each record type, but all records shown were able to be loaded for analysis.				
3.	MCDP1229	129MB	File	12/29/2004	2:11 PM
	This file appeared to be in the NSF/CMS 1500 file layout. All records provided were able to be loaded for analysis using this layout.				

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STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields evaluated for the Dental and Pharmacy claim types were 100.00% complete, accurate, and valid.
3. Mercy Health Plan demonstrated a rate consistent with the average of all MC+ MCOs of validation of the SMA encounter claims extract file against the medical record for procedure codes and descriptions. Reasons for medical records not matching were primarily related to missing data or illegible information.

AREAS FOR IMPROVEMENT

1. The Outpatient Units of Service and Procedure Code fields in the SMA encounter claims extract file for the Medical claim type were 99.19% and 99.99% valid, with invalid entries.
2. For the Inpatient claim type, the Discharge Date field, Revenue Code field, and Units of Service fields were 96.07%, 99.99%, and 99.99% valid, respectively. The Revenue Code and Units of Service each contained one blank field.
3. Mercy Health Plan demonstrated a significantly lower rate than the average of all MC+ MCOs for validation of the SMA encounter claims extract file against the medical record for diagnosis codes and descriptions. Reasons for medical records not matching were primarily related to missing data or illegible information.

RECOMMENDATIONS

1. Examine and revise as needed internal system edits for invalid procedure codes in the NSF/CMS 1500 file layout and run validity checks after the programming of new edits, and ensure completion of Units of Service field.
2. Always include the Revenue Code regardless of the Procedure Code for the Outpatient Hospital and Inpatient claim types (UB-92 layout).
3. For the Inpatient claim type (UB-92 file layout), improve the rate of valid Discharge Dates to flag invalid entries of "99999999"and blank entries for the Units of Service field. Error checks for the Diagnosis Code field should also be conducted to ensure no blank fields.
4. It is recommended that Mercy Health Plan examine the possible reasons for the lower rates of outpatient services (Medical and Outpatient Hospital claim types) and the higher rates of inpatient services through a non-clinical performance improvement project aimed at analysis of encounter claim and utilization data as well as access to care indicators.
5. For audit purposes, submit extract files for performance measures and encounter data in the requested file layouts with the requested documentation of files.

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MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for Mercy Health Plan (Mercy Health Plan). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by Mercy Health Plan, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MCO, Mercy Health Plan was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Agreements
- Grievance and Appeal Policies
- Samples of both Grievances and Appeals related to member and providers

Additional documentation Mercy Health Plan included:

- MC+ Marketing Policy
- MC+ Marketing Plan
- Contract Policy Submittal Log
- Care Issues Report
- Grievance and Appeals Correspondence
- Authorization for Disclosure of PHI
- Enrollment Policy
- Emergency and Post Stabilization Care Policy

Unity Managed Mental Health supplied the following documents regarding their services to Mercy Health Plan members:

- Unity Managed Mental Health Depression Treatment Guidelines
- UMMH ADD Best Practices Screening/Treatment Protocol and Medication Guideline
- 2004, Quarter 4, Utilization Trend Report
- 2004 Readmission Report
- MC+ Most Frequent Diagnosis Report, Quarter 2, 2004
- 2004 4th Quarter Telephone Indicators Report
- 2004 Member Satisfaction Report
- 2004 Provider Satisfaction Report
- 2004 Provider Satisfaction Survey
- 2004 2nd Quarter Bipolar Disorder Analysis
- MC+ Pregnant Women Care Coordination Update

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- 2004 Network Adequacy Outcomes Report
- 2004 Provider Record Survey Results
- Member Transition and Care Policy

Interviews

The following individuals were interviewed on March 2, 2005 during the on-site review:

Plan Administration
Steve Mead, Product Manager, Medicaid
Dr. Deborah Zimmerman, Chief Medical Officer
Pat Snodgrass, Director, Performance Improvement

Quality Assurance
Steve Mead. Product Manager, Medicaid
Dr. Deborah Zimmerman, Chief Medical Officer
Liz Scott, Business Analyst

Member Services/Case Management/Utilization Management
Dr. Deborah Zimmerman, Chief Medical Officer
Anna Dmuchovsky, V.P., Health Resources
Susan Meiner, Director, Benefit Coordination
Donna Hauler, Manager, Member Services
Debbie Todd, Member Services
Cindy Johnson, Director, Care Coordination

Provider Services
Steve Mead, Product Manager, Medicaid
Ron Braun, Director, Provider Contracting
Steve Heinrich, Director, Provider Network Management
Sam Fenner, MC+ Administrator

Mental Health
Scott Frederick, PHD, Director, Managed Mental Health - UMMH
Marge Viehland, Manager, Utilization Management and Q.I. - UMMH
Cindy Johnson, Care Coordination
Liz Scott, Business Analyst

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FINDINGS

Enrollee Rights and Protections

Mercy Health Plan staff were aware of their responsibilities regarding member rights and protections. The MCO took pride in its innovative approaches to communicating and sharing information with members. The MCO considered itself a leader in providing translated written collateral materials, cultural outreach, and production of alternative format materials. The MCO Audio Member Guide was produced in four languages. All members received a CD version of their Member Handbook. The MCO used a TDD line and Missouri Relay services for the hearing impaired and worked with several contractors to provide interpreter services as needed by members. Member Services staff had a tenacious approach to contacting members to ensure that they had all the information needed to meet their healthcare needs. Provider Services considered member issues an essential component of their training curriculum, and retrained on member rights whenever a provider's staff changed.

Ratings for compliance (15.4%) with regulations concerning Enrollee Rights and Protections were the result of a failure to develop and submit MC+ Managed Care Program required policy and procedures, and other required documentation to the SMA for their approval. Mercy Health Plan had not submitted all required policy. At the time of the on-site review, the MCO did not have an approved Member Handbook or Member Marketing and Educational Materials. The MCO provided a package that included information and materials that would be valuable to members if these were approved and able to be distributed. The MCO had created new documents, "Fast Facts for Adults" and "Fast Facts for Children" that were informational brochures that supported PCP advice and guidelines for seeking medical attention. None of this material was submitted for the SMA's review or approval. The Member Handbook, also not submitted or approved, included a number of items that appeared to contain discrepancies with MC+ Medicaid Managed Care contract required language and the federal regulations. The MCO staff did not exhibit a diligent attitude toward correcting the problem of timely and accurate submission of policy and materials to the SMA.

Quality Assessment and Improvement

Access Standards

Mercy Health Plan was invested in providing adequate healthcare for their members. They maintained an extensive network of PCPs and specialist. The MCO contracted with all regional hospitals and both teaching hospitals. They responded immediately if they received a complaint

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from a member concerning a provider and took action to rectify the issue. The MCO maintained a regular schedule of activities to monitor appointment schedules. They used surveys, unannounced monitoring of waiting areas, and site visits to ensure that members were treated with respect and that providers maintained required contracted standards. This MCO had an extensive network of specialists. They negotiated with providers in their commercial network, if these providers did not normally see MC+ Managed Care members, whenever necessary. The MCO was willing to pay a commercial rate for members who needed specialized care to obtain needed services.

The MCO had an active case management program. An area of expertise was the coordination of care when a member was receiving both behavioral and physical healthcare services. The case managers for both the BHO and the MCO used the same authorization system and could view one another's entries, including medications prescribed. This method informed staff that member were receiving services from more than one system, assisted in sharing information with the PCP and mental health provider, and prevented duplication of services or prescribed medications. The MCO, BHO, and involved providers have all found this combined system beneficial in planning for members' treatment needs.

Ratings for compliance with Access Standards (35.3%) reflected problems in the development of policy needed to meet the requirements of these regulations. A number of policies reviewed on-site, and language in the Member Handbook, contained language that conflicted with the regulations. Many policies were not submitted to the SMA for review or approval. To ensure consistent and adequate service delivery the issue of policy development and approval must be resolved.

Structure and Operation Standards

Mercy Health Plan had an active and thorough credentialing and recredentialing process that included mandatory corrective action planning if any problems were identified. The MCO used screening guidelines modeled after NCQA standards in qualifying all providers. The practice in this area was methodical and systematic and contributed to the assurance that members received quality healthcare.

Ratings for compliance with Structure and Operation Standards ((30%) reflect policy deficiencies throughout this section of regulations. The deficiencies in the area of credentialing concerned the completion, submission and approval of policy. The MCO did not have completed and approved

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policy regarding the issue of member disenrollment. The MCO reported that they rarely requested member disenrollment from the SMA. The MCO must complete the policy development and review process to comply with these regulations.

Mercy Health Plan shared their system for monitoring the performance of subcontractors with reviewers. The reports on monitoring outcomes were not shared and policy development and approval was not completed. It was not possible to determine if the MCO met regulation requirements regarding subcontractor oversight.

Measurement and Improvement

Ratings for compliance with Measurement and Improvement regulations (72.7%) reflected greater attention to the details required by this regulatory section. Mercy Health Plan excelled in their adoption, dissemination and application of practice guidelines. The MCO had implemented preventive health practice guidelines throughout their system, including informing members about the services they should expect to receive. The MCO collaborated with other regional MCOs to ensure the incorporation of approved national practice guidelines into their program. The MCO had a Quality Improvement Committee that reviewed medical records to ensure that these guidelines were implemented correctly. The MCO had completed required policy in this area and was compliant in the use and implementation of clinical guidelines.

The MCO had an integral quality assessment and improvement program within their organization. The Performance Improvement Department monitored, evaluated, and analyzed all MCO functions. This detailed process utilized all information gathered internally, complaints from members, and all data possible to inform members and create a substantive quality improvement process. The MCO had convened a Medicaid Work Group to review service practices specific to the MC+ Managed Care program. The MCO was enlisting members to be part of this group to ensure a holistic approach. This level of commitment to quality services was also witnessed in the Validating Performance Improvement Projects evaluation. The results of that evaluation can be found in the appropriate section of this report.

The results of the Validating Performance Measures audit can be found in that section of this report. The MCO did not follow the HEDIS technical specifications for the calculating performance measures resulting in deficiencies. The MCO did have a health information system that was capable

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of capturing required data. The Validating Encounter Data audit process could not be completed because data was not provided in a useful format. These issues reflected problems in validating services, medical records, and data that were required for the MCO to reach full compliance with the regulations.

Grievance Systems

Ratings for compliance with Grievance Systems regulations (100%) indicate that the MCO had completed all requirements regarding policy and practice in their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files followed prescribed policy and timelines. Notices to members were sent within required timeframes and contained all required information. This information included the member's ability to file a State fair hearing simultaneously with an MCO appeal or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service. The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained the healthcare they needed. If an appeal was filed, it was recorded in the MCO tracking system to ensure that another qualified individual reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement process.

Summary and Follow-up

Behavioral Health

In 2004 it was recommended that UMMH evaluate the use of anti-depressants by PCPs and to provide them with the Depression Guidelines. UMMH provided copies of the UMMH Depression Treatment Guidelines during the on-site review. They have shared this information with PCPs and behavioral health providers. Additionally the case managers from UMMH utilized the same authorization system used by Mercy Health Plan. This enabled case managers from both systems to update and view information about members who were receiving behavioral and physical health services. It also indicated if members were receiving prescriptions from both PCPs and psychiatrists. This allowed behavioral and physical health providers to be better informed about patients and all the services they received.

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UMMH shared reports on Utilization Management completed for Mercy Health Plan members. This report included utilization objectives, targets and outcomes, and analysis of the data collected. The BHO also distributed member surveys evaluating telephone access and member satisfaction with all aspects of services. These satisfaction surveys included questions about provider interactions and performance of the behavioral health organization. The actions the BHO intended to take during 2005 included maintaining current performance, improving satisfaction with providers by ensuring appropriateness of "provider fit," and identifying members with special needs during the intake and referral process. The BHO planned to present the results of the 2005 on-site survey to their advisory committee for additional action planning.

UMMH developed ADHD practice guidelines and completed an analysis of Mercy Health Plan members presenting with a diagnosis of Bipolar disorder. The BHO presented a report on Mercy Health Plan MC+ Pregnant Women Care Coordination. This service was provided to members who were receiving prenatal and mental health care. Care coordination protocols were implemented by UMMH and Mercy Health Plan in January 2003. The BHO and MCO had access to on-line information that allowed for review and integration of member activity within the MCO. BHO and MCO case managers used this information in the coordination of care for pregnant members with mental and physical health needs. Referrals were made to UMMH for pregnant women with substance abuse problems and UMMH notified the MCO of pregnant members who came to their attention. The outcome was a 130% improvement in mental health access for pregnant women during 2004 over the previous two years.

Active discharge planning occurred for each member at the time of hospital discharge. In-home services were utilized as needed to ensure that the discharge plan was followed and appointments were kept.

To improve access to child psychiatrists, nurse practitioners were added to the network to act as physician extenders. Emphasis for development of this resource occurred in the rural areas of the MC+ Region. The number of MDs and PhDs improved in 2004. After-hours coverage by providers was monitored during 2004 and all providers exceeded the levels of the previous year.

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Blue Ribbon Physicians' Network

This became a quality incentive program meeting all targets set by the MCO. Mercy Health Plan promoted the program in the Provider Handbook, and more physicians chose to participate. The program doubled over the past year. Mercy Health Plan planned to expand this program to include high-volume clinics.

Reducing Lead Levels

Mercy Health Plan continued to engage members in lead poisoning prevention through a variety of case management activities. The health plan started using Quest Laboratories in an effort to obtain test results faster. This change was successful. They utilized this information to set up a case management program for individuals identified with high lead levels and were hoping to continue influencing this problem in a positive manner.

Engaging School Districts

Mercy Health Plan tried to be creative in making connections with school districts to improve EPSDT and preventive health treatment to children. They worked with the FQHCs that were already connected with schools, and who were providing services on-site. This occurred with Peoples' Health Clinic and the Ferguson-Florissant School Districts, and the St. Louis County Health Department and the Jennings School District. Mercy also provided services on-site through the St. Louis City Health Department and the Hancock School District.

Disease Management

Disease management was provided for members with asthma. Telephonic management was provided by Status One, a partner from California. Member data was transmitted to Status One where predictive modeling occurred to identify members in need of disease management.

STRENGTHS

1. Mercy Health Plan's partnership with Unity Managed Mental Health (UMMH) strengthened their member services in the area of mental and behavioral health. UMMH made their work specific to the needs of the MCO's members. They defined best practices and clinical guidelines for issues pertinent to Mercy Health Plan members. They used well-developed clinical guidelines that addressed depression management and ADHD. UMMH made a practice of approving and using in-home therapy to meet the needs of the member population. They used this service in rural areas when members struggle with transportation. They also authorized in-home treatment when members (adolescents for example) did not adhere to treatment plans by attending office-based sessions. UMMH and Mercy Health Plan shared an authorization system

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that recorded notes specific to shared members. This system provided accurate information regarding diagnosis, treatment, and prescribed medications available to both Mental Health and Primary Care Providers.

2. Provider Relations staff at Mercy Health Plan maintained an up-to-date on-line Provider Manual. This manual provided current information to PCPs and specialists. Provider representatives visited PCP offices at least quarterly. They also designated a provider outreach position. This staff person saw 220 providers specific to the MC+ Managed Care Program. The circuit to visit providers was made every 90 to 180 days. During this time, orientation was completed with any new office staff member or physicians. The Provider Manual and MCO information was also provided in a DVD format for easy reference.
3. Mercy Health Plan worked with area FQHCs to gain access into school districts to do EPSDT examinations. One successful existing partnership included People's Health Clinic and the Jennings-Hancock School District.
4. The commitment and enthusiasm of the Medical Director and the Members' Services staff was noteworthy. They expressed a sincere desire to improve members' lives and health. The Member Services department continuously strived to create methods to meet the needs of members and the community.
5. Mercy Health Plan convened an MC+ Medicaid Workgroup. This internal workgroup focused on assessing current services and developing methods to identify and improve future health care initiatives. The MCO was considering including members in this process.

AREAS FOR IMPROVEMENT

1. Timely and complete submission of policy and other documentation to the SMA was needed. Many of the positive practices that occurred at Mercy Health Plan were not recognized, as they were not reflected in current policy or procedural guidelines.
2. Lack of open communication with the SMA and other entities regarding their MC+ program did not encourage confidence in the work produced by Mercy Health Plan.
3. Lack of written materials that highlight or focus on Mercy Health Plan's MC+ Managed Care Program initiatives created a lack of recognition of the work done in this section of the organization. Reports focused on all Mercy Health Plan products. Some of the unique and important projects that were specific to MC+ members appeared inconsequential.

RECOMMENDATIONS

1. Raise the importance of complying with documentation requirements to the same standards as those reflected in the daily practice within the MCO.
2. Continue MCO development in the area of utilizing available data and member information to drive change and create opportunities for organizational growth and development.
3. Ensure that Mercy Health Plan staff recognizes the importance of complying with both federal regulations and the MC+ Medicaid Managed Care contract requirements.
4. Continue the pro-active approach to tracking and improving services to members. Maintain reporting mechanisms to inform both the mental and physical health systems that creating a coordinated approach to member services.

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5. Continue to monitor the ratio of mental health providers to members in rural areas of the MC+ Region, particularly in the area of child psychiatry, to ensure adequate access to care.
6. Continue programs that expand the provider network and its availability to members.
7. Continue to improve and track the results of case management interventions with members. Using available data can provide information to expand or adjust the program to more effectively impact individuals who have lead exposure or poisoning.
8. Continue community-based partnerships as a method of improving the incidence of EPSDT examinations and implementing preventive health measures with children/members who may otherwise fail to access Mercy Health Plan services. Attempts to expand these partnerships were discussed during the on-site review. An expansion would affect members positively.
9. Continue to collect data from Status One regarding the assessment of member needs through predictive modeling and the outcome of coordinated care. The data may provide a basis for further study or a best practice presentation.

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HEALTHCARE USA

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Document Review

- HealthCare USA supplied the following documentation for review:
- Member Reminder Initiative (Well Visits) Performance Improvement Project
- School Based Program Participation 2004 Performance Improvement Project
- School Based Program Communication Form
- School Based Program Power Point Presentation
- HCY/EPSDT Review Tool
- Letter to Provider

Interviews

An interview was conducted with the project leader for each of the projects on-site by the project director, on Thursday, March 3, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. Specific questions regarding each study were addressed:

<u>Member Reminder Initiative</u>

- What do the tables at the end mean?

<u>School Based Program Participation 2004</u>

- What age groups, grades, schools were the targets of the intervention?
- How are the forms used in the intervention? As data collection?
- How did you determine the number referred, screened, consented, and completed?

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FINDINGS

The first PIP evaluated was the "Member Reminder Initiative." The process of accessing or delivering care through member reminders for well-care appointments was the topic of the study. It was not clear how this issue was identified for improvement. Some background and rationale should be presented. An examination of the rate of no-shows for well-care appointment over the past several months may have been helpful. This could also be done through identifying current national, state, and regional rates for attendance at well appointments.

Well-care visits for 1-month-olds to 12-year-olds were identified as targets for improvement. It was assumed that since the MC+ MCO only serves MC+ Members, this was the population at which the study was aimed. Some characteristics of the population included or excluded should be presented. The study questions were: 1) :Does attempting to contact members by phone and/or mail increase the number of well-care visits?"; and 2) "Is one method of contacting (telephone vs. mailing) more effective? " The study indicators were HEDIS 2004 and 2005 measures of well-care visits. It was not specified whether the Hybrid or Administrative Method for calculation was used. This should be specified along with the specific technical specifications (e.g., procedure codes used, age ranges, continuous eligibility criteria. Well-care visits can be linked with improved outcomes. This link and rationale should be described in the study topic.

It was unclear whether all MC+ Members and groups were included (e.g., 1115, 1915b, children in State custody, children enrolled in the consent decree). Although the intervention appeared to include all members, the data collection approach was limited to HEDIS eligible members. The limitations and possible implications of the criteria for exclusion and inclusion should be described. No sampling techniques were described. Although some readers may be familiar with the data collection and sources of data for HEDIS measures, this again should be described in a PIP. HEDIS measures do provide for consistent accurate data collection over time periods given that the same methods of data collection and inclusion and exclusion criteria are used over time. There was a good description and the intervention of the processes for improving care. However, there was no analysis plan presented and the study questions were not addressed in the data presented. Questions that remain include: 1) "What was found regarding the relative effectiveness of the vs. mail contact with members?"; 2) "Were rates of well-care visits increased?"; 3) "Did they increase significantly?"; 4) "Can a significant increase be attributed to the intervention?"; 5) "Is it worth the

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time and effort to contact members?"; and 6) "Are other approaches suggested by the data and the implementation of the project?"

In the presentation of the results, actual rates across time should be presented rather than percent change. There was no description of how the percent change was calculated, so it would be difficult for one to replicate or understand the method of calculation for future re-measurement. HEDIS 2004 and 2005 rates were presented. It may be useful to present more than one measurement point prior to the intervention to examine trends over time, especially since the measurements are annual. Although there was some indication that the mailing was a better mechanism for contacting members (a 91.9% contact rate) than telephone (20% contact rate), there was no indication of whether the mailing was actually effective in improving the rate of well visits. This could be accomplished by examining separately the rate of claims for those who were contacted by the telephone relative to those contacted by mail to determine whether either one of these approaches actually changed their behavior. It could be that fewer members were able to be contacted by telephone, but that this is a more powerful method of getting members to make and attend well-care visits than the more passive approach of mailing information. Improvements in processes or outcomes of care were difficult to identify based upon the data and manner of presentation. It is possible that the change was the result of the intervention. However, a strong case was not presented. Comparable time periods were planned for analysis. Since the project was underway, there was not a series of repeated measurements to demonstrate effectiveness. Given that HealthCare USA has the ability to calculate HEDIS measures in real-time, it is recommended that the plan for quarterly measurement be implemented. This study is not likely to result in credible or valid findings about the effectiveness of the intervention.

The effectiveness of the intervention should be discussed in light of the study findings. This would address whether the intervention was effective, ineffective, or whether additional data need to be collected. The barriers that were identified in implementing the intervention should be used to support the findings and identify new components to address in the next implementation cycle. It is recommended that the well visits for those contacted by telephone be compared with those contacted by mail to address the study question. The statistical significance of change in rates from measurement to re-measurement should be examined to substantiate claims of effectiveness. It

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may be beneficial to report rates for 1 year and 12-year-olds separately (as the intervention may be more effective among different age groups), then use statistical significance testing to determine if the intervention was effective and for which ages. The plans for calculating HEDIS measures on at least a quarterly basis are strongly encouraged for PIP implementation.

The second PIP evaluated was, "School-based program participation 2004." The problem statement was, "Because of the general characteristics of HealthCare USA's membership, all school-age children are considered 'at-risk.' The reason for problem identification was not provided. The intent appears to be aimed at screening and prevention services to provide well-care visits and health care screening for "school-aged children." The study question was clearly stated, "Does HealthCare USA, in conjunction with participating schools, increase access to healthcare for 'at risk' students?"

It was unclear to what the demographic characteristics of "school-aged" children" referred in terms of their age range, type of school (elementary, middle school), or grade levels. Also, the presentation subsequently indicates that there were "teens" as the target population. The number of students receiving EPSDT screenings and the number of referrals were clearly defined and measurable indicators that are associated with health outcomes. It was assumed that all MC+ Members were all included and there were no specific groups excluded from the intervention. There appeared to be no sampling of members, but rather of schools. It would be important to know how and why participating schools were selected, and if and why any may have declined participation.

The actual intervention targeted "all students in designated participating schools that are identified as HealthCare USA members and who have not had a claim for a complete physical examination within the past year." This is a good description, but it is important to know in the intervention how HealthCare USA members were identified. Part of the intervention was to actually identify members at participating schools who were HealthCare USA members who had not received a well-care visit in the past year. There was a good description of the intervention and coordination with the school-based clinic as well as description of barriers and limitations to implementation and plans to modify the intervention in the future. It was not clear how many members would have been eligible for screens, how many received parental consent, or how many were ultimately screened. This is important to know when interpreting significant or non-significant findings.

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There were references to several databases, but the only data presented were for the number of screens and referrals. It was not clear how the database systems were used to identify eligible members and eligible claims, nor was it clear what type of data were in each database. Definitions for claims used to identify members (e.g., CPT codes) should be specified. There was no data analysis plan described or presented. A second re-measurement point was implied for July 2005, with no plan for statistical significance testing presented. Since the study was underway, it was not possible to assess whether improvement was real improvement or whether it was sustained.

The study in question and intervention were well-defined, but the measure of effectiveness is not likely to be able to determine whether access to care was increased. Measurements will need to be refined and re-calculated to assess effectiveness before any confidence in the findings is developed.

This PIP is not likely to produce credible findings as currently designed. To clarify the scope of the PIP, report the number of students identified the number following up (completing a screening), and the proportion by region for each indicator. Baseline and re-measurement should be calculated using a percent change score (ending rate – beginning rate/beginning rate) to determine if the stated goal of a 50% increase has been approached or attained. A likelihood ratio can also be used to calculate the change in actual rates between measurement points. Interventions, selection of schools, and barriers in each region should be discussed separately. More frequent measurement points (at least quarterly) should be used to assess progress and possible patterns of screening during the school year. Given that there is likely some fluctuation in the participation of schools and the number of members eligible each re-measurement period, rates and rates of change will need to be calculated using raw numbers to assess statistically significant stability or change over time.

STRENGTHS

1. There was an excellent choice of study topics. Well-care visits apply to a broad proportion of the population and both projects represent aspects of preventive care that can be influenced by the MCO.
2. Findings were disaggregated and presented by region. Given that HealthCare USA operates in three regions with distinct populations, provider networks and standard of care characteristics, it is important to examine separately the effectiveness of the intervention.
3. Any differences in the implementation of the intervention and characteristics of the participants (e.g., schools) should also be described in detail.
4. There was good use of standard measures, such as the HEDIS methods for determining access to well visits.

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5. There was inclusion of the entire population of MC+ Members in the interventions and study.
6. There was excellent crossover of the performance improvement projects with performance measures, and good application of the performance measure data.

AREAS FOR IMPROVEMENT

1. The study design does not allow for a valid comparison of the effectiveness of the interventions on the outcome measures. This would require comparing the two groups over time on the outcome measures, not the rate of contact or process measures.
2. Add more measures of the effectiveness of the implementation (process measures), using numerators and denominators as well as proportions for each MC+ Region.
3. Present data in more detail (provide numbers as well as percents).
4. Rates should be calculated at baseline and re-measurement, using tests of statistical significance.
5. Continue with plans to use HEDIS data definitions for continuous measurement and at least quarterly re-measurement and interpretation of effectiveness of the intervention.
6. Compare performance with national and statewide rates for commercial and Medicaid Members.

Validation Of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validating Performance Measures Protocol for HealthCare USA. HealthCare USA submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by HealthCare USA to the SMA
- The HealthCare USA Baseline Assessment Tool (BAT) for the HEDIS 2004 data reporting year
- HealthcareData.com LLC's Compliance Audit Report for HEDIS 2004
- HealthCare USA's information systems policies and procedures with regard to calculation of HEDIS 2004 rates
- HealthCare USA meeting minutes on information system (IS) policies
- A sample of Catalyst's production logs and run controls
- National Council on Quality Assurance (NCQA)-certified HEDIS software certification report from Catalyst Technologies
- Data field definitions & claims file requirements of the Coventry Corporate Data Warehouse

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- Data files from the Coventry Corporate Data Warehouse containing the eligible population, numerators and denominators for each of the three measures.
- HEDIS 2004 Data Submission Tool
- HEDIS 2004 product work plan

The following are the data files submitted by HealthCare USA for review by the EQRO:

- ais denominator - Health Care USA central.txt
- ais denominator - Health Care USA eastern.txt
- ais denominator - Health Care USA western.txt
- ais numerator - Health Care USA central.txt
- ais numerator - Health Care USA eastern.txt
- ais numerator - Health Care USA western.txt
- ast denominator - Health Care USA central.txt
- ast denominator - Health Care USA eastern.txt
- ast denominator - Health Care USA western.txt
- ast numerator - Health Care USA central.txt
- ast numerator - Health Care USA eastern.txt
- ast numerator - Health Care USA western.txt
- field long names.xls
- HealthCare USA_AIS Denominators.txt
- HealthCare USA_AIS_Numerators.txt
- wc3 denominator - Health Care USA central.txt
- wc3 denominator - Health Care USA eastern.txt
- wc3 denominator - Health Care USA western.txt
- wc3 numerator - Health Care USA central.txt
- wc3 numerator - Health Care USA eastern.txt
- wc3 numerator - Health Care USA western.txt

Interviews

The EQRO conducted on-site interviews at HealthCare USA in St. Louis with Cathie Krueger, Rina David-Claytor and Geoff Welsh of HealthCare USA on Thursday, March 3rd, 2005. This group was responsible for calculating the HEDIS 2004 performance measures. The objective of the visit was to verify the methods and processes behind the calculation of the three HEDIS 2004 performance measures.

FINDINGS

HealthCare USA calculated each of the three measures validated using the Administrative Method, by region of operation (Eastern, Central, and Western). Results were aggregated across all three regions for which HealthCare USA reported the measures, as the EQRO is charged with providing MCO level comparisons, precluding stratification of analyses by region or other variables. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent

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Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

Taking into account the sum of the numerators and the sum of the denominators reported for all three regions reported by HealthCare USA to the SMA and the State Public Health Agency (SPHA), the rate for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure was 4.79%. This was significantly lower than the statewide rate for all MC+ MCOs (14.36%; z = -1.05; 95% CI: 0, 19.65%; $p < .01$). All other MCOs used the Hybrid Method for calculating Adolescent Immunization Status, which may have contributed to capturing immunizations that were administered prior to 1995, when the MC+ Managed Care Program was implemented.

The rate for HealthCare USA across all three regions for the HEDIS 2004 Adolescent Well-Care Visit measure was 31.93%, which was significantly higher than the statewide rate for all MC+ MCOs (30.13%; z = 1.32, 95% CI: 34.43%, 44.19%; $p > .95$;). The rate for HealthCare USA across all three regions for the 2004 HEDIS Use of Appropriate Medications for People with Asthma measure was 63.32%, which was comparable to the statewide rate for MC+ MCOs (63.92%, z = -2.33; 95% CI: 45.65%, 52.93%; n.s.).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

The information systems management policies and procedures for rate calculation were evaluated consistent with the Validating Performance Measures Protocol. This included both manual and automatic processes of information collection, storing, analyzing and reporting.

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For all three measures, HealthCare USA was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which HealthCare USA transferred data into the repository used for calculating the HEDIS 2004 measures. HealthCare USA used an NCQA-certified software vendor, Catalyst, for the HEDIS 2004 measure calculation process. The EQRO was provided with a demonstration of the Quality Spectrum Hybrid Reporter™, the application module for rate calculation, and with Coventry's corporate data warehouse. The use of an NCQA-certified reporter software which has been certified through a process of test files submitted by NCQA indicate that the program specifications, codes, and measure parameters are adequate for validly reporting the rates.

Documentation of Data and Processes

Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). HealthCare USA met nearly all criteria that applied for all three measures. The two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by the MCO to assess the significance of change related to quality improvement activities and operational changes. In the future, HealthCare USA plans to use a real-time system to calculate HEDIS measures and statistical significance of change over time on at least a quarterly basis for performance improvement and monitoring..

Processes Used to Produce Denominators

HealthCare USA met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of eligible members for the services being measured. Denominators in the final data files were consistent with those reported on the DST for all three measures. Across all three regions, 5,492 eligible members were reported and validated for the Adolescent Immunization Status, Combination #1 measure. There were a total of 9 contraindications identified from administrative data for the Adolescent Immunization Status, Combination #1 measure across all three regions. A total of 41,144 eligible members were reported and validated for the Adolescent Well-Care Visits measure across all three regions; and 4,275 eligible members for the denominator

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of the Use of Appropriate Medications for People with Asthma measure were reported and validated across the regions. Age ranges, dates of enrollment, dates of birth, medical events, and continuous enrollment were programmed to include only those members who met HEDIS 2004 criteria.

Processes Used to Produce Numerators

All three measures were calculated using the Administrative Method. All three measures included the appropriate data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 Technical Specifications (see Attachment XIII: Numerator Validation Findings). No medical record reviews were conducted or validated.

HealthCare USA appropriately included administrative events from the State Public Health Immunization Registry (MOHSAIC) in calculating the Adolescent Immunization Status measure. For the Adolescent Immunization Status, Combination # 1 measure, a total of 263 administrative hits, were reported and validated. The dates of birth range was valid. The dates of service were not provided. There was no bias found in the rate calculated by HealthCare USA.

For the HEDIS 2004 Adolescent Well-Care Visits measure, there were a total of 13,139 administrative hits. The dates of service were not provided in the numerator files and could not be assessed for validity. The dates of birth range was valid. There was no bias found in the rate calculated by HealthCare USA.

The number of administrative hits reported and validated for the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was 2,707. The codes for numerator events were not provided. The dates of birth were in the correct range and valid. The dates of service were not provided and could not be validated. There was no bias found in the rate calculated by HealthCare USA.

Sampling Procedures for Hybrid Methods

No medical record reviews were conducted or validated. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings do not apply to the Administrative Method.

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Submission of Measures to the State

HealthCare USA submitted the DST for each of the three measures to the SPHA (the Missouri Department of Health and Senior Services) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy.

Determination of Validation Findings and Calculation of Bias

As referenced earlier, there was no bias found in the reporting of numerators, denominators, or rates of the three HEDIS 2004 performance measures validated.

Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure. All three measures calculated were Fully Compliant with State specifications.

STRENGTHS

1. There were significantly higher rates of HEDIS 2004 Adolescent Well-Care Visit rates compared to the average for all MC+ MCOs. This rate was higher than the National Commercial and National Medicaid rates for this measure.
2. HealthCare USA was fully compliant with the calculation of the HEDIS 2005 Use of Appropriate Medications for People with Asthma measure.
3. HealthCare USA employed NCQA-certified HEDIS reporter software, Quality Spectrum ™ of Catalyst Technologies. Most of the data for HEDIS measures are stored in the Coventry IDX data warehouse from which Quality Spectrum is used to automatically calculate rates.
4. The Quality Spectrum™ is a very well-designed application based in a SAS environment. The application on the whole was very transparent and user friendly. The codes are updated as they are released by Catalyst.
5. The Catalyst application had the ability to provide detailed and in-depth information for "drilling down" and evaluation purposes. Even though the codes running behind the program were proprietary, the structure of the repository was very informative and provided the interviewers with information on event definition, rule definition, flow charts for calculations and had metadata definitions.
6. There were clearly-defined data fields within the application, which automatically feeds the rates as required by the State in the HEDIS Data Submission Tool.
7. There were numerous quality checks in the reporting process done manually with a separate abstract of the data files. This helps in minimizing errors.
8. Efficient data integration, retrieval and analysis processes were in place. Members were identified with a unique primary key that avoids duplication errors. Datasets from CareMark,

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the pharmacy vendor, Quest Labs, the laboratory vendor and the dental vendors were used and integrated to Quality Spectrum for calculation of final rates.

9. There was a good disaster recovery plan in place.
10. MOHSAIC, the State Public Immunization Registry database, was used for collection of data regarding immunizations. The files are received as a text file and are integrated well into the system. MOHSAIC data are loaded in a very specific format into the data warehouse. MOHSAIC is estimated to account for approximately 14% of the Adolescent Immunization Status rate.
11. HealthCare USA had well-documented procedures for the HEDIS 2004 rate calculation measures.
12. HealthCare USA had a very professional and knowledgeable software management team that has an in-depth understanding of the application and knows how to produce accurate results.
13. Upon review of preliminary validation findings for the performance measure validation, HealthCare USA recognized the importance of using the Hybrid Method to calculate the Adolescent Immunization Status measure and plans to use this method in the future.

AREAS FOR IMPROVEMENT

1. HealthCare USA used the administrative method for the calculation of all HEDIS 2004 measures. Medical record review is likely to provide unique information regarding adolescent immunizations that is not captured in the State Public Immunization Registry for events prior to the implementation of the MC+ Managed Care Program and claims systems.
2. The HEDIS 2004 Adolescent Immunization Status, Combination #1 rate was significantly lower than the average for all MC+ MCOs.

RECOMMENDATIONS

1. The use of the Hybrid Method for the calculation of Adolescent Immunization Status is strongly recommended. HealthCare USA should explore the possible reasons for low rates of administrative hits for the Adolescent Immunization Status measure.
2. Integrate HEDIS rate documentation procedures into corporate IS policies.
3. Data analysis should incorporate tests of statistical significance to assess whether the observed changes in rates are related to a specific intervention.
4. Conduct statistical comparisons on rates from year to year

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Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical Fields?

For the Medical claim type, there were a total of 445,349 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete, accurate and valid.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, and 99.93% valid. There were 315 invalid dates of service ranging from 04/01/2004 – 06/29/2004.
5. The Outpatient Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 94.78% valid values. Invalid procedure codes included 23,267 "W0026" codes.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 14.14% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 6.02% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 2.84% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00% complete, accurate and valid.

For the Dental claim type, there were a total of 57,546 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

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For the Home Health claim type, there were a total of 5 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined except the second through fifth Diagnosis Code fields were 100.00% complete, accurate and valid. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (0.00% for each).

For the Inpatient claim type, there were a total of 54,816 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate, and 94.57% valid. There were 2,979 invalid dates ranging from 01/22/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 97.29% (with 1,485 entries of "99999999"). Valid values were present 93.06% of the time. In addition to the invalid "99999999" entries, the 2,318 invalid dates ranged from 04/01/2004 – 05/12/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete and accurate, and 99.89% valid. There were 35 invalid values of "00" and 24 invalid values of "63".
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (0.00% for each).
10. The First Date of Service field was 100.00% complete and accurate, and 96.02% valid. There were 2,180 invalid dates of service ranging from 11/16/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 95.19% valid. There were 2,636 invalid dates of service ranging from 04/01/2004 – 05/12/2004.
12. The Revenue Code field was 99.97% complete, accurate, and valid. There were 14 invalid blank fields.
13. The Units of Service field was 100.00% complete and 99.67% accurate and valid. There were 179 invalid codes of "00000".

For the Outpatient Hospital claim type, there were a total of 213,448 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.

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3. The First Date of Service field was 100.00% complete and accurate, and valid.
4. The Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete, complete, accurate and valid.
7. The Outpatient Revenue Code field was 100.00% complete, 63.85% accurate and 63.85% valid. Invalid codes were accounted for by 77,167 entries of "000".
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second through fifth Diagnosis Code fields were 0.00% complete, accurate and valid.
10. For the Pharmacy claim type, there were a total of 345,084 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for HealthCare USA, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. There were very few errors encountered in the critical fields examined across all claim types. The Outpatient Procedure Code field in the Medical claim type included invalid procedure codes (see previous findings); while the Inpatient claim type contained invalid data in the Discharge Date and Patient Status fields. The Revenue Code field was incomplete, and the Units of Service field contained invalid data. For the Outpatient Hospital claim type, the Outpatient Revenue Code field contained invalid entries. Although the Procedure Code is optional if the Revenue Code is between 300 – 319, the Revenue Code is always required[2].

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claims extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claims extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

[2] Personal communication with Judy Muck, Assistant Deputy Director, MC+ Managed Care, April 07, 2005.

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What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, the rate of Outpatient Hospital encounter claim types were consistent with the average for all MC+ MCOs. The rates for Medical, Dental, Pharmacy, and Inpatient encounter claim types were significantly higher than the average for all MC+ MCOs. This suggests high rates of encounter data submission and good access to preventive and acute care.

The findings from the performance measure analysis showed a significantly lower rate of administrative hits for the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure and significantly higher rates of administrative hits for the HEDIS 2004 Adolescent Well-Care Visits measure than the average for all MC+ MCOs. This may be related to the administration of claims for adolescent immunizations. One challenge noted by HealthCare USA was in capturing this data through UB-92 claims.

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing information (n = 94) or incorrect information (n = 1). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 53), or no match with the description of the symptoms based on the information in the medical record (n = 8). For the diagnosis code on the claim form, the reason for diagnosis codes not matching the SMA extract file was missing or illegible information (n = 80). The reasons for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 58), and incorrect codes (n = 1).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 10), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 4), incorrect codes (n = 6), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 5), illegible information (n = 2) and not enough information to code (n = 3). For the procedure code on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 81), or incorrect codes (n = 3). For the procedure

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description on the claim form, the reasons for procedure codes not matching the SMA extract file was missing or illegible information (n = 86), and incorrect descriptors (n = 2).

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

The only notable issue with the file submission by HealthCare USA was the apparent incomplete records on one of the UB-92 file layouts, and the lack of documentation for the unpaid claims files.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

HealthCare USA submitted the following files for encounter data validation. They included paid claims for all claim types that were in national standard formats, and unpaid claims. The paid claims files were named and labeled such that is was possible to determine the file layout for paid claims. The following provides the number of records that were able to be loaded for analysis from each file. The unpaid claim files were not associated with any known file layout.

1. husa.txt 139KB Text Document 10/19/2004 8:55 AM
   This file was in NSF/CMS 1500 file layout and all records were able to be loaded for analysis.

2. husa0930ub92.txt 8648KB Text Document 10/19/2004 11:02 AM
   This file was in UB-92 file layout and was able to be loaded for analysis, but appeared to have incomplete records.

3. HcfaFile-EQRO.txt 749KB Text Document 12/29/2004 10:25 AM
   This file was in NSF/CMS 1500 file layout and all records were able to be loaded for analysis.

4. PharmacyFile-EQRO.txt 169KB Text Document 12/30/2004 10:02 AM

   A total of 584 records were loaded for analysis successfully. Some fields contains special and control characters.

5. UbFile-EQRO.txt 326KB Text Document 12/28/2004 2:55 PM

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This file was in UB-92 file layout and was able to be loaded.

6. UnpaidDentalClaims.txt 592 Text Document 12/30/2004 12:41 PM
No files were loaded for analysis, not in NSF/CMS 1500 file layout.

7. UnpaidHcfaClaims.txt 59KB Text Document 12/30/2004 12:42 PM
No files were loaded for analysis, not in NSF/CMS 1500 file layout.

8. UnpaidMentalHealthClaims.txt 598 Text Document 12/30/2004 12:45 PM
No files were loaded for analysis, not in NSF/CMS 1500 file layout.

9. UnpaidUbClaims.txt 28KB Text Document 12/30/2004 12:42 PM
No files were loaded for analysis, not in UB-92 layout.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields examined for the Medical, Dental, Home Health, and Pharmacy claim types were 100.00% complete, accurate and valid.
3. There were significantly higher rates of claims for preventive and acute care services than the average for all MC+ MCOs.
4. There were significantly higher rates of administrative hits for the HEDIS 2004 Adolescent Well-Care Visits measure than the average for all MC+ MCOs.

AREAS FOR IMPROVEMENT

1. For the Medical claim type, there were invalid Outpatient Procedure Codes.
2. For the Inpatient claim type, there were invalid entries for the Discharge Date and Patient Status, and Units of Service fields, and blank Revenue Code fields. The Revenue Code is a required field regardless of the Procedure Code.
3. For the Outpatient Hospital claim type, there were invalid data in the Outpatient Revenue Code field.
4. The match rate for procedures and diagnoses between the SMA encounter claims extract file and the medical records for HealthCare USA were significantly lower than the average for all MC+ MCOs. The majority of errors were due to missing or illegible information, and was accounted for primarily by the submission of medical records by providers.

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RECOMMENDATIONS

1. Examine and revise as needed internal system edits for invalid procedure codes in the NSF/CMS 1500 file layout for the Outpatient Procedure Code and run validity checks after the programming of new edits.
2. Ensure that Discharge Date, Patient Status, and Units of Service fields are complete and valid for the Inpatient (UB-92) claim types, and institute error checks to identify invalid data.
3. Always include the Revenue Code regardless of the Procedure Code for the Outpatient Hospital and Inpatient claim types (UB-92 layout).

MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for HealthCare USA (HealthCare USA). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by HealthCare USA, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MC+ MCO, HealthCare USA was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Contracts
- Grievance and Appeal Policies
- Samples of both Grievances and Appeals related to member and providers
- Credentialing Policy

Additional documentation made available by HealthCare USA:

- Marketing Plan and Educational Material Development Policy
- HealthCare USA of Missouri Organizational Chart
- NICU Focus Study
- Denial Log
- HealthCare USA Policy Manuals

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Interviews

The following individuals were interviewed on March 3, 2005 during the on-site review:

Plan Administration
Claudia Bjerre, President and CEO
Mary Mason, MD, Medical Director
Jackie Inglis, QI Director

Quality Assurance
Jackie Inglis, QI Director
Mary Mason, MD, Medical Director

Member Services/Case Management/Utilization Management
James Howarth, Director of Operations
Melody Lyles, Manager of Service Operations
Kim Martin, Service Center Trainer
Linda Whaley, VP of Health Services
Laura Ferguson, Director of Health Services
Mary Mason, MD, Medical Director
Tiffany Smith, Manager of Compliance
Pam Luebbert, Director of Community Development
Melanie Fahrner, Manager of Community Development

Provider Services
Bonnie Kitson, VP of Provider Affairs
Resmi Jacob-Schrieber, Director of Network Operations
Kara House, Supervisor, QI
Leslie Sisavath, Credentialing Analyst

Mental Health
Jerry Matthews, PhD, VP Regional Operations, MHNet
Susan Norris, MHNet
Cynthia Williams, MHNet
Kara House, Supervisor, QI

FINDINGS

Enrollee Rights and Protections

HealthCare USA maintained a strong commitment to member rights. The MCO's focus on treating members with respect and dignity was pervasive throughout the organization. Cultural diversity was an essential component to interactions with members. There was a company wide training initiative on cultural diversity to educate all staff on sensitivity to cultural issues in communications and decision-making. All interviews provided evidence that respect for members was foremost in staff thinking and their approach to work. HealthCare USA had staff who spoke different languages, they maintained an up-to-date list of providers who spoke a language other than English, and they had their written materials translated into Spanish and Bosnian. The MCO administrative staff remained in touch with the issues and problems encountered at all levels throughout the organization. They assisted in problem solving on member issues and were invested in positive outcomes for members.

Ratings of compliance with Enrollee Rights and Protections (38.5%) reflected required MC+ Managed Care Program policy that was not complete. Interviews with staff indicated an awareness of the need to be vigilant about the production of policy and the annual review process. When

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questions were raised about outstanding policy the MCO, in many cases, produced revised policy ready to be submitted to the SMA for their final review and approval. The MCO was encouraged to complete this process to ensure compliance with the MC+ Medicaid Managed Care contract, as well as federal regulations.

Quality Assessment and Performance Improvement

Access Standards

HealthCare USA had a number of programs in place that were a benefit to members. They had a large provider network that included a close working relationship with Washington University School of Medicine. They had an in-depth maternity program that ensured proper care for members, as well as in-home follow-up for mom and baby for all deliveries. The MCO had a strong case management program that included special needs outreach coordinators to put members with special healthcare needs in touch with additional community resources that exceeded those covered by the healthcare benefit. These coordinators also assisted members who needed a specialist as a PCP when this was in the member's best interest. The MCO Provider Relations staff included an educational component in the work they did in provider offices to ensure proper identification of members with special healthcare needs. They believed this early identification was essential to facilitate timely intervention and access to all appropriate services.

Ratings of compliance with Access Standards regulations (52.9%) reflected a number of HealthCare USA policies that required submission to the SMA for final approval. The rating indicated a finding of several instances of conflicting information in the Member Handbook and the Provider Resource Guide. These revisions were essential not only for compliance with all federal regulations, but also for the consistent delivery of an effective program.

Structure and Operation Standards

The MCO operated an effective Provider Relations program. They had approved credentialing standards. The MCO also provided on-going training and monitoring to ensure that their provider network maintained required standards. Performance for both contractors and subcontractors was monitored through office or on-site visits, educational programs, prompt response and resolution of complaints, and consumer surveys.

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Ratings for compliance with Structure and Operations Standards (60%) reflected a lack of approved policy and procedures regarding member disenrollment. This policy is required to comply with the MC+ Medicaid Managed Care contract and the federal regulations.

Measurement and Improvement

HealthCare USA used InterQual criteria for utilization management. The MCO adopted practice guidelines for diabetes based on the ADA criteria, AAP guidelines for prescribing Synagis, and ACOG guidelines for neonatal care. The MCO had entered into an agreement with Washington University to study asthma in children. The University had a disease management program for asthma and the MCO planned to implement their practice guidelines. The MCO described meeting with providers to educate them regarding the implementation and use of practice guidelines. HealthCare USA offered Continuing Medical Education (CME) credit for attendance, but it was not clear how many physicians attended these sessions. The MCO did not have a clear method to ensure that these guidelines are uniformly applied.

The MCO demonstrated its commitment to its Quality Assessment and Improvement Program through its policy and practice. HealthCare USA shared their Quality Management Committee Charter, and the processes this group used to meet its goals.

The MCO did appropriately report, through the administrative method, data required for Validating Performance Measures. Additional work was identified by the audit for Validating Performance Improvement Projects. The details are located in the appropriate sections of this report. The MCO did have a health information system (HIS). The validation of encounter data was not completed as the data was not submitted in a usable format. The details of this issue are located in the Validating Encounter Data section of this report.

Ratings for compliance with Measurement and Improvement regulations (63.6%) reflect the lack of policy and appropriate data validation.

Grievance Systems

Ratings for compliance with Grievance Systems regulations (100%) indicate that the MCO had completed all requirements regarding policy and practice in their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files

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followed prescribed policy and timelines. Notices to members were sent within required timeframes and contained all required information. This information included the member's ability to file a State Fair Hearing simultaneously with an MCO appeal, or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service. The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained the healthcare they needed. If an appeal was filed, it was recorded in the MCO tracking system to ensure that another qualified individual reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement process.

Summary and Follow-up

Behavioral Health

MHNet implemented practice guidelines in 2004 for major depression, schizophrenia, bi-polar disorder for adults and children, substance abuse, and ADHD. Provider practice was measured using these guidelines and feedback was given through provider profiles.

MHNet implemented two performance improvement projects. One project focused on improved provider adherence to practice guidelines for bipolar disorder and major depression. A second performance improvement project focused on the impact of preventive initiatives for members with ADHD. Both projects were specific to the MC+ Managed Care Program population. The goal of these projects was to lead to improved intervention methods used by the BHO to be more effective for MC+ Managed Care members. To date the BHO reported improved use of guidelines by providers and continued use of available therapy by members diagnosed with ADHD.

MHNet continued to work on a number of other follow-up issues. Using a case manager assigned to outreach services, the BHO was intervening sooner with members discharged from in-patient treatment. Hospitalized members were contacted to learn if they had a current therapist. If they did, the therapist was contacted and informed about the hospitalization. The BHO requested follow-up appointments for the member. If the member did not have a current provider, the member was contacted prior to release from the hospital and provided the names of at least three (3) outpatient therapists for follow-up treatment. The case manager asked the member to make the

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first outpatient appointment within three days of discharge from any hospitalization. If no appointment was made, and the BHO knew the provider of choice, the provider was contacted and asked to do additional follow-up. This encouraged members to keep appointments and obtain effective follow-up care, which decreased the need for in-patient episodes.
Availability of psychiatrists continued to be a struggle for the BHO. One of the methods used to influence the lack of psychiatric availability was contracting with Advance Practice Nurses. This extended the availability of psychiatric services, particularly in the Central MC+ Region. Another positive for HealthCare USA was contracting with the new Midwest Behavioral System, which resulted from the merger of Royal Oaks and Pathways. Use of this group increased the entire behavioral health network and the availability of psychiatrists in the Central MC+ Region.

Upon member enrollment the MCO notified MHNet of any identified mental health needs. MHNet notified HealthCare USA when they learned that a member was pregnant to ensure that appropriate prenatal services were in place. There was also a system of coordination in place with the pharmacy provider, who notified MHNet if there was an apparent substance abuse issue.

NICU Focus Study

HealthCare USA conducted a focus study to assist in determining potential causes for the increasing number of low birth-weight infants. They considered evidence from national studies and the application of this information to local issues. HealthCare USA began their study by examining all NICU admissions during 2003, and included information on the average length of stay. They reviewed and analyzed the reasons for admission, and summarized the mother's demographic data. HealthCare USA attempted to administer a Prenatal Risk Assessment on new members coming into the health plan when they were pregnant. They did the assessment on all members that could be contacted. Contacts included attempted visits by an in-home health agency. Information on all members who could be reached was analyzed for the types and amount of prenatal care received, and risk factors indicated.

This study was not complete at the time of the on-site review. Analysis was continuing on interventions that were aimed at achieving demonstrable improvement, subsequent or modified interventions for improvement, sustained improvement, and lessons learned.

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One intervention that was having a positive impact on reducing the number of low birth weight infants was the use of the drug P17. This drug was being administered to a group of women through a study at Washington University. These women previously delivered premature and low birth weight infants, and were included in the study regardless of risk factors. Though the study was in its early stages, the results to date were remarkable for reducing premature delivery. Most of the infants born after the administration of this drug were in the normal birth weight range and did not require NICU admission.

HealthCare USA reported that the combination of the completion of the original study, conducting the Prenatal Risk Assessment, intense in-home case management interventions, and the inclusion of high-risk mothers in the P17 study, had the potential to identify a means of significantly reducing the number of low birth weight infants.

Member Compliance and Satisfaction

HealthCare USA implemented a number of practices to increase information to new members, and to improve member satisfaction. One noteworthy area was the periodic inclusion of management staff on the telephone banks. Management staff intermittently make Welcome Calls and answer the member services toll free information line. This activity provided insight into the difficulties MCO staff had in contacting new members based on the enrollment information received, and on issues that members were bringing to member services. Management staff report that in a number of instances problems could be fixed very quickly. HealthCare USA should utilize the information they gain from these activities to drive changes in organizational communication. If problems were identified by staff, and could be remedied by a "quick fix," there could be a method to communicate this to management on a regular and timely basis. This would enable the MCO to continue to be more responsive to member issues.

Healthcare USA initiated a project called "Provider Language Data Collection 2004," in an effort to identify alternative languages spoken by providers and office staff. This study was completed by the Provider Relations and Outreach Departments. They contacted all PCPs and high volume specialists to obtain information regarding languages spoken by the provider, and office staff. The information

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obtained was entered into the Coventry Provider Database (CPD). Language updates occur at the time of credentialing and/or recredentialing. In the third quarter of 2004 Provider Relations developed a report for Member Services containing all of the providers who spoke a language other than English. This report was updated and distributed to Member Services on a quarterly basis.

Completing a formal study on the number of members who come into the MCO with correct contact information, and the time and resources expended on correcting addresses and telephone numbers was considered. The MCO viewed this as a serious problem that they had not been able to resolve.

STRENGTHS

1. Integration of all specialty sections within the HealthCare USA organization enhanced the service delivery system. Individuals interviewed could not only speak to their specific role at HealthCare USA, but how their work affected that of other sections. The responses to interview questions demonstrated how staff knew one another's focus and projects to ensure a holistic approach to service delivery.
2. MCO staff exhibited a commitment to excellence in service delivery throughout their organization. Staff at all levels demonstrated a desire to ensure that the healthcare services provided met the needs of all members and were of high quality. There was a common expectation that members be treated with respect and dignity.
3. HealthCare USA was working with Washington University to develop innovative approaches to solving problems and providing new alternatives to serve members. Two specific initiatives were mentioned. There was a project linking members who had children with autism to community resources, as treatment for autism was not a covered benefit. Another project utilized the drug P17 to prevent premature deliveries.
4. MCO staff exhibited a significant recognition of the regional and cultural differences in the areas HealthCare USA served. The MCO recognized the need for diversity within the organization, and in approaches to the different communities where services were delivered.
5. HealthCare USA required that all managers provide services throughout different levels within the organization. The CEO, Vice Presidents, and Directors all spent time on the pre-certification and member services telephone lines each quarter. They reviewed cases quarterly, and participated in other activities to ensure a true understanding of members' issues and the way services were delivered at all levels within their organization.

AREAS FOR IMPROVEMENT

1. HealthCare USA needed to track and complete their documentation requirements to ensure that policies and procedures were submitted to the SMA in a timely manner. This would ensure that the MCO was compliant with the MC+ Medicaid Managed Care contract and the federal regulations.

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RECOMMENDATIONS

1. Raise the importance of complying with documentation requirements to the same standards as those reflected in the daily practice and operations within the MCO.
2. Continue MCO development in the area of utilizing available data and member information to drive change and create opportunities for organizational growth and development.
3. HealthCare USA should work with MHNet to ensure that the outcomes of their performance improvement projects are shared with PCPs and with MCO staff. Positive outcomes may encourage more effective communication between BHO providers and PCPs. These projects can also positively influence the treatment methods utilized for members with complex issues. Monitoring and using information gained may be beneficial to the MCO and to MC+ Managed Care members.
4. Continue the BHO practice of contacting and providing follow-up case management services to members leaving in-patient hospitalization. Ensure that statistics are collected and analyzed to provide data on the outcome of these interventions. Continue expanding the network and using creative methods to ensure that members have adequate access to specialties such as psychiatrists.
5. The MCO should review BHO case management processes annually as part of subcontractor oversight. The review should include an audit of case management records for documentation of measurable and updated objective treatment plans, activity toward treatment goals, and follow-up of hospitalization with outpatient treatment.
6. Share objective study information with the SMA and ask them to become a partner in problem solving regarding member contact information. This is a common concern throughout all of the MCOs. Having well-researched statistics to share may increase the opportunity for effective problem solving with the SMA.
7. The MCO is encouraged to continue the adoption of clinical guidelines. Further, the MCO is encouraged to include the provider's use of guidelines in the assessment of their practice for the purpose of provider profiling.

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MISSOURI CARE

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Documents Reviewed

Missouri Care supplied the following documentation for review:

- Increasing Appropriate Childhood Immunization Practices
- Increasing Blood Lead Testing by Primary Care Providers

Interviews

Project Leaders, participants, and the Medical Director were interviewed on-site by the EQRO Project Director on Wednesday, March 23, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. Specific questions regarding each study were addressed:

Childhood Immunization Practices

- Why was the intervention limited to members meeting HEDIS eligibility criteria?
- In what instances would improved documentation in the medical record NOT contribute to higher rates of immunizations?
- Why was the study population limited to only those who had immunizations?
- Is this a longitudinal study on a specific cohort (N = 943 member who had immunizations)?
- What are statistical process control methods and how have these been used?
- What would be a significant difference at the 95% confidence level?
- Has a project been implemented during 2004?
- Data analysis began in January 2005. What were the findings?
- How will the HEDIS Childhood Immunization Rates be measured? What is the definition of the measure?

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Blood Lead Testing

- How many providers were visited in July and August 2004, and what proportion was successfully educated?
- How does the study question relate to the hypotheses and measures?
- Data for the previous 12 months and next 12 months will be collected. How frequently, and for which measures?
- How many PCPs and how many members?
- If the rates will be measured against a 10% increase and against the state rate of 75%, what is the purpose of using measures of central tendency and standard deviations?
- How is the number of member months used in the calculation of rates? Describe the calculation of the indicators.

FINDINGS

The first PIP evaluated was, "Increasing Appropriate Childhood Immunization Practices." The topic or problem statement was, "Although the Missouri Care Childhood Immunization rate of 64% in 2004 was well above the state average for Missouri Medicaid of 47%, the health plan failed to meet the NCQA HEDIS 75th percentile benchmark of 68%". There was a very clearly written section describing the rationale, the implications for immunizations in improving health status and presenting national, state, and MCO rates, as well as barriers encountered and goals. The topic addressed a broad spectrum of key aspects of enrollee care and services. The study question was, "Does improved documentation in the medical record increase the percentage of children who meet immunization periodicity requirements by their second birthday?" The intervention involved sending a letter and sample immunization report to providers. The study and intervention appeared to exclude those with no immunizations documented in the State Public Health Immunization Registry (MOHSAIC) or Missouri Care's claim system, as well as those who did not meet HEDIS enrollment criteria. The study question was clear but implied that the main purpose is to place documents in the medical record to improve HEDIS reporting, rather than impacting the access, timeliness, or quality of care. A better question might be, "Does informing and reminding of providers of the immunization status of members improve access to and timeliness of the administration of vaccinations by the member's second birthday?" There was reference in the study topic section to racial and economic disparities however, it was not clear whether all racial and ethnic groups were included, or whether the findings were specific to MC+ members. Immunization status is clearly associated with long-term health outcomes which should be clearly stated.

The annual measure of Childhood Immunization Status, Combination #1 was used to assess the effectiveness of the intervention. Although this is a standard measure with detailed specifications, the method of calculation (Administrative or Hybrid), the data sources (e.g., medical record, MOHSAIC, claims data), and the specifications of numerators and denominators (e.g., CPT

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procedure codes) should be defined. The data collection approach excluded those who may not have met HEDIS criteria for enrollment, as well as those who did not have immunizations. All eligible members should have been included according to HEDIS technical specifications. It was not clear whether sampling was conducted as there was no indication of whether or not the Administrative or Hybrid Method would be employed for calculating the HEDIS measure. There were references to quarterly data collection for monitoring and statistical process control methods, but the data to be collected was not specified. HEDIS measures are typically calculated on an annual basis. The HEDIS Combination #1 measures were well specified in the HEDIS Technical Specifications manual. If followed properly, the data would be reliable and valid however, this was difficult to assess based on the information provided. The screenshot of the Missouri Care database used appeared to allow for accurate data collection. It would be important to specify in written instructions and training how the users are to enter data and use the database. The 95% confidence intervals and target rates should be identified based on information presented and available baseline rate. Sources of data appear to be member, claim, and provider. There was no indication of what indices to which the statistical process control methods would be applied. Initial and repeat measurements were identified as 2004 and 2005. It was unclear how or what quarterly data were going to be examined or analyzed. Given that there were no re-measurement points at the time of validation, it was not possible to assess whether there was real or sustained improvement.

Measurement of the success of the implementation of the intervention was not conducted. The intervention involved sending a letter and sample immunization report to providers. However, it was not possible to identify how successful the intervention was in getting a report to providers. Other sources for intervention were implied, but not specifically identified for future improvement (e.g., educating about billing to improve documentation).

The presentation of data should be consistent for each data point. Figures should stand alone. Indicate in footnotes what Combination #1 measure might mean. Numerators and denominators should be used with an indication of statistical significance of changes. There was good identification of one limitation which should be explained further with an assessment of the degree to which this may affect study findings.

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The study has potential for credible findings with major revisions. This is a good non-clinical intervention with the potential to improve medical record documentation of immunizations. There is a risk that the annual measurement of one indicator will not be sensitive enough to show the impact of the intervention. The study is limited to only those with an immunization documented who meet HEDIS eligibility criteria, potentially excluding members transferred from other MC+ MCOs or those not having had any immunizations. The intervention does not appear to be strong enough to impact changes in quarterly measures or HEDIS rates. Statistical significance testing will be important in making any conclusions about the impact of any interventions.

In the future, describe the methods and procedures for data collection, and details of measurement. Add short- and intermediate-term indicators of the intervention. Annual measurement will take a several years of intervention to show improvement, thus, quarterly re-measurement is recommended. Expand the intervention and study to include all children 2 years of age and under, not just those meeting HEDIS criteria and having immunizations.

The second PIP validated was, "Increasing Blood Lead Testing by PCPs." The topic statement was that "Missouri Care data demonstrates that testing in both the 12-month and 24-month age group falls far below the benchmark at 8% and 5%, respectively. This was a good description and rationale for study and quality improvement. The study question was, "Will the provider intervention increase the percentage of children tested for lead at 12 and 24 months of age?" Additional constructs were implied and measured, including the rate of missed opportunities (a measure of access) and the rate of members requiring hospitalization for chelation therapy. The barriers identified included the ability to conduct blood testing in provider offices and parental refusal for testing. It appeared that all providers were included in the intervention and all 12- and 24-month-olds were included in the study. The rate of blood lead testing is strongly associated with long-term health outcomes.

The study used well-operationalized indicators specifying sources and codes, but the time frame of measurement (the range before and after the 12th or 24th month birthday for which an immunization could be counted) could be more clear. The best indicators were the rate of blood lead testing, the percent of missed opportunities, and the percent of members hospitalized for chelation therapy. The rationale and application of data points 12 months prior to and 12 months following the intervention as well as the calculation of measures using member months was

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confusing. Increased knowledge of providers and satisfaction with training were mentioned but not included in the list of indicators. This would be good process measure of the effectiveness of the implementation of the intervention. Provider knowledge, attitudes and beliefs were measured through a survey but were not identified as indicators or study measures and no survey was provided for a review. Three indicators were chosen and one was related to the hypotheses. Data sources were clearly identified (providers, claims data). In order to document validity and reliability of data collection over time, more specific operationalization of how claims data were extracted would improve the ability to consistently measure the indicators over time. Also, there was confusion about measurement points and methods of calculating rates. These methods will need to be specific in order to ensure the same data are collected over time. The data analysis plan referred to statistical process control charts, measures of central tendency, and standard deviations as well as comparisons with State benchmarks and designated percent increase in the target rates. It was not clear how these would be applied to the measures or interpretation of findings to determine success of the intervention.

In terms of whether all MC+ Members were included, the age of members was defined and the MC+ population was assumed, but additional information regarding the characteristics of the study population (MC+ members only) should be provided. In terms of the data collection approach, all PCPs were included in a survey, but it was not clear how many PCPs or which PCPs (e.g., internal medicine, family practitioners, OB/GYNs, etc) were included. No sampling was conducted. In presenting the intervention and the scope of the intervention, there should be a description of training given to providers as well as the persons targeted and trained in provider offices (e.g., attending physicians, residents, office managers, clerks). Also, the number of providers or provider offices actually trained out of the number targeted should be presented as a process measure of the scope of the intervention. The number given a survey and the response rates should always be presented, along with the results of the survey. The analysis should involve addressing questions such as; 1) "Were there enough physicians reached to have an impact on the outcomes?"; 2) "Were physicians satisfied with the training?"; 3) "Did their knowledge increase?"; 4) "Did they increase their use of verbal lead screening forms and filter paper testing?" The data for one of the three indicators was presented. Given that data collection was retrospective and there were two quarters since the intervention, the other two indicators could have been examined on a quarterly re-measurement cycle.

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Presentation of the data could be more clear. Line graphs depicted 12 and 24-month-old claims percentages but did not indicate the number of points of intervention or which figures were pre and post-intervention. There was mention of use of a statistical quality control chart and descriptive statistics but no upper and lower confidence intervals were provided. Time periods of measurement were one year prior to and one year post-intervention. There was no discussion of the effectiveness of the intervention or methods of improving the intervention based on the preliminary findings. Given that there were no re-measurement points at the time of validation, it was not possible to assess whether there was real or sustained improvement.
This was a generally well thought-out and designed improvement project with a reasonable intervention. It should be continued and refined, as there is moderate potential for improving the process and outcomes of care if the intervention is strong enough and the measures can be evaluated in a reliable and valid manner. The data analysis can be improved by specifying the data extraction parameters and using descriptive statistics. The use of member months as a denominator was not clear especially since data are presented in percents (rate per 100).

Missouri Care should evaluate all the indicators specified in the PIP and evaluate the implementation of the intervention and assess whether it is strong enough or whether additional steps need to be taken to address specific barriers. Use process measures of the effectiveness of the implementation of the intervention, clarify methods of calculating measures, and develop a valid analytical plan.

STRENGTHS

1. Identification of the problem and rationale for the study topic were well written and addressed a broad spectrum of members.
2. The hypotheses and study questions suggested a number of measures. The "missed opportunities" measure was a unique one that can be used for feedback to providers.

AREAS FOR IMPROVEMENT

1. The studies as written were difficult to validate and there was little institutional memory for the processes due to turnover in the quality management department. This highlights the importance of clearly defined, written, and documented studies as well as policies, procedures, and protocols.
2. Measures of the number of members in the target population that were reached by the intervention and other measures indicating they were reached are important in evaluating the implementation of the intervention.
3. Numerators and denominators of measures should be clearly defined and described; and calculated consistent with the definitions.

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4. Prior to the implementation of the PIP, there should be a clear plan for analysis (e.g., statistics used to compare pre- post- intervention measures, analyses for each measure, and re-measurement time periods). Modifications in the plan at the time of analysis should be explained.
5. Consider whether the intervention(s) chosen are likely to impact the measures used, and whether the interventions were strong enough to produce the intended outcomes. Measures or interventions may need to be adjusted accordingly.

RECOMMENDATIONS

1. Use logic models to develop study questions, hypotheses, and measures. The study question, hypotheses, measures, and interventions should be logically linked to one another.
2. Use process measures (short-term measures) to assess the effectiveness of the implementation of the intervention (e.g., number and rate of physicians contacting the MCOs regarding immunizations, rate of use of lead screening and filter paper forms for blood lead testing, evaluation of the training).
3. Identify and describe measures and calculations in detail. Describe the formulas and definitions used for calculating numerators and denominators and use these in the presentation of data.
4. Continue to attend to changes in measurement and adjust accordingly. When the calculation of measures changes, this needs to be clearly pointed out in any verbal or graphical presentation of analyses. Ideally, data should be re-calculated retrospectively to ensure continuity with novel definitions.
5. Consider all interventions that may be impacting the intermediate and long-term outcomes. Document all interventions and system changes that may have an impact (positive or negative) on the findings, outcomes, or interpretation of the study.

Validation Of Performance Measures

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Missouri Care. Missouri Care submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

METHODS

Objectives, technical methods, and procedures are described under separate cover. This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Missouri Care (Missouri Care). Missouri Care submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and

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February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by Missouri Care
- The Baseline Assessment Tool (BAT) submitted by Missouri Care
- MEDSTAT's NCQA HEDIS Compliance Audit Report for 2004
- HEDIS 2003 custom code mapping
- HEDIS 2003 APS Data repository, Repository File Structure
- Missouri Care's HEDIS Data Entry Training Manual
- Missouri Care's Policies pertaining to HEDIS rate calculation and reporting

The following are the data files submitted for review by the EQRO:

- Medications Use for Asthma Sample.xls
- Adolescent well care sample.xls
- Adolescent Imm Sample.xls

Interviews

The EQRO conducted on-site interviews with Brenda Moore, Katie Dunne, and via conference call with Greg Cohen (of Austin Provider Solutions), Karen Richards and Jean Vertefeville (NCQA-certified auditors) at Missouri Care in Columbia on Wednesday, March 23rd, 2005. This group was partly responsible for the process of calculating the HEDIS 2004 performance measures. There was recent turnover in staff at Missouri Care responsible for coordinating the calculation of performance measure. The objective of the on-site visit was to verify the methods and processes behind the calculation of the three HEDIS performance measures. This included both manual and automatic processes of information collection, storing, analyzing and reporting.

FINDINGS

Missouri Care calculated the Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures using the Hybrid Method. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

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The HEDIS 2004 rate for Adolescent Immunization Status, Combination #1 reported to the SMA and the State Public Health Agency (SPHA) by Missouri Care was 52.07%. This was significantly higher than the statewide rate for all MC+ MCOs (14.36%; z = 1.15; 95% CI: 37.21%, 66.93%; p > .95).

The HEDIS 2004 rate for Missouri Care for the Adolescent Well-Care Visits measure was 41.49%, which was significantly higher than the statewide rate for all MC+ MCOs (30.13%; z = .1.61, 95% CI: 36.61%, 46.37%; p > .95). The 2004 HEDIS rate for Missouri Care for the Use of Appropriate Medications for People with Asthma was 65.41%, which was significantly higher than the statewide rate for MC+ MCOs (63.92%, z = .56; 95% CI: 61.77%, 69.05%; p > .95).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

The information systems (IS) management policies and procedures for rate calculation were evaluated consistent with the Validating Performance Measures Protocol. For all three measures, Missouri Care was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which Missouri Care transferred data into the repository used for calculating the HEDIS 2004 measures.

Documentation of Data and Processes

Missouri Care and its affiliate, Schaller Anderson, contracted with Austin Provider Solutions (APS) for the calculation of the HEDIS 2004 performance measures. APS used an internally-developed application for the measures to be calculated. The application is in the final stages of NCQA certification and has been reviewed by the NCQA-certified auditor, MEDSTAT, for source code validation and efficiency of data integration. The EQRO was provided with a process overview of the QMACS claims management system, a registered trademark owned by Quality Care Solutions, Inc. (QCSI), and a validation overview of the HEDIS Data repository of APS. The EQRO was also provided with an overview of the data flow and integration mechanisms for external databases for

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these measures. Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). Missouri Care met nearly all criteria that applied for all three measures. Two of the criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by the MCO to assess the significance of change related to quality improvement activities and operational changes. One item that was not met was related to the implementation of the medical record review process. Missouri Care was unable to locate the data sheets with member identifying information and medical record review findings from the HEDIS 2004 review.

Processes Used to Produce Denominators

Missouri Care met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of members eligible for the services being measured.

Missouri Care employed a 5% oversample rate for the Adolescent Immunization Status and Adolescent Well-Care Visits measures. For the Adolescent Immunization Status measure, there were two records excluded due to contraindications identified through administrative data, and there were two records chosen from the auxiliary list for replacement, making for a total sample of 411.

For the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure, there were a total of 411 administrative numerators in the validated file. There was no duplication of members. The dates of birth were within the valid range. The dates of enrollment were not provided for validation. The total number of administrative hits reported was 63, and 61 were validated by the EQRO.

For the HEDIS 2004 Adolescent Well-Care Visits measure, there were a total of 411 members listed in the files provided by Missouri Care. The DST shows a denominator of 388, with a final sample size of 408 after a 5% oversample. There were no exclusions allowed for the measure, and no exclusions or replacements were reported. There was no explanation provided for the observed discrepancy. There were no duplicate member names, identification numbers or dates of

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birth. The dates of birth were within the valid range. The dates of enrollment were not provided. Codes for well care visits were not provided.

For the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure, there were a total of 344 denominators reported and validated. There were no duplicate members and the dates of birth were in the valid range. The dates of enrollment were not provided.

Processes Used to Produce Numerators

All three measures included the appropriate data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria (see Attachment XIII: Numerator Validation Findings). Medical record reviews were conducted for the Adolescent Immunization Status and Adolescent Well-Care Visit measures.

For the HEDIS 2004 Adolescent Immunization Status Combination #1 measure, Missouri Care appropriately included administrative events from the State Public Health Immunization Registry (MOHSAIC). A total of 61 of the 63 administrative hits were validated. For the medical record review validation, the EQRO requested 30 of the 151 medical records reported to have contributed to the hybrid hits. A total of 23 of the 30 medical records were received for review, and 15 of them were validated by the EQRO. The rate calculated by the EQRO based on validated administrative and hybrid hits was 33.09%, resulting in an overestimate of 18.98%.

For the HEDIS 2004 Adolescent Well-Care Visits measure, 124 of the 125 administrative hits reported were validated. The EQRO requested a sample of 30 of the 36 medical records reported to have contributed to the hybrid hits. Twenty-four (24) records were received for review and 2 were validated. This resulted in a rate of 32.47%, a 9.02% overestimate. When examining the criteria for a complete well-care visit, it was found that 7 of the 23 records reviewed showed evidence of a medical history, 17 showed evidence of a physical examination, and 8 showed evidence of anticipatory guidance. Two records met all three criteria to be counted in the numerator.
The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was the third measure validated. All 225 numerator hits reported were validated. The dates of services range for administrative hits were within the valid range. Codes for numerator events were not available and could not be validated. There was no bias observed.

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Sampling Procedures for Hybrid Methods

The Hybrid Method was used for the Adolescent Immunization Status and Adolescent Well-Care Visits measures. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings were completed for each of these measures.

Submission of Measures to the State

Missouri Care submitted the DST for each of the three measures validated to the SPHA (the Missouri Department of Health and Senior Services; DHSS) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy.

Determination of Validation Findings and Calculation of Bias

Table 1 shows the estimated bias and the direction of bias found by the EQRO. Both measures calculated by the Hybrid Method were beyond the 95% lower confidence limits reported by the MCO. There was no bias observed in calculation of the Use of Appropriate Medications for People with Asthma measure.

Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures

Measure	Estimate of Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	18.98%	Overestimate
Adolescent Well-Care Visits	9.02%	Overestimate
Use of Appropriate Medication for People with Asthma	0.00%	None

Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure. Table 2 below summarizes Final Audit Ratings based on the Attachments and validation of numerators and denominators.

Table 2. Final Audit Rating for HEDIS 2004 Performance Measures

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Not Valid
Adolescent Well-Care Visits	Not Valid
Use of Appropriate Medication for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by Missouri Care. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

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STRENGTHS

1. Missouri Care was fully compliant with the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure.
2. Missouri Care demonstrated a significantly higher rate of the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure compared to the average for all MC+ MCOs, and the National Commercial rate.
3. There was effective use of data from the State Public Health Immunization Registry (MOHSAIC) for the calculation of the immunization rates. Austin Provider Solutions (APS) provides the members' identification data to the SPHA and obtains an extract of immunizations for the members eligible. This data are loaded into the HEDIS data repository (SQL Server) and integrated into the calculation of the numerators.
4. Missouri Care used reporting software by APS for calculation of HEDIS performance measures that has been reviewed by the NCQA-certified auditor, MEDSTAT. This application software has been reviewed and tested for source code verification by MEDSTAT, but is not NCQA-certified or tested.
5. Missouri Care had no capitated providers, which may have contributed to higher rates of administrative hits.
6. There were effective edit and validity checks within the QMACS claims system. There was a mechanism to create error logs within QMACS which enables the user to create reports and verify accuracy.
7. Missouri Care has identified several actions for improving the HEDIS rate calculation process in the future, based on feedback provided at the exit interview and preliminary performance validation findings. These include closer coordination with APS, documentation of the process, improved security of data, the use of statistical significance testing comparing rates from year to year, support APS' pursuit of NCQA certification for software, and additional staff training for HEDIS measure calculation.

AREAS FOR IMPROVEMENT

1. There is a need for improved documentation on the HEDIS rate calculation process. Missouri Care should maintain HEDIS project plans and polices related to the calculation of the HEDIS measures on-site.
2. There is an opportunity to increase ownership and control by Missouri Care over the rate calculation process. There is a need to have adequate knowledge transfer processes in the event of turnover within the organization. Due to recent turnover, Missouri Care had no "pull sheets" with medical record review data for individual patients.
3. Missouri Care used a medical record review software, which was used as a tool for retrieving medical records that needed to be reviewed. This application has a module for data entry that does not indicate whether administrative data has been previously entered. The design of this module and the requirement to re-enter data leaves open the possibility for data entry error of valid administrative data. Missouri Care follows the process identified by the NCQA auditor, MEDSTAT.
4. Data analysis should incorporate tests of statistical significance to assess whether the observed changes in rates are related to a specific intervention. Currently, as per NCQA guidelines,

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auditors monitor the percentile change in annual rates, but there was no indication whether any statistical tests of significance were conducted on the rates or communicated to Missouri Care; or whether such tests were used by Missouri Care to examine the significance of increases or decreases from year to year.

RECOMMENDATIONS

1. Improve documentation of the HEDIS rate calculation process by developing and maintaining a set of information system policies for the HEDIS rate production on-site to allow for continuity and validity of the process of rate production in the event of turnovers.
2. Increase ownership and control by Missouri Care over the process of calculation of HEDIS measures by designating an employee to closely coordinate with APS and clearly assigning responsibilities related to the HEDIS rate calculation processes within the organization.
3. Review privacy and security policies with regard to medical record handling and storage of protected health information (per the Health Insurance Portability and Accountability Act) within the organization.
4. Conduct and document statistical comparisons on rates from year to year.
5. Encourage APS to pursue the NCQA certification for the HEDIS performance measure rate reporting software.
6. Training of MCO staff involved in the oversight of coordination of performance measure calculation is strongly recommended. The NCQA offers workshops on the calculation of HEDIS measures.

Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical Fields?

For the Medical claim type, there were a total of 93,315 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete, accurate and valid (with rounding). Three invalid dates of service ranged from 12/09/2001 – 12/23/2003 for three fields.

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4. The Outpatient Last Date of Service field was 100.00% complete, accurate and valid (with rounding). Four invalid dates of service ranged from 04/08/2004 – 06/24/2004.
5. The Outpatient Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete, accurate and valid.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 47.48% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 21.88% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 9.41% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Dental claim type, there were a total of 9,956 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

For the Home Health claim type, there were no encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

For the Inpatient claim type, there were a total of 7,326 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate, 94.46% valid. Invalid dates ranged from 11/11/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 99.82% of the time (with 13 entries of "99999999"). Valid values were present 97.86% of the time. In addition to the invalid "99999999" entries, invalid dates ranged from 04/01/2004 – 04/02/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete with the correct number of characters (size). The correct type of information and valid codes occurred 99.89% of the time. There were eight invalid codes of "16".

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8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (85.59%, 63.21%, 0.00%, and 0.00%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 94.46% valid. Invalid dates of service ranged from 11/11/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 98.03% valid. There were four invalid dates of service ranging from 04/01/2004 – 04/02/2004.
12. The Revenue Code field was 99.99% complete, accurate, and valid. One invalid field was blank (incomplete, inaccurate, and invalid).
13. The Units of Service field was 100.00% complete and 98.98% accurate and valid. Invalid values were accounted for by 75 entries of "00000".

For the Outpatient Hospital claim type, there were a total of 50,707 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. Missouri Care had 100.00% complete, accurate and valid data for all fields examined, except the third through fifth Diagnosis Codes. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 51.51% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 23.44% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth and fifth Diagnosis Code fields were 0.00% complete, accurate and valid.

For the Pharmacy claim type, there were a total of 70,403 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. Missouri Care had 100.00% complete, accurate and valid data for all fields examined.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for Missouri Care, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. All critical fields for the Medical, Outpatient Hospital, Dental and Pharmacy claim types were 100.00% complete, accurate, and valid (see previous findings). The Inpatient Claim type had invalid data in

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the Discharge Date, Patient Status, and Units of Service fields, with one blank field for the Revenue code.

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation. The following section summarizes the findings of the data submission process.

What is the Level of Volume and Consistency of Service?

When comparing the rate of encounter claim types per 1,000 members, the rates for Dental and Inpatient encounter claim types were consistent with the average for all MC+ MCOs. The rates for Medical, Pharmacy, and Outpatient Hospital claim types were significantly higher than the average for MC+ MCOs. This suggests high rates of encounter data submission and at least moderate access to preventive and acute care.

The findings from the performance measure analysis were consistent with the high rates of encounter claims, as Missouri Care identified significantly higher administrative hits for the HEDIS 2004 Adolescent Immunization Status, Combination #1, Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures.

To what Extent do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review.

Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both

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medical records and claim forms or claim histories for review. There were 67 medical records (67.0%) and 21 claim forms (21.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 44.0%, with a fault rate of 56.0%. The match rate for diagnoses was 50.0%, with a fault rate of 50.0%.

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing information (n = 90) or incorrect information (n = 3). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 37), or no match with the description of the symptoms based on the information in the medical record (n = 11). For the diagnosis code on the claim form, the reasons for diagnosis codes not matching the SMA extract file were missing or illegible information (n = 81), or possible data entry or recording error by the provider (n = 2). The reasons for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 74), and incorrect codes (n = 1).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 6), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 5), incorrect codes (n = 5), and upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 9). For the procedure code on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 77), or an incorrect code (n = 3). For the procedure description on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 85), and incorrect descriptors (n = 1).

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data

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for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, Missouri Care had difficulty submitting files in the requested file layouts for the performance measure validation and encounter data validation processes. Files were requested in flat file (comma-delimited), machine-readable format. Microsoft Access and Excel files were submitted in response to the request for file layouts in national standard formats. This limited the ability conduct validation of encounter claims data. The following section summarizes the issues found when attempting to load files submitted for encounter data validation analysis.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

There was no documentation, file layouts, or programs associated with the file submission from Missouri Care.

1. EPSDT 4 10.mdb 2,796KB Microsoft Access Application 12/27/2004 3:14 PM
   This Microsoft Access file consisted of two tables, with indicators for type of form ("1500" and "UB-92) and a field indicating "paid" and "unpaid". There were no records able to be loaded for analysis, as it was not in any known file layout and there was no documentation provided.

2. EQRO List 2004.xls 153KB Microsoft Excel Worksheet 12/23/2004 3:27 PM
   This Microsoft Access file consisted of two tables, with indicators for type of form ("1500" and "UB-92) and a field indicating "paid" and "unpaid". There were no records able to be loaded for analysis, as it was not in any known file layout and there was no documentation provided.

3. EQRO Tbl.xls 513KB Microsoft Excel Worksheet 12/27/2004 3:12 PM
   This Microsoft Excel file consisted of two tables, with indicators for type of form ("1500" and "UB-92) and a field indicating "paid" and "unpaid". There were no records able to be loaded for analysis. No documentation provided

4. 04122301.hcf 2,868KB HCF File 12/23/2004 3:00 PM
   This file was able to be loaded for analysis using the NSF/CMS 1500 file layout.

5. 04122301.hip 57KB HIP File 12/23/2004 3:03 PM
   This file was able to be loaded for analysis using the UB-92 file layout.

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6. 04122301.hop 207KB HOP File 12/23/2004 3:15 PM

   This file was able to be loaded for analysis using the UB-92 file layout.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields examined for the Medical, Dental, Outpatient Hospital, and Pharmacy claim types were 100.00% complete, accurate and valid.
3. The rates for Medical, Pharmacy, and Outpatient Hospital claim types were significantly higher than the average for MC+ MCOs, suggesting high rates of encounter data submission and at least moderate access to preventive and acute care.
4. The rates of identification of administrative hits for performance measures were significantly higher for Missouri Care, suggesting more complete claims data for immunizations and well-care visits.
5. Missouri Care had significantly higher rates of match for the procedure and diagnosis codes between medical records and the SMA encounter claims data than the average for all MC+ MCOs. This was largely accounted for by the higher rate of medical records submitted by providers, as errors were primarily related to missing or illegible records.

AREAS FOR IMPROVEMENT

1. The Discharge Date, Patient Status, and Units of Service fields had invalid entries for the Inpatient claim type.

RECOMMENDATIONS

1. Ensure that Discharge Date, Patient Status, and Units of Service fields are complete and valid for the Inpatient (UB-92) claim types, and institute error checks to identify invalid data.
2. Always include the Revenue Code regardless of the Procedure Code for the Outpatient Hospital and Inpatient claim types (UB-92 layout).
3. For audit purposes, submit extract files for performance measures and encounter data in the requested file layouts with the requested documentation of files.

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MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for Missouri Care (Missouri Care). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by Missouri Care, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MC+ MCO, Missouri Care was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Agreements
- Member Marketing and Education Plan
- Sample of Grievance and Appeal files representing both members and providers

Additional documentation provided by Missouri Care on-site:

- Appointment Standards and Travel Distance Policy
- Member Rights and Responsibilities Policy
- Record Retention Policy
- Quality Management Plan Policy
- MC+ Marketing Materials
- Missouri Care Health Plan Highlights Calendar Year 2004
- Filter Paper Lead Screening Tool Kit for providers
- Lead Screening Information for Schools and Families
- Missouri Care Newsletters for Member, Providers, School Nurses
- Missouri Care New Member Packet
- Marketing Material brochures and school information
- Grievance and Appeal – Compliance Procedure (07/07/04)
- Provider Complaints Procedure/Remittance Advice Message language
- Service Investment Committee Meeting Minutes - 2004
- Medical Quality Management Meeting Minutes – 2004
- Credentialing Committee Meeting Minutes – 2004
- Record Retention Policy
- Prior Authorization Policy
- Schaller Anderson of Missouri – Organizational Chart

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Interviews

The following individuals were interviewed on March 23, 2005 during the on-site review:

Plan Administration
Susan Christy, Executive Director and Plan Administrator
Jan Swaney, MD, Chief Medical Officer
Brenda Moore, RN, Manager, Medical Management

Quality Assurance
Brenda Moore, RN, Manager, Medical Management
Jan Swaney, MD, Chief Medical Officer
Tammy Wiese, Manager, Quality Management
Debbie Langley, Member Solutions Manager, Grievance Manager
Katie Dunne, Senior Quality Management Coordinator
Jean Gurucharri, RN, Quality Coordinator
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Jean Gurucharri, RN, Quality Coordinator

Member Services/Case Management/Utilization Management
Debbie Langley, Member Solutions Manager
Gina Cooper, RN, Prior Authorization
Marilyn Thomas, RN, Case Manager
Robin Hubble, RN, Case Manager
Marilyn Frazier, RN, Case Manager

Provider Services
Susan Christy, Executive Director, Plan Administrator
Catherine Noel, Manager, Provider Relations

Mental Health
Brenda Moore, RN, Manager, Medical Management
Melody Dowling, UM Manager
Jan Swaney, Chief Medical Officer

By Teleconference:
Carol Matyas, VP Public Sector, Schaller-Anderson Corporate Office

FINDINGS

Enrollee Rights and Protections

Missouri Care exhibited a strong commitment toward member rights. The MCO staff explained that they believed in the inherent dignity of each member they serve. Cultural competency training was regularly scheduled for all employees in an effort to educate and raise awareness of cultural issues. Missouri care used the AT & T language line to ensure that interpreter services were always available. They used a TTY line to communicate with members who were hearing-impaired. They had the capacity to have materials put in alternative formats for members who were visually impaired or had limited reading proficiency, as requested. The MCO staff used their initial contacts with members to identify conditions that would create barriers for members in understanding or using the services available. Missouri Care was committed to assisting members in resolving these issues.

Ratings for compliance with Enrollee Rights and Protections ((53.8%) reflected a number of policies that Missouri Care must complete and submit to the SMA for review and final approval. The MCO was aware of the policy requirements and expressed a willingness to correct this issue.

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Quality Assessment and Performance Improvement

Access Standards

Missouri Care, through its association with the University of Missouri, University Physicians Network, had access to PCPs and specialists throughout the MC+ Managed Care Region. The efforts of the MCO ensured that there were healthcare services in areas that were previously underserved, particularly for the MC+ Managed Care population. The MCO was willing to utilize out-of-network providers when this would best serve a member's needs. They did not find that the need for out-of-network providers occurred regularly due to the extensive network available. Provider Services staff monitored the issue of timely access by making regular visits to provider offices, and responding to member complaints. When a problem was identified, corrective action was implemented quickly. The MCO took additional steps such as identifying providers, including dentists, who set aside blocks of time to serve members, particularly on an emergency or urgent care basis, and encouraged providers to send out reminder notices for preventive care appointments.

Missouri Care had an extensive case management program that provided assessment of all members identified with special healthcare needs. The MCO ensured that these members had access to all required services. The case management team worked with members to overcome barriers they might have when attempting to obtain healthcare. This staff was knowledgeable about the MCO benefits and about available community resources that might assist members. The case managers utilized the assistance and knowledge of local health departments in accessing some services and to ensure that members' needs were met. The case managers admitted that creativity and diligence were required due to the variety of issues they encountered throughout their eighteen county MC+ Region.

The ratings for compliance with the Access Standard regulations ((70.6%) reflected that the MCO continued to have a number of policies requiring completion and submission to the SMA for their review and approval. A number of policies were returned to the MCO, by the SMA, for revision. These revisions were not re-submitted to the SMA at the time of the on-site review.

Structure and Operation Standards

Ratings for compliance with the Structure and Operation Standards regulations ((90%) reflect that the MCO was substantially compliant with this section of regulations. They had approved policy and

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sound practice regarding credentialing and recredentialing providers. The MCO submitted all policy regarding disenrollment. All practice issues regarding disenrollment, information to members, and policy reviewed met the requirements of this regulation. Missouri Care had approved agreements with their subcontractors, and actively worked to ensure that they were complying with necessary regulations. The MCO had one remaining policy to be completed and submitted to the SMA for approval.

Measurement and Improvement

Missouri Care had instituted clinical practice guidelines to ensure consistent service delivery and decision-making regarding healthcare for members. These guidelines were disseminated through provider training initiatives in the Region. The guidelines were in the Provider Manual and included asthma, diabetes, CHF/COPD and ADHD.

The MCO did operate an internal quality assessment and improvement program., called the Quality Management Oversight Committee. (QMOC), consisted of members from each department. Each internal department participated in developing quality metrics to assess their performance. The large group met quarterly and implemented recommended changes that improved organizational performance. The MCO initiated a Service Improvement Committee (SIC) comprised of all department managers. This group discussed all member complaints. The head of Medical Management then reviewed all medical records associated with these complaints. If a problem remained unresolved, the record was forwarded to the Chief Medical Officer (CMO). The CMO reviewed the record and presented the complaint to the Medical Quality Committee and Quality Management Oversights Committee. Any necessary corrective action occurred immediately after case review.

The MCO provided two Performance Improvement Projects for validation. The detailed findings are located in the appropriate section of this report. The MCO used the hybrid method to validate two Performance Measures and had some difficulty in meeting the requirements for medical records submission. Missouri Care did have a health information system (HIS) capable of meeting the MC+ Managed Care program requirements. The system did not provide encounter validation data in a format that allowed the required analysis. These were areas in need of improvement.

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Ratings for compliance with Measurement and Improvement regulations (63.6%) reflected need for improvement in data submitted and the need for required policy. The MCO continued to have MC+ Managed Care Program required policy that was not in place. This policy should be completed and submitted to the SMA for their final review and approval to achieve compliance with these regulations.

Grievance Systems

Ratings for Grievance Systems regulations ((94.4%) reflect that Missouri Care was substantially compliant regarding the policy and practice of their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files followed prescribed policy and timelines. Notices to members were sent within required timeframes and contained all required information. This information included the member's ability to file a State Fair Hearing simultaneously with an MCO appeal, or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service. The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained the healthcare they needed. When an appeal was filed, it was recorded in the MCO tracking system to ensure that another qualified individual, not involved in the original decision, reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement process.

Missouri Care had not submitted required policy regarding properly informing providers and subcontractors about the grievance system. This policy must be completed and submitted to the SMA for their final review and approval to be fully compliant with these regulations.

Summary and Follow-up

Behavioral Health

Utilization and member satisfaction were two prominent follow-up issues regarding behavioral health services for Missouri Care. The MCO expected to give more attention to these issues during the coming year with the change to Missouri Care direct management of behavioral health services. Missouri Care staff indicated that since they became more involved in utilization management,

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tracking services provided and service integration had improved. Many of the specific processes remained under development as this was still new to Missouri Care.
Overall the provider network, including participating hospitals, had increased with the change to direct provision of behavioral health services by Missouri Care. Most CommCare providers chose to participate in the new Missouri Care network. The MCO believed no member lost services, or suffered negative therapeutic consequences from this change.

The studies that were conducted previously by CommCare were not available, so follow-up could not occur. The current Missouri Care Medical Director had convened an ADHD task force following a review of pharmacy data. This group included physical and behavioral health providers, school representatives, and parents. Rural counties were represented. The task force goal was to develop practice guidelines and a tool kit for assessment and service coordination for members and providers. The Medical Director hoped that a secondary outcome from the work this group was engaged in would be better integration of behavioral and physical health services.

Electronic Claims Submission

Missouri Care stated that their previous rate of electronic claims submission had been in the 40-50% range. The MCO was using the expertise of their consulting organization, Schaller Anderson, Inc., to make improvements in this area. By the end of 2004 their rate of electronic claims submissions improved to 55%. Their 2005 goal was 70%. The MCO believed they would meet this target because of a change in laboratory subcontractors.

EPSDT Initiatives

The rate for EPSDT screenings for children and adolescents continued to be an issue for Missouri Care. They started several initiatives to increase this rate. The MCO was sending overdue lists to PCPs in addition to the reminder cards sent to members. Providers were asked to send additional reminders to their member-patients. Missouri Care was attending Back-to-School fairs and completing EPSDT screenings on-site. This initiative led to 105 high school age adolescents obtaining screenings in the school districts where this occurred. Adolescents who were screened received a pass to the University of Missouri athletic event of their choice as an incentive for having

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the examination. Missouri Care planned to provide on-site screenings again this fall, and hoped to include more districts in the process. Another sample of adolescents who had not received EPSDT screenings were offered movie passes for obtaining the examination. Fifty-five members took advantage of this incentive.

Special Health Care Needs

Missouri Care used the short form of the Child and Adolescent Health Measurement Initiative (CAHMI) survey with children identified as requiring an assessment for special health care needs. The MCO reported that approximately 10% of all referrals met the threshold for receipt of case management services. The MCO believed this tool was effective although they had not conducted any formal evaluative study.

Missouri Care was collaborating with the Boone County Health Department. The Health Department provided Prenatal Case Management services for the MCO. They were also reimbursed for identification of members in need of case management and completion of risk assessments.

STRENGTHS

1. Missouri Care convened an ADHD Task Force that was developing practice guidelines. The end product was expected to be expanded guidelines to address both behavioral and physical health best practices. Missouri Care believed that this process would lead to procedures for improved communication between PCPs and other specialty providers.
2. Missouri Care was working with the SMA to allow the use of Tele-psychiatry services in at least three communities where a child psychiatrist was not available. This would create a method to increase the availability of a mental health specialty that was a limited resource for the Medicaid population (i.e. rural areas).
3. Beginning in August 2004, Missouri Care began providing behavioral health services directly, rather than through a subcontract with a Behavioral Health Organization (BHO). The goal was to create a more integrated approach to providing mental health services to Missouri Care members.
4. Missouri Care had a strong partnership with the University Physicians Network, due to their relationship with the University of Missouri. As a result, the MCO and its members had access to an extensive network of PCPs and specialists in this rural MC+ Region.
5. There was a strong case management team at Missouri Care. The case managers were knowledgeable about community resources and local services. They exhibited a strong commitment to member services.

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AREAS FOR IMPROVEMENT

1. Missouri Care staff needed to complete all documentation requirements to ensure compliance with the MC+ Medicaid Managed Care contract and the federal regulations.
2. Missouri Care needed to develop a systematic review process to ensure timely policy updates and annual reviews, as required by the MC+ Medicaid Managed Care contract or federal regulations.
3. Staff within Missouri Care understand their individual roles and responsibilities, but were sometimes unsure how they influenced other units within the organization. This created a gap in organizational knowledge that could lead to incomplete service delivery.

RECOMMENDATIONS

1. Continue completion of documentation with the same level of importance observed in the high standards reflected in the daily practice within the MCO. The MCO should establish a policy and procedure for the annual review of all MCO policies.
2. Continue MCO development in the area of utilization of available data and member information to drive change and create opportunities for organizational growth and development.
3. Integrate knowledge of all organizational functions throughout Missouri Care to ensure a more holistic approach to member services.
4. Continue tracking electronic claims submissions and make adjustments throughout the year to reach targeted goals in this area.
5. Continue using creative methods to engage the support and interest of school superintendents in providing the EPSDT screenings on-site. Utilize MCO data to identify the districts outside of Columbia that have large numbers of MC+ Managed Care members. Missouri Care can market this plan and past success to these superintendents. Track all efforts and use this data for future planning purposes.
6. Continue current community-based and local health department partnerships. Use this as a method of engaging other rural health departments who may have the capacity to provide services in underserved areas.

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FAMILY HEALTH PARTNERS

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Document Review

- Family Health Partners supplied the following documentation for review:
- Lead Performance Improvement Project Description
- Lead Performance Improvement Project Worksheet
- Lead Case Management Referral Rates
- Emergency Room Utilization Performance Improvement Project Description
- Nurse Advice Line Utilization chart
- Emergency Room Utilization Chart

Interviews

Project Leaders, participants, and the Medical Director were interviewed on-site by the EQRO Project Director on Monday, March 14, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. Specific questions regarding each study were also addressed:

<u>Lead Performance Improvement Project</u>

- Why was the target population restricted to those continuously enrolled since birth?
- Why was the target population restricted to those with no lead claims since birth?
- What is the difference between the lead information letter and the educational letters?
- To what group is the reminder call/letter group(s) being compared? What are the age groups?
- What was the rate of BLL in the target population prior to implementation of the intervention(s)? This is the baseline (pre-intervention) rate.
- The hypotheses suggest well visit, lead toxicity rate, sick child visits, and hospitalization for chelation therapy as outcomes.
- How is the rate of BLL testing per member determined?
- When were the interventions put into place?
- How often are measures examined?

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Emergency Room Utilization Performance Improvement Project

- Was there a distinction made between non-emergent and emergent emergency room use made?
- Were there measures other than emergency room utilization that examined quality of care, access, or health-related outcomes?

FINDINGS

The first PIP evaluated was "Emergency Room Utilization." Family Health Partners identified that 90% of members who had emergency room visits more than twice in 60 days had not been seen by their physicians. Additionally, emergency room utilization increased by 17% and 43% for children and adults, respectively. The study questions were clear and understandable and imply some process measures to be used. They were: 1) "Do mailings of educational materials through direct mail and PCP offices increase the use of Nurse Advice Line services"?; and 2) "Do letters and phone calls to members who are utilizing the ER for non-emergency services affect and decrease overall ER use in the entire population"? The rationale presented was clear and identified a problem. This project was focused mainly on emergency room utilization. More emphasis should be placed on the improvement of care. For example, the study could concentrate more on the reasons why a significant number (90%) of their members who had ER visits had not had a PCP visit. Although this issue was mentioned in the description of the intervention, it did not receive attention in the study. The focus on the adult dental service education implies some knowledge of a possible health outcome to be incorporated in the study design. The intervention focused on educating members about the availability of primary care services and a Nurse Advice Line.

Interventions that were targeted toward identification of trends and reasons for inappropriate ER utilization (e.g., well-care utilization), could also be used to determine the effectiveness of the intervention. The rate of Nurse Advice Line calls and the rate of emergency room utilization measures were objective and clearly defined. It was not clear how many members were included at each of the baseline measurement points, or how many members for which time period constituted the proportions (e.g., 72% of calls to the Nurse Advice Line). There were no long-term outcomes stated. The introduction indicated a relation between the coordination of care, well-care, and quality of care. Some of these could have been measured.

The description of the study population should have been more thorough, to be clear about whether the study findings relate to MC+ Members only or other possible member groups, and whether all categories of MC+ Members were included in the study population. It was reported that all currently enrolled members were included in the study. However, no information on age,

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gender, or race was provided. Age ranges of child and adult populations should be described. The study did appear to capture those attending higher-volume facilities for unstated reasons. This should be more clearly described.

There was no sampling conducted. The data collection plan was clearly described. The method for collecting claims data could be presented in more detail. The data analysis plan referred to both pre- and post- intervention comparisons and statistical quality control charts, but no analyses were presented. Separate charts for adult and pediatric populations are recommended. There was reference to a control group but no rationale or data analytic plan presented. Data on the effectiveness of the implementation should also be collected to identify areas for fine-tuning the intervention (e.g., the number of members attempted to contact and number actually contacted). No specific barriers to the intervention were presented. The process developed for calling members who use the ER for non-emergency services was not described.

The charts presented in the study are a good start for data presentation. Upper and lower confidence levels should be included. The number of members for each measurement point as well as numerators and denominators for proportions should be included in any data presentation. It is recommended that 95% confidence interval should be employed for assessing change over these indices across time. The interpretation of the extent of success of the intervention was not provided. There was a quarterly update and quarterly data collection beginning in January 2004. The study findings were submitted November 2004 yet no pre- or post-intervention comparisons were presented. The description of the measures provided a clear understanding of the sources of data, the method of data collection, the participants included, and the tools used at each measurement point. In terms of documented improvement in process or outcomes of care, there was no interpretation of findings presented. The questions that remained included: 1) "Was there statistically significant increase in nurse advice line calls and a decrease in ER utilization?"; 2) "What misuses of the emergency room were identified?"; 3) "What root causes were identified?" A description of how the intervention was related to the measure improvements should be included.

This PIP is not likely to provide a credible evaluation of the impact of member education on the process of care without substantial revision. The study focused primarily on utilization and not enough on improvement of processes of care and therefore does not qualify as a Performance Improvement Project. There were some implications in the introduction that the use of emergency

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rooms was related to quality of care, coordination, and well-care, however there was no measurement of these concepts. The data analysis plan was vague and did not appear to have been applied.

Family Health Partners should consider a shift in the study's focus from utilization to identification of causes for inappropriate utilization. Member and provider surveys can help in identifying the source of the problem. Another intervention that was implied in the discussion was access to dental care for adults. This could be another area for measurement of the effectiveness of the intervention. Identify measures related to health care access or outcomes such as the use of well-care as the result of the intervention. Use available data to identify the target or point at which success will be considered to be attained (baseline data may be helpful in identifying a target for 10% or 15% improvement).

The topic of the second PIP evaluated was, "Improvement of Lead Screening rates among members between the ages of 6 months and 3 years". The current rates of lead screening among these groups should have been presented as a rationale for targeting this topic as a problem for improvement. The study questions were: 1) "Do letters and reminder calls to children identified as needing blood lead testing result in increased blood testing for those children?"; and 2) "Do letters and reminder calls to children identified as needing blood lead testing result in increased referrals to case management for high lead levels?". The study questions were stated clearly in writing, but will likely result in difficulty assessing the effectiveness of the intervention. It is recommended that this be redesigned to include all of the interventions and all children identified as eligible. The identification of children with no blood lead testing should be considered part of the intervention and the rates of all children eligible for the intervention and study should be assessed prior to and following implementation of the intervention. This could be a design where the same population is followed (comparing those who were able to contacted with those who were not on blood lead level rates) over time; or where statistical quality control charts for the rates of all eligibles at different points in time are examined to determine the direction of the trend and the statistical significance of the change.

The intervention involved identification and outreach for members who had not received lead screening, education of providers and members on lead testing, and education of health departments regarding coding and billing for lead screening.

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This was a nice multi-pronged intervention, targeting different systems involved in lead screening, for addressing low lead screening rates. It included agencies, members, and providers. The quality improvement initiative and intervention appeared to include those from 6 months to 3 years in age who were continuously enrolled during an unspecified time period, living in Johnson County and attending a participating agency. Study questions and hypotheses should be directed toward this population. The number of providers, agencies, and members included as well as their characteristics should be described. The intervention included a broad range of enrollees, but the study was overly restrictive in studying only those who had no lead screening. Also, the rationale for including only continuously enrolled members should be described, especially since the target geographic region, is considered high-risk .

The measures and their calculation were not well defined. The study used the rate of blood lead testing per member; the rate of case management cases referred for blood lead level greater than 10m/dL. The rate of blood lead testing per member is an unusual indicator. The rates would be from 0 (no blood tests in a year) to a relatively small number (possibly up to 3 or 4 lead tests per member in a year), resulting in a restricted range on the outcome indicator. It is unclear whether this was a rate for a particular year or timeframe. The rate for the entire study population should be examined, rather than the rate for each member. A simple percent of members tested of those who were eligible would be useful as an indicator and would be relevant to public policy and managed care policy on the requirements for blood lead testing. The indicators measured were different from those implied in the hypotheses. It was unclear how they related to those in the hypotheses and why some were measured and others were not. Numerators and denominators for rates should be clearly defined. For example, the rate for 3 months to 6-year-olds who were continuously enrolled during the specified time period and who received or did not receive phone calls could be examined. There were no comparative measures presented as benchmarks. It might be helpful to know what the rate of blood lead testing in other high-risk areas of the state or nation for comparison purposes. The indicators certainly measure changes in health status and outcomes, as the rates of blood lead screening and long-term health outcomes are closely interrelated.
It was unclear whether all MC+ Members were included in the intervention (e.g., 1115 Waiver, 1915b Waiver, children in State custody, consent decree children); or whether one group was followed over time, whether all other groups were included, or whether the study applied to MC+ Members alone. Measures of the entire population for which the study and intervention applied should be employed. Those who were not continuously enrolled were excluded from the analysis.

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This should be explained. Two measures were identified, but no methods of calculation were presented. The sources of data and methods of calculation including formulas should be presented. One source of data identified was a case management database. Measures were collected on a quarterly basis, but did not apply to the entire population being studied. They were restricted to only members who could be contacted by telephone, and those with blood lead levels meeting case management criteria. This is overly restrictive and will result in very low numbers as well as information that cannot be very well interpreted to assess the impact of the intervention being studied. There was a plan to generate a quarterly update report and another reference to semi-annual data collection, so it is not clear how often re-measurement points are planned. Given that the study was underway, and there was no re-measurement at the time of evaluation, the identification of improvement or sustained improvement was not able to be made.

The study as described and presented has low potential for producing valid findings from which to determine whether or not the intervention is effective. The strengths of the study include a multi-pronged intervention strategy which could be studied as a whole or in part (identification of members in need of blood lead testing, phone calls to members). Reasonable interventions were selected and they have a good potential to improve healthcare processes. There were also some system-level interventions taking place. With revisions to the data collection and analysis plan, this study could produce credible findings to assess the impact of the intervention. The baseline should consist of the rate of blood lead levels among all members of the eligible population prior to the intervention, with re-measurement at various points during the intervention. Alternatively, a comparison group of blood lead level rates for those members who are unable to be contacted could provide a method for measuring the impact of contacting and educating members.

It is recommended that more attention be devoted to the identification of barriers and development of interventions to address those barriers. Identify upper and lower confidence intervals and target numbers for identifying success of the intervention. Since the interventions are stratified, identify the rationale for so doing and stratify the data analysis by the type of members if there are enough eligible members. Rather than restricting measurement to whether or not a lead test was conducted, examine the rates of lead testing in each of the populations (for example those 6 to 12

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months old continuously enrolled since birth) pre- and post-intervention. This would allow for statistical significance testing of the strength of the intervention. Describe the interventions and how they are calculated. The rate of blood lead levels for 12- and 24-month-olds for those in the study population would also be good indicators.

STRENGTHS

1. The study topics were excellent.
2. Staff was qualified to plan, implement, and interpret the results of the intervention. There was a process of including clinical and health services staff in the planning, implementation, and refinement of performance improvement activities and projects.
3. There was good use of data as feedback for continued improvement processes. The use of Nurse Advice Line data was instrumental in deciding to simultaneously implement an intervention of placing a case manager in the emergency room at a local hospital as a pilot project. This has been implemented as a full intervention and improvement project at one hospital, and can be evaluated in the next PIP.
4. Data are planned to be collected and analyzed on a quarterly basis. At least quarterly data collection and analysis is strongly supported, to allow for refinements in the intervention(s).

AREAS FOR IMPROVEMENT

1. The findings of the performance improvement project should be completely described and self-contained and able to be repeated based on the level of description of the study elements, analyses, findings, interpretations, and recommendations.
2. Process measures of the effectiveness of the intervention at reaching the target population should be collected and examined at least quarterly. Measures which examine the effectiveness of the process of the intervention are critical in determining whether the intervention was implemented as planned.
3. Trend backward at least one year prior to the intervention for measures using claims data when constructing statistical quality control charts.

RECOMMENDATIONS

1. For the lead study, use process measures such as the number of members eligible for the study; the number able to be contacted by each method (e.g., mail and telephone) for each risk group (e.g., low and high) within each cohort (a new one selected every 3 months).
2. For the lead study, ensure that the majority of the population is included in the definition. For example, the 7,455 members from birth to 36 months of age continuously enrolled since birth should capture the majority of the population of members from birth to 36 months of age. Ensure that the continuous enrollment criteria do not unnecessarily exclude members that may be able to benefit from the intervention.

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3. Outcome measures for the lead study that should be examined quarterly within cohorts overt time include lead toxicity, case management referrals, and blood lead level testing. Over time, additional measures implied in the study could be added (e.g., well care visits, sick visits, chelation therapy).
4. When examining the utilization of any service, establish the link between the use of services and some short- or long-term outcomes. For example, access to primary care may serve as a short-term proxy measure of the effectiveness of reducing unnecessary emergency department use. This may also be associated with other measures of access, quality, or timeliness of care. Ensure that studies are not limited to utilization or cost alone.
5. When submitting studies for review and interpretation, submit and compile all data in writing, to include the entire process of problem identification, study rationale, baseline data, logic model and data analysis plan, findings to date, and the interpretation of the findings as well as recommendations for future interventions/quality improvement activities, and analysis.

Validation Of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Family Health Partners. Family Health Partners submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by Family Health Partners to the SMA
- The Baseline Assessment Tool (BAT) submitted by Family Health Partners for the HEDIS 2004 data reporting year
- Qualis Health's NCQA HEDIS Compliance Audit Report for HEDIS 2004
- Family Health Partners' information systems (IS) Policies and Procedures pertaining to HEDIS 2004 rate calculation
- Family Health Partners' information services (IS) policies on disaster recovery
- Family Health Partners' HEDIS 2004 implementation work plan and HEDIS committee agendas for 2004
- Family Health Partners' HEDIS 2004 Training Manual for the medical record review process
- Documentation, data files and source code of the in-house application for immunization rate calculation
- System edits for the claims management system
- HEDIS 2004 report numbers for Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma.

Family Health Partners (Family Health Partners) submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 24th, 2004 and February 28th, 2005.

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The following are the data files submitted by Family Health Partners for review by the EQRO:

- Denominator File Layout.xls
- HEDIS Denominators.mdb
- HQMDNP_AIDENOM04.txt
- HQMDNP_AIDENOM04.xls
- hqmdnp_ast10_17.txt
- hqmdnp_ast10_17.XLS
- hqmdnp_ast18_56.txt
- hqmdnp_ast18_56.XLS
- hqmdnp_ast5_9.txt
- hqmdnp_ast5_9.XLS
- hqmdnp_WC3_04.txt
- hqmdnp_WC3_04.XLS
- 2004 Mosaic DL.mdb
- 2004 MOSAIC DL.txt
- 2004 Mosaic DL1.mdb
- Adolescent Immunization 2003 Medical Record Review.mdb
- Adolescent Immunization 2003 Medical Record Review.txt
- Adolescent Immunization 2003 Medical Record Review.xls
- AI_ImmunizationHistory.xls
- File Layouts.xls
- tblAI_ImmunizationHistory.txt
- HQMDOP_AI2004HYBR.txt
- HQMDOP_AI2004HYBR.xls
- HQMDOP_AST10-17.txt
- HQMDOP_AST10-17.xls
- HQMDOP_AST18-56.txt
- HQMDOP_AST18-56.xls
- HQMDOP_AST5-9.txt
- HQMDOP_AST5-9.xls
- HQMDOP_WC3_04.txt
- HQMDOP_WC3_04.xls
- Numerator File Layout.xls

Interviews

The EQRO conducted on-site interviews with Janet Benson, Bob Clark, and Jenny Hainey at the Family Health Partners in Kansas City on Monday, March 14th, 2005. This group was responsible for calculating the HEDIS performance measures. The objective of the visit was to verify the data, methods and processes behind the calculation of the three HEDIS 2004 performance measures.

FINDINGS

Family Health Partners used the Administrative Method for calculation of Adolescent Well-Care Visits and Use of Appropriate Medication for People with Asthma measures. The Hybrid Method was used for the Adolescent Immunization Status measure. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent Well-Care Visit, and Use of

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Appropriate Medication for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

The rate for the HEDIS 2004 Adolescent Immunization Status, Combination #1 reported to the SMA and the State Public Health Agency (SPHA) by Family Health Partners was 58.88%. This was significantly higher than the statewide rate for MC+ MCOs (14.36%; z = 1.48; 95% CI: 44.02%, 73.74%; $p > .95$).

The rate for Family Health Partners for the HEDIS 2004 Adolescent Well-Care Visit measure was 32.93%, which was comparable to the statewide rate for all MC+ MCOs (30.13%; z = .47, 95% CI: 28.05%, 37.81%; n.s.). The rate for Family Health Partners for the 2004 HEDIS Use of Appropriate Medications for People with Asthma was 66.57%, which was significantly higher than the statewide rate for MC+ MCOs (63.92%, z = .77; 95% CI: 62.93%, 70.21%; $p > .95$).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

The information systems management policies and procedures for rate calculation were evaluated consistent with the Validating Performance Measures Protocol. This included both manual and automatic processes of information collection, storing, analyzing and reporting. The EQRO was provided with a demonstration of the in-house application developed for calculation of the immunization measure. This used an MS Access data repository for retrieval and analysis.

For all three measures, Family Health Partners was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which Family Health Partners transferred data into the repository used for calculating the HEDIS 2004 measures. Family Health Partners used an external vendor application module for rate calculation. This module was part of the claims management

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system, MC 400, a product of OAO HealthCare Solutions, Inc. This module was NCQA-certified for the 2002 HEDIS rate calculation, but the vendor didn't seek recertification for the 2004 reporting year. The EQRO was provided with a demonstration of the HEDIS reporting module of MC400 along with the data flow and integration mechanisms for external databases for these measures.

Documentation of Data and Processes

Data and processes used for the calculation of measures appeared adequate, however, the processes were not well-documented. (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). Family Health Partners met nearly all criteria that applied for all three measures. The two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by Family Health Partners to assess the significance of change related to quality improvement activities and operational changes. One creative aspect of data validation implemented by Family Health Partners involved the calculation of the Adolescent Immunization Status measures using administrative data and relaxing the time parameters employed by HEDIS Technical Specifications. A comparison of the rates of immunization status as documented through HEDIS measures and through examination of whether an immunization occurred at all were increasingly similar over the past several years. This suggests more timely administration of immunizations.

Processes Used to Produce Denominators

Family Health Partners met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of eligible members for the services being measured. A sample of 411members were reported and validated for the Adolescent Immunization Status, Combination #1 measure. A total of 10,188 eligible members were reported and validated for the Adolescent Well-Care Visits measure; and 2,429 eligible members were reported and validated for the denominator of the Use of Appropriate Medication for People with Asthma measure. Age ranges, dates of enrollment, medical events, and continuous enrollment were programmed to include only those members who met HEDIS 2004 criteria. Denominators in the final data files were consistent with

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those reported on the DST for all three measures. All members were unique and the date of birth ranges were valid.

Processes Used to Produce Numerators

All three measures included the appropriate data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria (see Attachment XIII: Numerator Validation Findings).

For the HEDIS 2004 Adolescent Immunization Status, Combination #1 measure, Family Health Partners appropriately included administrative events from the State Public Health Immunization Registry (MOHSAIC). Review of the administrative hits validated 130 of 134 hits in the files provided for review by the EQRO. Twenty-nine (29) of 30 medical records requested for review were received, and 27 records resulted in validated hybrid hits. As a result, the medical record review validated 97 of the 108 hybrid hits reported. The estimated bias from medical record review was 3.65%. Based on the number of hits validated by the EQRO, the rate calculated by the EQRO was 55.23%. The total estimated bias for the Adolescent Immunization Status, Combination # 1 measure was 2.63% overestimate of the rate.

Family Health Partners used Administrative Method to calculate HEDIS 2004 Adolescent Well-Care Visits measure. There were a total of 3,355 numerators reported before exclusions and 3,355 reported in the numerator of the measure. It is unclear what exclusions were made, as there are none permitted in the HEDIS Technical Specifications for either Hybrid or Administrative Method calculation of this measure. The dates of service were 100% valid. The visits were identified using CPT codes 99383-99385, 99393-99395 and ICD-9CM codes V20.2, V70.0, V70.3, V70.5-6, and V70.8-9. There were 308 members with codes that did not meet the criteria provided in the NCQA Technical Specifications for Adolescent Well Care Visits. Some of these were CPT codes 59400, 59510, 99222, 99223, 99244, 99245, 99254, 99255, 99381, 99384, 99385 and 99392. Most of these were codes for general and specific obstetric visits, while some represented inpatient or infant exams. The HEDIS 2004 Technical Specifications allow for counting visits that are not for purposes other than well-care (p. 218): "Preventive services may be rendered on the occasion of visits other than well-care visits. If the specified codes are present, these services count, regardless of the primary intent of the visit." However, the codes included are not specified in the Technical

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Specifications. The rate calculated by the EQRO was 29.91%. The estimated bias from the incorrectly included CPT codes was a 3.02% overestimate of the rate.

The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was the third measure validated. There were a total of 1,617 numerators validated. Eleven different diagnosis codes were provided and of those, only ten matched with NCQA specified codes for this measure. However, all events were associated with prescription of a formulary medication for Asthma. The dates of birth and dates of service were in the correct range and valid. The dates of enrollment were not provided. The NDC code range was valid. The rate calculated by the EQRO was 66.57%, with no bias in the reporting of the measure.

Sampling Procedures for Hybrid Methods

The Hybrid Method was used for the Adolescent Immunization Status, Combination #1 measure. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings were completed for each of these measures. Family Health Partners was compliant with all specifications for sampling processes.

Submission of Measures to the State

Family Health Partners submitted the DST for each of the three measures validated to the SPHA (the Missouri Department of Health and Senior Services) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy.

Determination of Validation Findings and Calculation of Bias

The following tables summarize the estimated bias in reporting each of the measures and the final validation findings. Table 1 shows small overestimates of the Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures, with no bias observed in the calculation of the Use of Appropriate Medications for People with Asthma measure.

Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures

Measure	Estimate of Total Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	2.63%	Overestimate
Adolescent Well-Care Visits	3.02%	Overestimate
Use of Appropriate Medication for People with Asthma	0.00%	None

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Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure. Table 2 shows the final audit findings for each measure. The Adolescent Immunization Status and Adolescent Well-Care Visits measures were Substantially Compliant, as there was no significant bias associated with the overestimated rates. The Use of Appropriate Medications for People with Asthma measure was Fully Compliant with State specifications.

Table 2. Final Audit Rating for HEDIS 2004 Performance Measures

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Substantially Compliant
Adolescent Well-Care Visits	Substantially Compliant
Use of Appropriate Medication for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by the MCO. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

STRENGTHS

1. Family Health Partners effectively integrates the MOHSAIC data into administrative rates for calculation of immunization rates. The sample files are sent to the SPHA for identifying members with an immunization history. The SHPA returns a file with relevant immunization information for Family Health Partners' members. MOHSAIC data comprises a majority of hits within the administrative hits.
2. Rates for the HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures were higher than the National Commercial averages for these measures.
3. The rate for HEDIS 2004 Adolescent Immunization Status, Combination #1 measure was also higher than the National Medicaid average for the measure.
4. There was a well-designed HEDIS reporting module of the MC400 system. This module was certified by NCQA in 2002, but was not certified for 2004. Audit checks were conducted on this system by NCQA-certified auditors on an annual basis to confirm the system's output. The system generates appropriate production logs to track errors.
5. Data from external sources such as the pharmacy vendor AdvancePCS and data from medical record review was efficiently integrated. The format of data mapped in the integration process is automatically validated and also manually checked.
6. There were effective validity checks through automated system edits. The claims system has internal edit checks for every transaction. It also has an error handling mechanism that validates the process.
7. Family Health Partners had a separate application for combining the immunization data from medical record reviews and administrative search. An MS Access database acts as a data repository for the application. This integrates the data from the claims system and effectively combines it with external data to produce the final immunization rates. This application was

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well-documented and produces accurate results. The data fields were clearly defined and business rules are well-documented.

AREAS FOR IMPROVEMENT

1. Family Health Partners programming staff did not have detailed knowledge of the HEDIS 2004 rate calculation process due to employee turnover and lack of documentation.
2. There is a need to develop HEDIS measure calculation policies and integrate them with the information systems policies, as they are closely intertwined. Family Health Partners is in the process of documenting policies and providing an effective knowledge transfer mechanism.
3. Data analysis should incorporate tests of statistical significance to assess whether the observed changes in rates are related to a specific intervention.
4. Invalid event codes were used to include members in the numerator for the HEDIS 2004 Adolescent Well-Care Visits measure, and exclusions appear to have been made when not allowed.

RECOMMENDATIONS

1. Family Health Partners should improve documentation of the HEDIS rate calculation process. Document processes in such a manner that subsequent employees can calculate and process the measures consistent with the established procedures.
2. Integrate HEDIS policies into the information systems policies, as data are highly dependent on reliable and responsive information systems.
3. Conduct data validation checks on all parameters associated with each of the measures to ensure that the HEDIS 2004 Technical Specifications were followed, especially with regard to Adolescent Well-Care Visits numerators and allowable exclusions.
4. Conduct and document statistical comparisons on rates from year to year.
5. It is recommended that Family Health Partners staff involved in the coordination of calculation of performance measures receive training in the procedures and parameters for each measure. NCQA conducts training for the calculation of HEDIS measures. System edits should be incorporated to ensure the use of valid codes in identifying numerators.

Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

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What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical fields?

For the Medical claim type, there were a total of 107,089 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete and accurate, and 100.00% valid (with rounding). Two invalid dates of service ranged from 01/05/2001 – 12/16/2003.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Outpatient Units of Service field was 100.00% complete accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, with 99.94% containing valid values. There were 19 invalid procedure codes of "Y0025", 43 invalid entries of "Y0029", and two invalid entries of "Z0020".
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 43.78% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 14.85% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 7.31% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00 % complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Dental claim type, there were a total of 17,123 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All of the fields examined were 100.00% complete, accurate and valid.

For the Home Health claim type, there were a total of 242 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate, and valid except for the second through fifth Diagnosis Code fields. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (51.65%, 20.66%, 17.36%, and 0.00%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).

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For the Inpatient claim type, there were a total of 13,769 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate; and 96.56% valid. There were 473 invalid dates ranging from 11/16/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete and accurate; and 96.05% valid. There were 544 invalid dates ranging from 04/01/2004 – 04/26/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (89.50, 68.68%, 35.46%, and 4.13%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 95.56% valid. There were 544 invalid dates of service ranging from 11/16/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 96.05% valid. There were 544 invalid dates of service ranging from 04/01/2004 – 04/26/2004.
12. The Revenue Code field was 99.99% complete, accurate, and valid. The one invalid field contained an entry of "080".
13. The Units of Service field was 100.00% complete and accurate, and 99.97% valid. There were four invalid values of "00000".

For the Outpatient Hospital claim type, there were a total of 82,813 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Hospital Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The First Date of Service field was 100.00% complete and accurate, and valid.
4. The Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate and valid.

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6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 95.83% valid. This field requires five alphanumeric characters. The following are the 3,455 invalid entries found.

Frequency	Code
1	0250
1	0721
1	9970
29	99999
1	W0037
5	W1363
69	W1365
91	X4003
52	X4006
3	X4009
30	X4010
742	X4011
6	X4014
4	X4015
77	Y3114
8	Y3115
2	Y3116
5	Y3117
2,261	Y7506
55	Y7507
2	Y7508
10	Y7509

The Outpatient Hospital Revenue Code field was 100.00% complete, and 99.95% accurate and valid. This field required three digits, ranging from "100" – "999". The 43 invalid codes were as follows:

Frequency	Code
37	0
1	00
1	007
1	01
2	030
1	035

The first Diagnosis Code field was 100.00% complete, accurate and valid.

Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this

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validation. The second Diagnosis Code field was 55.04% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 26.61% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 13.40% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was .95% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Pharmacy claim type, there were a total of 80,722 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid data for all fields examined.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for Family Health Partners, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. Dental, Home Health, and Pharmacy claim type fields examined were 100.00% complete, accurate, and valid (see previous findings). The Outpatient Procedure Code field in the Medical claim type contained invalid procedure codes; while the Revenue Code and Units of Service fields for the Inpatient claim type contained some invalid data. For the Hospital Outpatient claim type, there were invalid codes for the Outpatient Procedure and Revenue Code fields.

What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, the rates of Inpatient, Medical, Pharmacy, and Home Health claim types were consistent with the average for all MC+ MCOs, while the rates for Dental and Outpatient Hospital claim types were significantly higher than the average for all MC+ MCOs. This suggests that the data are complete and that there is better utilization of dental and preventive services among Family Health Partners members.

The findings from the performance measure analysis show significantly higher rates of administrative hits for the HEDIS 2004 Adolescent Immunization Status, Combination #1, Adolescent Well-Care

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Visits, and Use of Appropriate Medications for People with Asthma measures. Family Health Partners also identified a significantly higher rate of eligible members for the Use of Appropriate Medications for People with Asthma, which may indicate either more members meeting the HEDIS criteria for asthma, or more complete claims data.

To What Extent do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State Encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms or claim histories for review. There were 71 medical records (71.0%) and 18 claim forms (18.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 50.0%, with a fault rate of 50.0%. The match rate for diagnoses was 45%, with a fault rate of 55.0%.

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file was missing information (n = 97) with no incorrect information. For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 53), or no match with the description of the symptoms based on the information in the medical record (n = 8). For the diagnosis code on the claim form, the reasons for diagnosis codes not matching the SMA extract file were missing or illegible information (n = 88), or possible data entry or recording error by the provider (n = 1). The reason for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 66).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 10),

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downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 4), incorrect codes (n = 6), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 4), illegible information (n = 1), and not enough information to code (n=1). For the procedure code on the claim form, the reasons for procedure codes not matching the SMA extract file were missing or illegible information (n = 4), or incorrect codes (n = 1). For the procedure description on the claim form, the reason for procedure codes not matching the SMA extract file was missing or illegible information (n = 85). Of all the procedure and diagnosis codes, there were none that were incorrect. The main reason for the fault rates was missing or illegible information.

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, Family Health Partners was able to submit files in readable formats, but in several cases, claims data did not appear complete, as some records appeared shorter than expected for the file layout. The following section summarizes the issues found when attempting to load files submitted for encounter data validation analysis.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

A letter from Jenny Hainey, dated December 29, 2004 indicated "Family Health Partners HCFA Paid encounters, Family Health Partners UB92 paid encounters, Transportation HCFA paid encounters, Pharmacy paid encounters, behavioral health paid encounter, dental paid encounters, Family Health Partners HCFAs Unpaid encounters, and Family Health Partners UB92s unpaid encounters." There was no indication of which files correspond to these descriptions, and no other documentation regarding file layouts.

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1. BPHPaidEncounters.txt 27KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis.

2. CCHPaidEncounters.txt 28KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis. There were incomplete (short) records and an incorrect address format.

3. FHHPaidEncounters.txt 809KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis.

4. FHUPaidEncounters.txt 309KB Text Document 12/29/2004 4:02 PM
   This file was in UB-92 format and was able to be loaded for analysis, but the records were short, and incomplete

5. MTHPaidEncounters.txt 41KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis.

6. PCSPaidEncounters.txt 213KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis.

A total of 273 records were able to be loaded for analysis.

7. FHHNotPaidEncounters.txt 267KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis

8. FHUNotPaidEncounters.txt 108KB Text Document 12/29/2004 4:02 PM
   This file was in NSF/CMS 1500 format and was able to be loaded for analysis.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields evaluated for the Dental, Home Health and Pharmacy claim types were 100.00% complete, accurate, and valid.
3. Diagnosis and procedure code fields for all claim types were complete, accurate, and valid.
4. The match rate between the medical record and SMA encounter claims data was comparable to the average for all MC+ MCOs for the procedure code and description.

AREAS FOR IMPROVEMENT

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1. The Outpatient Procedure Code field for the Medical claim type contained invalid codes.
2. The Revenue Code and Unit of Service fields for the Inpatient claim type contained invalid codes.
3. The Outpatient Procedure and Revenue Code fields in the Outpatient Hospital claim type contained invalid codes and was 95.83% valid.
4. The match rate between the medical record and SMA encounter claims data was significantly below the average for all MC+ MCOs for the diagnosis code and description.

RECOMMENDATIONS

1. Examine and revise as needed internal system edits for invalid procedure codes in the NSF/CMS 1500 file layout for the Outpatient Procedure Code and run validity checks after the programming of new edits.
2. Ensure that the Outpatient Procedure, Revenue Code and Units of Service fields are complete and valid for the Inpatient (UB-92) claim types, and institute error checks to identify invalid data.
3. Always include the Revenue Code regardless of the Procedure Code for the Outpatient Hospital and Inpatient claim types (UB-92 layout).
4. For audit purposes, submit extract files for performance measures and encounter data in the requested file layouts with the requested documentation of files.

MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for Family Health Partners (Family Health Partners). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by Family Health Partners, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MC+ MCO, Family Health Partners was requested to provide the following documents on-site:

- Member Handbook
- Provider Administration Handbook
- Provider Agreements
- Grievance and Appeal Policy
- Samples of both Grievances and Appeals related to members and providers

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Additional documentation Family Health Partners provided on-site:

- Sample notices to members related to plan changes, grievance, and appeal actions
- Management reports for enrollment and member demographics
- Winter 2005 Member Newsletter
- Graphics for new member identification card
- Utilization Management Plan
- Verification of licensure for Lisa Gable
- Grievance and Appeal quarterly reports
- Member and Provider Grievance/Appeal Log
- Negotiating Payment with Out-of Network Providers/Post Stabilization Services Policy
- Methodology for Review of Education and Marketing Materials Policy (requiring and annual review)
- Transition after Receipt of Emergency Care Policy
- Policy and Procedure Manual – Annual Review Requirements

Interviews

The following individuals were interviewed during the on-site review:

Quality Assurance
Jenny Hainey, Manager, Quality Management
Johanna Groves, Senior Quality Management Nurse

Member Services/Case Management /Utilization Management
Lisa Gable, RN, Manager, HS
Cindy Mense, Manager, Customer Service
Patty Ornce, Senior Case Manager
Augusta Amadi, ER Case Manager

Provider Services
Linda Steinke, Director of Operations
Kathy Ripley-Hake, Manager, PR

Mental Health
Linda Steinke, Director of Operations

Mental Health (Teleconference):
Justin Vana, VP, Clinical Operations. CommCare
Robert Young, QI Coordinator, CommCare

Plan Administration:
Teleconference (March 25, 2005, 1:00 p.m.):
Bob Finuf – Chief Executive Officer
Ma'ata Touslee, Director Health Services
Jenny Hainey, Manager, Quality Management

FINDINGS

Enrollee Rights and Protections

Family Health Partners exhibited a strong commitment to ensuring that member rights were protected. They had an interpreter service available if any member called and spoke a primary language other than English. They had a service available to translate written material into Braille if this was requested by a member. The Customer Service representatives, who answered member phone calls, set up alternatives as soon as they learned that a problem existed. The MCO utilized enrollment information, information gathered during welcome calls, and other collateral information to identify special communication needs that members had. Member Services staff worked diligently to ensure that members obtained the services they needed and provided any assistance possible. Providers were made aware of member rights and responsibilities through the Provider Manual and the MCO newsletter.

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To ensure that the Member Handbook would meet the needs of MC+ Managed Care members a Member Advisory Committee reviewed and made suggestions prior to submission to the SMA for final approval. The Spanish-speaking customer service representative reviewed the Spanish version and made suggestions for better readability.

Ratings for compliance with Enrollee Rights and Protections regulations (76.9%) reflected policy requirements that must be met to become fully compliant. A new staff person had not submitted the plan for annual review of Member Marketing and Educational Material. The MCO acknowledged that this was all together and that the policy and plan existed, but had not been sent to the SMA for final review and approval.

Quality Assessment and Performance Improvement

Access Standards

Family Health Partners had an adequate provider network throughout the MC+ Region. The MCO worked to develop strong relationships with providers, particularly specialists, who agreed to serve MC+ members. Some would not agree to become regular network providers, but signed single case agreements as requested. The MCO was willing to work with out-of-network providers as necessary to meet members' healthcare needs. Family Health Partners had agreements with Truman Medical Center and Children's Mercy Hospital. These agreements included a 24/7 Nurse Advice Line to assist in after hours coverage. Members received information about this service through their Member Handbook, and the toll-free number was included on their identification card.

Member and Provider Services worked as a team to resolve any member complaint. The staff attempted to delineate and resolve problems quickly and effectively. The MCO implemented an in-depth case management process to ensure that members, particularly those with special healthcare needs, were able to identify and access the healthcare services they needed quickly and efficiently. Caseloads existed for lead, asthma, catastrophic disease and obstetrics. Case Management outreach occurred regarding the issue of lead poisoning. This was coordinated with local health departments and providers.

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A case manager was assigned to the emergency room at Truman Medical Center. The case manager met with members who came to Truman requesting emergency services. This case manager assisted members in problem solving. Referrals were often made to Family Health Partners case managers with special needs caseloads to assist members in obtaining appropriate services. The Truman Medical Center case manager ensured that members received the correct level of care, familiarized members with their PCP information, assisted in making appointments, and with other health related activities.

Case managers involved members in care conferences with their PCPs and with hospital discharge planning to ensure that members were in charge of their own healthcare services.

All provider submitted pregnancy notification forms were received by the case management department. Members were screened for high risk status. If the assessment indicated that case management services were appropriate, pregnancy plans were developed. Domestic violence was also a trigger for high risk pregnancy services in the MC+ population. Post-partum outreach occurred for new mothers. If it appeared there was any type of need, additional case management services were encouraged, including behavioral health services for problems such as post-partum depression.

Providers were monitored regarding access to services. The MCO conducted member surveys, and did on-site reviews following NCQA standards. Attention was given to member records. If deficiencies were found a letter was sent to the provider as an explanation. A re-audit occurred. PCPs were visited once per month and specialists one time per quarter.

Ratings for compliance with Access Standards (70.6%) reflected policies that required completion and submission to the SMA for final review and approval. The EQR recommended that completion of this process must occur to obtain compliance with the MC+ Medicaid Managed Care contract requirements and the federal regulations.

Structure and Operation Standards

Ratings for compliance with Structure and Operations Standards ((60%) reflected a number of incomplete policy requirements. Family Health Partners had a methodology for performing credentialing and recredentialing certifications for providers. Credentialing was reviewed every

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three years, with annual surveys completed to monitor claims and appointment standards. All verification was done by the MCO following NCQA standards. Appropriate practice was in place, but current and correct policy remained outstanding at the time of the on-site review. The MCO did not have completed policy regarding excluding debarred providers from the network, policy regarding subcontractor relationships, and other state-required policy.

The MCO informed members about the disenrollment process through information in the Member Handbook. The MCO had required disenrollment policy in place.

Measurement and Improvement

Family Health Partners implemented accepted clinical practice guidelines. National guidelines adopted by Family Health Partners began with the ACOG, for neonatal care. The MCO was part of the Kansas City Quality Improvement Consortium. This local healthcare quality improvement group reviewed and developed practice guidelines that included local standards. The MCO implemented local guidelines when they met or exceeded nationally accepted practices. The group currently adopted guidelines for diabetes and asthma, which the MCO used. The group was in the process of developing obesity treatment guidelines. Family Health Partners used the Milliman and Robertson guidelines for utilization management.

Family Health Partners did submit two Performance Improvement Projects for validation. The full report can be found in the appropriate section of this report. The MCO met the criteria for producing complete and accurate data for Validating Performance Measures. The full report regarding compliance with these criteria is in the appropriate section of this report. The MCO did have a Health Information System (HIS) that was able to produce required information. Encounter Validation Data was not submitted in a format that allowed analysis. The MCO was not found to be fully compliant with this section of regulations. Ratings for compliance with the Measurement and Improvement regulations (72.7%) reflect a lack of required policy and lack of compliance with ability to produce required data requests.

Grievance Systems

Ratings for compliance with Grievance Systems regulations (100%) indicate that the MCO had completed all requirements regarding policy and practice in their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files

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followed prescribed policy and timelines. Notices to members were sent within required timeframes and contained all required information. This information included the member's ability to file a State Fair Hearing simultaneously with an MCO appeal or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service.

The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained the healthcare they needed. If an appeal was filed, it was recorded in the MCO tracking system to ensure that another qualified individual reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement process.

Summary and Follow-up Information

Behavioral Health Services

Family Health Partners and CommCare developed a pharmacy education program regarding the use of psychotropic medications. This educational program had continued. This education program was provided to pharmacy personnel and to all Community Mental Health Clinics (CMHC) in the Region. Pharmacy representatives were present at all high volume provider group meetings where the providers discussed difficult issues, problem solved, and shared information. This supported the development of systems to identify individuals who were abusing prescription drugs.

To expand network capacity in the area of adequate psychiatric services, the BHO identified all psychiatrists in the region and solicited their participation in the network. To address the shortage of child psychiatrists, CommCare was contracting with Advance Practice Nurses. These nurses were reimbursed fees comparable to psychiatrists. Further, the MCO utilized out-of-network providers to supplement the network. A Spanish-speaking psychologist was added. Utilization of behavioral health services had steadily increased.

CommCare was attempting to impact the rate of readmission after a necessary hospitalization. Readmissions during 2004 decreased from previous years. Readmissions at thirty days after original discharge were now at approximately 8%. At ninety days after discharge the rate was approximately

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12%. CommCare case managers were conducting outreach by telephone within seven days of discharge. The aftercare plan and prescribed medications were reviewed with the member. The MCO reported that these interventions improved the percentage of members keeping aftercare appointments as well.

All behavioral health providers sent feedback forms to PCPs with special attention to prescribed medication. A review of compliance with the use of the forms indicated a range of 90% compliance. Behavioral health case management oversight audits were done to review all intakes.

Medical Director

Family Health Partners had hired a new part-time Medical Director certified for pediatric and adult services.

Grievance and Appeals

Follow-up information was requested due to the number of grievances and appeals resulting from a lack of dental providers. The MCO believed the issue was resolved with their current dental subcontractor. Family Health Partners also implemented objective practice guidelines with dental providers. This process decreased the number of grievances and appeals. They were using the HDL index to score service needs and to standardize decision-making. Although some decisions were still overturned, the MCO reported fewer appeals and fair hearing requests.

Family Health Partners began critically reviewing grievance and appeals during the past year. They wanted to ensure accuracy in reporting to the State. They were vigilant in their record keeping and believed the MCO achieved more accurate and consistent reporting of the issues being brought to their attention. The MCO closely monitored notices sent to members and reported one letter, which was sent outside of required timeframes. The review process occurred quarterly.

During the past year, Family Health Partners did notice a rise in the number of grievances filed regarding transportation issues. This number increased due to the lack of available of car seats when subcontractors were transported children. Family Health Partners worked with the transportation contractor to provide car seats to all subcontractors. A decrease in transportation related grievances was the result.

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LPHAs and School Based Clinics

Family Health Partners was asked if they had increased their ability to work with LPHAs or school based clinics. They report that they did collaborate with several LPHAs, who conduct EPSDT examinations and lead screenings. The LPHAs met with MCO representatives and were very cooperative. However, they do not submit claims so the examinations they conducted were not captured in the Family Health Partners data system. Family Health Partners also met with the Kansas City School District in an attempt to engage the district in conducting school based clinics. The MCO offered to place a staff member at the clinic to assist in this process. The school district had not finalized any plans to make this an active project.

Advisory Committee

The MCO established a Member Advisory Committee for the review of policies and procedures, and to obtain input on provider services and outreach. Committee members were utilized to contact other members to seek input on their satisfaction with services. The MCO planned to continue to utilize and formalize this group to enhance service delivery.

STRENGTHS

1. Family Health Partners' Provider Relations staff had developed an excellent relationship with physicians' offices in the region. This enabled them to obtain timely specialist appointments for members for orthopedic, neurology, asthma, and other special services that are difficult to obtain.
2. Family Health Partners placed a case manager on-site in the emergency department at Truman Medical Center. This provides members with on-site health service problem-solving. The case manager obtained current contact information on members and assisted them in making timely urgent care appointments if this was the service the member needed, rather than emergency medicine. The service helped members by assisting them in becoming familiar with their PCP, and learning how to obtain follow-up services in the most efficient manner.
3. Family Health Partners was in the process of recruiting individuals for a Member Advisory Panel. Member suggestions had assisted Family Health Partners in developing a user friendly Member Handbook, and in making other service improvements. The MCO planned to formalize the process by having a standing member group as advisors to improve member input on service and policy issues.
4. Family Health Partners staff was knowledgeable about MCO policy and procedures. Family Health Partners had an organized process for completing and submitting documentation to the SMA for final review and approval.
5. Family Health Partners was launching a new method of cataloging and using their member data through the ManagedCare.com software. This software will assist the MCO in analyzing member information for project and service development.

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AREAS FOR IMPROVEMENT

1. Family Health Partners had not submitted an annual Member Marketing and Education Plan to the SMA for their review and approval. Family Health Partners staff indicated that the information needed is in place and would be forwarded to the SMA.
2. Family Health Partners had met many of documentation requirements. The MCO needed complete this process in a timely manner. The positive practices that occurred at Family Health Partners should not be lost because they were not reflected in current policy.
3. The CommCare transition policy for members engaged in a therapeutic relationship with an out-of-network provider did not appear to fully consider the member's well-being. The policy described was four visits and then a move to an in-network therapist. Consideration of the member's therapeutic needs should be a deciding factor.

RECOMMENDATIONS

1. Continue MCO development in the area of utilizing available data and member information to drive change and create opportunities for organizational growth and development.
2. Continue focus studies and innovative community-based projects designed to meet members' health and safety needs.
3. Track required annual submissions of all documentation, such as the Member Marketing and Education Plan, to ensure that this occurs within required time frames.
4. Review the CommCare provider transfer practice to ensure that members are being served effectively.
5. Continue improvements in decreasing the behavioral health readmission rate. Compile data supporting this approach into a report that indicates continued improvement, or informs the BHO if there is a need to alter the plan when problems emerge.
6. Continue reviewing MCO and provider practices through monitoring the grievance and appeal system. It may be useful to implement studies that produce data indicating trends that can lead to measurable performance improvement projects.
7. The MCO is encouraged to continue working with school districts for the establishment of school based clinics.

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FIRSTGUARD

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Documents Reviewed

FirstGuard supplied the following documentation for review:

- NCQA Quality Improvement Activity Form: Identification of MC+ Children with Elevated Blood Lead Levels
- NCQA Quality Improvement Activity Form: Improving Asthma Medication Management

Interviews

Project Leaders, participants, and the Medical Director were interviewed on-site by the EQRO Project Director on Wednesday, March 16, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided as were references for logic model development and health services research methods. The following questions were addressed on-site:

- Who was the Project Leader?
- How was the topic identified?
- How was the study question determined?
- What were the findings?
- What was the intervention?
- What was the time period of the study?
- Was the intervention effective?
- How do you know?
- Why or why not?

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FINDINGS

The first PIP evaluated was, "Improving Asthma Medication Management." The topic or problem statement measured the asthma management of FirstGuard members by educating providers and asthmatic members and families, with the intent to improve asthma medication management. This represents a clinical PIP for an acute or chronic condition. Some background information was presented and the potential impact of improvement in asthma medication management was described. The study was oriented toward improving the lives of people with asthma and implies measures of functional status outcomes. This should be described in the narrative. The extent of the problem and rationale for identification was not discussed, and there was no study question presented. It can be assumed that better medication management has a potential for improving health outcome, but this should be specifically stated. It appears that all the members to which the study applied were included, but the rationale for age group selection was not documented. The study examined members from 3-56 years of age. More detailed description of the population within MC+ should be included, such as whether or not 1115 Waiver, 1915b Waiver, children in State custody, and consent decree children were all included. It should be specified that the findings describe outcomes of care for MC+ members.

It was assumed that MC+ members were targeted as part of this intervention. The study indicators involved identification of FirstGuard members needing asthma management and FirstGuard asthmatics with sub-optimal asthma medication management. Since the baseline measurement was conducted, FirstGuard could have included this in the presentation of rationale for the study by comparing the results with national benchmarks. These indicators were clearly defined and methods of their calculation were clearly described. The reliability and validity of the indicators is unknown. The method of establishing these indicators should be described. No sampling was conducted as part of the study. The sources of data included case management and claims data. It was difficult to determine whether the data were collected in a valid and reliable manner since there was no description of the definitions for claims (e.g., procedure codes). Measurements were reported to be conducted twice a year. However, the results presented indicated that measurements were done once a year in 2002, 2003, and 2004. The data analysis plan should be clearly described in the narrative. There were no barriers to the improvement strategies identified.

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The presentation of results in tables and figures were very clear. Re-measurements were presented, but the intervals of re-measurement were not consistent and statistical testing was not conducted. Therefore, it was not possible to determine whether the intervention had a clinical or statistical significance.

This study has potential for credible findings with more detail provided regarding the study topic, hypothesis, and study questions as well as statistical significance testing and interpretation of findings. FirstGuard had a good description and presentation of the data. However, major components of the study were not presented. Portions of the project were well-presented but perhaps because of the tabular format of the Quality Improvement Activity form the connection between topic, measurements, intervention and results was not clear. Perhaps the QIA form is not the best format for presenting a PIP.

At each re-measurement, FirstGuard should document and discuss interpretations of findings, barriers and plan changes as a review of the potential causative factors for change or no change in the measures. Statistical significance testing should also be conducted, and measures should be added or discontinued as needed when the intervention is modified. Modify the QIA form to incorporate all elements of the PIP.

The second PIP evaluated was, "Identification of MC+ Children with Elevated Blood Lead Levels." The topic of the project was to achieve 100% rate of case management enrollment of MC+ children with elevated blood lead levels (BLL > 10 u/dL) who were successfully contacted. This is a non-clinical intervention that addresses the process of accessing or delivering care. Although case management of MC+ Members with elevated blood lead level has a significant impact on children, the need for improvement must be established prior to initiation of the project. This could be established through presenting current case management rates and nationwide benchmarks and the link between case management and improved health outcomes for children with high lead level toxicity. The goals of the study were stated, but more attention should be devoted to the description of the outcomes and barriers and the connection of those barriers to the intervention. The description of the study population should be part of the narrative. Some demographic information was available (0-6 year-olds), but was disjointed and presented in different areas of the QIA Form used to report the PIP. The selected study indicators included the percent of children 0-6 years of age with elevated blood lead levels who were successfully contacted, the percent of

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children 0-6 years of age with elevated blood lead levels in case management, and the percent of children 0-6 years of age who were "flagged" in the case management system. The measures and methods of calculation were well described and sources of benchmarks were cited. There were no long-term outcomes clearly stated or linked to the intervention or process of care.

There was no sampling conducted in the present study. It was not possible to determine if there were any particular MC+ groups excluded from the study and whether the findings represented results for MC+ Members only. The data collection approach only targets children who had a blood lead level test. Measuring the rates of blood lead testing may facilitate identification of reasons for change or stability in the rate of case management. It was clearly stated that FirstGuard receives data on children with elevated blood lead levels from the Missouri Department of Health and the Division of Medical Services. Other sources of data included the case management module and FirstGuard indicators for lead poisoning. The process for data collection and the sources of data for each indicator should be described. The data collection procedure appeared to be consistent, but validity and reliability of the measures were not addressed. The study findings were very well presented for the last quarter. There was no statistical significance testing conducted. Also, the interventions should be more clearly described so the reader is able to determine what may or may not have been effective about the intervention based upon the findings.

There is some potential for valid and credible findings with the modification of measures and the addition of outcome measures. The topic selection was appropriate and measures were good indicators of the implementation of the intervention. The frequency of re-measurement periods was quarterly, which provides good feedback regarding the implementation of the intervention throughout the year. The presentation of indicators and study results was excellent.

The explicit statement of hypotheses and study questions regarding expected outcomes and intermediate-term goals of attempting to intervene should suggest some measures and methods of measurement of the effectiveness of the intervention over and above monitoring the rates of case management. The QIA Form that was used for presentation of the study does have some limitations in that it does not allow for linking of the source of data with the actual measurement. This form can be redesigned or used in order to link these two concepts. The limitation of the form is that it is designed to describe quality improvement activity, not an actual study. It can be

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used to help plan a PIP, however. It is recommended that this form be modified to incorporate all aspects of the PIP.

STRENGTHS

1. The measures were well described and defined for monitoring and assessment of the implementation of the intervention.
2. The frequency (semi-annually and quarterly) of re-measurement periods allowed for timely evaluation of the effectiveness of the interventions and identification of potential issues for implementation.
3. Data were presented clearly, using numerators, denominators, and rates at each measurement point.
4. The topics selected are areas that are likely to benefit from the development, implementation, and evaluation of interventions.

AREAS FOR IMPROVEMENT

1. There should be additional specification of health-related outcome measures or processes of care that are closely associated with improved outcomes of care in the study rationale and study questions.
2. Study questions, hypothesized findings, and interpretations of findings should be included in PIP summary and findings.
3. Statistical significance testing between re-measurement points should be conducted to support any claims of effectiveness.

RECOMMENDATIONS

1. Include identified barriers with the implementation of the intervention, recommended changes, and documentation of the changes.
2. Modify the QIA Form with sections for study question, hypotheses, and running narrative for results and interpretation of findings.
3. Conduct statistical comparisons between each re-measurement and baseline to demonstrate improvement and stability related to the intervention.
4. Modify the QIA Form with sections for study questions, hypotheses, and running narrative for interpretation of findings.

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Validation Of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for FirstGuard. FirstGuard submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by FirstGuard
- The Baseline Assessment Tool (BAT) submitted by FirstGuard
- MetaStar's NCQA HEDIS 2004 Compliance Audit Report
- Letters of communication between the EQRO and FirstGuard
- FirstGuard's policies pertaining to HEDIS 2004 rate calculation and reporting
- FirstGuard's HEDIS Project Outline for 2004
- FirstGuard HEDIS 2004 Medical Record Review Manual
- HEDIS 2004 Software Logs
- CRMS data warehouse tables - data field and definitions
- CRMS extract file build process documentation
- MC400 Data file extracts and print screens
- HEDIS analyzer error messages
- MOHSAIC data preparation process documentation
- HEDIS data file layout in the IDS SAS Warehouse

The following are the data files submitted for review by the EQRO:

- AI Denom.txt
- AI Num Data.txt
- AI Num.txt
- Asthma Denom Data.txt
- Asthma Denom Enroll.txt
- Asthma Num.txt
- ADOLESCENT WELL-CARE VISITS Denom.txt
- ADOLESCENT WELL-CARE VISITS Num Data.txt
- ADOLESCENT WELL-CARE VISITS Num.txt
- WC_MRR_NUMERATOR.txt
- FileDescriptions.doc

Interviews

The EQRO conducted on-site interviews with Susan Richart and Arlin Crist (of Sanders software consulting services) at the premises of FirstGuard in Kansas City on Wednesday, March 16th, 2005. They were in charge of explaining the process of calculating the HEDIS 2004 performance measures, as there had been a recent turnover in the HEDIS team. The objective of the visit was to verify the

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methods and processes behind the calculation of the three HEDIS performance measures. This included both manual and automatic processes of information collection, storing, analyzing and reporting.

FINDINGS

FirstGuard used the Hybrid Method for Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits Measures. MCO to MCO comparisons of the rates of Adolescent Immunization Status Combination #1, Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p > .05$) are reported.

The rate for the HEDIS 2004 Adolescent Immunization Status, Combination #1 reported to the SMA and the State Public Health Agency (SPHA) by FirstGuard was 34.55%. This was comparable to the statewide rate for all MC+ MCOs (14.36%; z = .34; 95% CI: 19.69, 49.41%; n.s.).

The rate for FirstGuard for the HEDIS 2004 Adolescent Well-Care Visits measure was 32.93%, which was significantly higher than the statewide rate for all MC+ MCOs (30.13%; z = .65, 95% CI: 29.43%, 39.19%; $p = .95$). The rate for FirstGuard for the 2004 HEDIS Use of Appropriate Medications for People with Asthma was 67.26%, which was significantly higher than the statewide rate for MC+ MCOs (63.92%, z = .89; 95% CI: 63.62%, 70.90%; $p > .95$).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

Data Integration and Control

For all three measures, FirstGuard was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which FirstGuard transferred data into the repository used for calculating the HEDIS 2004 measures.

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Documentation of Data and Processes

The information systems (IS) management policies and procedures for rate calculation were evaluated consistent with the Validating Performance Measures Protocol. FirstGuard used NCQA-certified software, CareEnhance Resource Management Software (CRMS) from McKesson Inc, for calculation of rates for the three HEDIS 2004 performance measures. The EQRO was given a process overview of the MC400 claims management system, a product of OAO Health Systems, and was given a validation overview of the CRMS data warehouse and the Health Plan Reporter (HPR) module for reports. The EQRO was also given a demonstration of the data flow and integration mechanisms for external databases for these measures and the EQRO was also provided with a layout of the data structure of the internally-developed Information Delivery System (IDS) data warehouse for the storing of interim data.

Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). FirstGuard met nearly all criteria that applied for all three measures. The two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by FirstGuard to assess the significance of change related to quality improvement activities and operational changes. The use of NCQA-certified calculation software which has been tested through a process of test files submitted by NCQA indicate the program specifications are adequate for validly calculating the rates.

Processes Used to Produce Denominators

FirstGuard met all criteria for the processes employed to produce the denominators of all three performance measures (see Attachment X: Denominator Validation Findings). This involves the selection of members eligible for the services being measured.

The HEDIS 2004 Adolescent Immunization Status denominator file contained 432 denominator cases. This is the final sample size after a 5% oversample. There were no exclusions or replacements for the denominator of 411. Dates of birth and enrollment were within valid ranges, and there were no duplicate cases.

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The denominator file for the HEDIS 2004 Adolescent Well-Care Visits measure contained a total of 432 members, including a 5% over sample and the denominator of 411. There were no duplicate entries. The dates of service and enrollment were in the valid ranges.

For the HEDIS 2004 Use of Appropriate Medications for People with Asthma measure, there were a total of 897 eligible unique members (denominator) in the 'Asthma Denom Enroll.txt' file. The 'Asthma Denom Data.txt' file contained a list of 2,045 unique members from which the eligible members were derived. There were no duplicate members. The dates of birth were in the valid range. The dates of enrollment were not provided and could not be validated.

Processes Used to Produce Numerators

All three measures included the appropriate data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria (see Attachment XIII: Numerator Validation Findings). Medical record reviews were conducted for the Adolescent Immunization Status, Combination #1, and Adolescent Well-Care Visits measures.

For the HEDIS 2004 Adolescent Immunization Status measure, FirstGuard appropriately included administrative events from the State Public Health Immunization Registry (MOHSAIC). The dates of birth and dates of service were within valid ranges. Review of the administrative hits validated 16 of 30 administrative hits in the files provided for review by the EQRO. Fifteen (15) of 30 medical records requested for review were received, and 15 records resulted in valid hybrid hits. As a result, the medical record review validated 56 of the 112 hybrid hits reported. The estimated bias from medical record review was 13.63%. Based on the number of administrative and medical record review hits validated by the EQRO, the rate calculated by the EQRO was 17.52%. The total estimated bias for the Adolescent Immunization Status, Combination #1 measure was a 17.03% overestimate of the rate. One reason the rate of bias was so high was the rate of validation of medical records, complicated by the submission of 15 of the 30 records.

For the HEDIS 2004 Adolescent Well-Care Visits measure, there were 126 administrative hits, but only 123 reported by FirstGuard. The number of immunization events was not provided. The dates of service were not provided in the numerator files and could not be validated. All 18 medical record hits were requested and received by the EQRO for review. One additional record was provided for review, as it was reported that the HEDIS auditor excluded it from the numerator.

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Twelve (12) of the records were validated, resulting in a bias of 1.46% from the medical record review. Of the 19 numerators, all 19 showed evidence of a physical examination, 17 showed evidence of a medical history, and 12 showed evidence of anticipatory guidance. A total of 138 of the 141 hits were validated, for a rate of 33.58%, a final overestimate of .73%.

The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was the third measure validated. There were a total of 606 unique members found in the file for 602 reported by FirstGuard. Two members in the numerator file did not exist in the given denominator file and could not be validated. All the numerator events could not be identified using CPT or UB-92 codes. The dates of birth and service were within the valid ranges. The final rate was calculated to be 67.49%, underestimate of .22%.

Sampling Procedures for Hybrid Methods

The Hybrid Method was used for the Adolescent Immunization Status and Adolescent Well-Care Visits. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings were completed for each of these measures. There were no exclusions calculated for the Adolescent Immunization Status measure. None were allowable for the Adolescent Well-Care measure.

Submission of Measures to the State

FirstGuard submitted the DST for each of the three measures validated to the SPHA, (the Missouri Department of Health and Senior Services; DHSS) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy.

Determination of Validation Findings and Calculation of Bias

Table 1 summarizes the estimated bias in the rates reported by FirstGuard, with the direction of bias. Although data processes and procedures for calculating the Adolescent Immunization Status, Combination #1 measure were adequate, the rate calculated by the EQRO as a result of validating the medical record review fell outside the 95% confidence interval reported by FirstGuard. The large overestimate is likely due to the small proportion of medical records submitted for review. It is not possible to assume that the medical records not submitted contain evidence of immunizations.

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Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures.

Measure	Estimate of Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	17.03%	Overestimate
Adolescent Well-Care Visits	.73%	Overestimate
Use of Appropriate Medication for People with Asthma	0.22%	Underestimate

Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure.

Table 2. Final Audit Rating for HEDIS 2004 Performance Measures.

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Not Valid
Adolescent Well-Care Visits	Fully Compliant
Use of Appropriate Medication for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by the MCO. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

STRENGTHS

1. FirstGuard was fully compliant with state specifications for the measurement of the HEDIS 2004 Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma measures.
2. FirstGuard demonstrated significantly higher rates of Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma than the average for all MC+ MCOs.
3. The rates for HEDIS 2004 Adolescent Well-Care Visits was higher than the National Commercial average for the measure.
4. There was excellent documentation of policies and procedures for calculation of rates for HEDIS measures. The documentation enabled proper replication of processes during a period of employee turnover. FirstGuard had a good layout for the HEDIS project plans and integrated it with documents within the network with incorporated hyperlinks.
5. FirstGuard used NCQA-certified software, CRMS/HPR of McKesson, for calculation of HEDIS measures. This software was reviewed and tested by NCQA auditors for source code verification. There were effective CRMS validation processes in place.
6. There was effective use of the State Public Health Immunization Registry (MOHSAIC) data for calculation of the immunization measures. The data are directly loaded with mapping of data fields into the CRMS warehouse, which then processes it for reporting in the HPR module.

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7. There was an efficient data integration process in place. Third party administrator StratumMed and clearinghouse WebMD's data were integrated into the claims system. There were some home-grown codes (not relevant to the audited measures) effectively mapped within the claims system. The MC400 claims management data that is relevant for the HEDIS performance measures was loaded into the IDS data repository without loss of data.
8. There were effective data validation processes with numerous checks for errors and capacity for system edits within the claims system and the reporting software CRMS. The IDS system had an error process for identifying discrepancies in an error file which was reviewed both manually and within the system. FirstGuard also conducts periodic quality reviews. Reject rates, export counts, import counts and data integrity issues are reviewed by FirstGuard along with McKesson for validity purposes.
9. In response to preliminary findings, FirstGuard provided supplemental information regarding the process of identifying hybrid or administrative numerators and the rationale (cost and security of member privacy) for not retaining medical records on-site.

AREAS FOR IMPROVEMENT

1. Data analysis should incorporate tests of statistical significance to assess whether the observed changes in rates are related to a specific intervention. There is an opportunity to include tests of significance to identify changes or stability from year to year.

RECOMMENDATIONS

1. FirstGuard should conduct and document statistical comparisons on rates from year to year.
2. Continue with the documentation processes in place. It makes it easier for regulatory compliance and effective information management within the organization. It also serves as a knowledge tool for data management.
3. Continue with periodic quality checks and reviews of the data integration process. It eliminates data errors and discrepancies.
4. Continue using the NCQA-certified software for calculation of HEDIS measures as it is a compliant tool for reporting.
5. Submit extract files of numerators and denominators for performance measures with clearly identified indicators for administrative and hybrid hit to allow for medical record sample selection and measure validation.

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Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical fields?

For the Medical claim type, there were a total of 98,367 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete and accurate, and 99.97% valid. Invalid dates of service ranged from 09/18/2003 – 12/31/2003.
4. The Outpatient Last Date of Service field was 100.00% complete and accurate, and 99.98% valid. Invalid dates of service ranged from 04/02/2004 – 06/24/2004.
5. The Outpatient Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, with 96.99% containing valid values. The 2,959 invalid procedure codes consisted of 17 "B4035", 2 "B4036", and 2,940 "Y0043" entries.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 42.35% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 18.32% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 8.13% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00% complete, accurate and valid.

For the Dental claim type, there were a total of 8,866 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

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For the Home Health claim type, there were a total of 14 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields except the second through fifth Diagnosis Code fields examined were 100.00% complete, accurate and valid. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (0.00% for each).

For the Inpatient claim type, there were a total of 12,688 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate, and 96.05% valid. There were 501 invalid dates ranging from 12/05/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of characters (size). The correct type of information (date format) was present 99.16% (with 106 entries of "99999999). Valid values were present 94.99% of the time. In addition to the invalid "99999999" entries, 656 invalid dates ranged from 04/01/2004 – 05/17/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete with the correct number of characters (size). This field requires two digits. The Patient Status field was 99.93% accurate and valid. There were nine invalid codes of "63".
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (94.11%, 79.40%, 65.64%, 51.76%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 96.05% valid. There were 50 invalid dates of service ranging from 12/05/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 94.83% valid. There were 656 invalid dates of service ranging from 04/01/2004 – 05/17/2004.
12. The Revenue Code field was 99.99% complete, accurate, and valid. One field was blank (incomplete, inaccurate, invalid).
13. The Units of Service field was 100.00% complete, accurate and valid.

For the Outpatient Hospital claim type, there were a total of 52,998 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.

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2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The First Date of Service field was 100.00% complete and accurate, and valid.
4. The Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete. There were 25,601 invalid procedure codes ranging from "0220" – "0983", resulting in an accuracy and validity rate of 51.69% for this field. The Outpatient Procedure Code field requires a five-digit alphanumeric sequence.
7. The Outpatient Revenue Code field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 54.64% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 24.59% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 10.96% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 5.52% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).

For the Pharmacy claim type, there were a total of 72,990 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for FirstGuard, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. For the medical claim type, the Outpatient Procedure Code field contained invalid codes (see previous findings). For the Inpatient Claim type, there were invalid codes in the Discharge Date, Patient Status fields, and one blank in the Revenue Code field. There were invalid codes in the Outpatient Procedure Code field for the Outpatient Hospital claim type.

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What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, the rates of Medical, Home Health, Inpatient, Pharmacy, and Outpatient Hospital claim types were consistent with the average for all MC+ MCOs. The rate of Dental claim types were significantly higher for FirstGuard than the average for all MC+ MCOs. These findings suggest a high level of completeness of data and at least moderate access to and utilization of services.

The findings from the performance measure analysis indicate that FirstGuard identified a consistent rate of administrative hits for the HEDIS 2004 Adolescent Immunization Status, Combination #1 and Adolescent Well-Care Visits measures compared to the average for all MC+ MCOs, while there was a significantly higher rate of administrative hits for the Use of Appropriate Medications for People with Asthma measure.

To What Extent do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate Between State Encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms or claim histories for review. There were 74 medical records (74.0%) and 15 claim forms (15.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 49.0%, with a fault rate of 51.0%. The match rate for diagnoses was 56.0%, with a fault rate of 44.0%

What Types of Errors Were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing information (n = 86) or incorrect information (n = 2). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 49), or no

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match with the description of the symptoms based on the information in the medical record (n = 5). For the diagnosis code on the claim form, the reason for diagnosis codes not matching the SMA extract file was missing or illegible information (n = 87). The reason for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 71).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 12), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; (n = 1), incorrect codes (n = 2), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 8), and not enough information (n = 3). For the procedure code on the claim form, the reason for procedure codes not matching the SMA extract file was missing or illegible information (n = 90). For the procedure description on the claim form, the reason for procedure codes not matching the SMA extract file was missing or illegible information (n = 96).

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, FirstGuard had difficulty submitting files in the requested file layouts for the encounter data validation processes. Files were requested in flat file (comma-delimited), machine readable format. Although flat file format was submitted, there were several files (unpaid claims) that were not able to be loaded for analysis. The following section summarizes the issues found when attempting to load files submitted for encounter data validation analysis.

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What are the Data Quality Issues Associated with the Processing of Encounter Data?

No documentation was provided for the files submitted. Subsequent communication from FirstGuard indicated that unpaid claims could not be submitted in the national standard file layout requested.

1. BHC Paid Enctrs.txt 1,130 KB Text Document 12/29/2004 3:17 PM
   This file contained 3 file layouts: Records 1 - 4780 were in NSF/CMS 1500 file layout; records 4781-6422 were in UB-92 file layout; and records 6423 - 6990 were in NCPDP file layout. For the NCPDP file layout, 568 of 6,423 records were able to be loaded for analysis.

2. BHC Paid Enctrs HCFA.csv 11 KB Microsoft Excel Comma Separated Values File 12/30/2004 3:15 PM
   This file was not in any known file layout and was unable to be loaded for analysis.

3. BHC Unpaid Enctrs UB92.csv 8,815 Microsoft Excel Comma Separated Values File 12/30/2004 3:15 PM
   This file was not in any known file layout and was unable to be loaded for analysis.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields evaluated for the Dental, Home Health, and Pharmacy claim types were 100.00% complete, accurate, and valid.
3. The match between the SMA encounter claims data and the medical records for diagnosis and procedure codes was consistent with the average for all MC+ MCOs. The primary reasons for errors were missing and illegible information.
4. The rate of each claim type was consistent with or higher than the average for all MC+ MCOs, and the rate of administrative claims found for the performance measures suggest at least moderate levels of encounter data completeness.

AREAS FOR IMPROVEMENT

1. For the Medical claim types, the Outpatient Procedure code field contained invalid codes.
2. For the Inpatient claim type, the Discharge Date and Patient Status fields contained invalid data.
3. For the Outpatient Hospital claim type, the Outpatient Procedure Code field contained invalid values.

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RECOMMENDATIONS

1. Examine and revise as needed internal system edits for invalid procedure codes in the NSF/CMS 1500 file layout for the Outpatient Procedure Code and run validity checks after the programming of new edits.
2. Ensure that Discharge Date and Patient Status fields are complete and valid for the Inpatient (UB-92) claim types, and institute error checks to identify invalid data.
3. Institute edits and error checks for the Outpatient Hospital claim type Procedure Code field (UB-92).
4. For audit purposes, submit extract files for performance measures and encounter data in the requested file layouts with the requested documentation of files.

MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described previously in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for FirstGuard. The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by FirstGuard, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MCO, First Guard was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Agreements (last review date 1998)
- Member Marketing and Education Plan
- Sample of Grievance and Appeal files representing both members and providers

Additional documentation provided by FirstGuard on-site:

- Member Grievance Category Trends report
- Member Appeals Category Trends report
- Provider Review Process policy
- MC+ Marketing Materials policy
- Member Grievance flow chart and policy
- Grievance System IT information
- FirstGuard 2004 Quality Improvement Annual Program Evaluation

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Interviews

The following individuals were interviewed during the on-site review:

Plan Administration
Jean Rumbaugh, Chief Operating Officer
Dr. William Pankey, VP, Clinical Quality
Barbara Maloney, VP, Development and Regulatory Affairs
Celia Humphreys, Director, QI and Credentialing
Sandra Claussen, Project Manager

Quality Assurance
Celia Humphreys, Director, QI and Credentialing
Sandra Claussen, Project Manager
Dr. William Pankey, VP, Clinical Quality
Barbara Maloney, VP, Development and Regulatory Affairs

Member Services/Case Management/Utilization Management
Jean Rumbaugh, Chief Operating Officer
Jackie Jones, Director, Medical Management
Dr. William Pankey, VP, Clinical Quality
Sharon Traylor, Director, Customer Care

Provider Services
Dr. William Pankey, VP, Clinical Quality
Barbary Maloney, VP, Development and Regulatory Affairs
Sandra Claussen, Project Manager
Celia Humphreys, Director, QI and Credentialing

Mental Health
Dr. William Pankey, VP, Clinical Quality
Sandra Claussen, Project Manager

Teleconference with Magellan Behavioral Health:
Julie Billingsly, Account Manager
Thomas Hamlin, Corporate Medical Director
Lawrence Miller, Compliance Officer
Jonathan Miller, QI

FINDINGS

Enrollee Rights and Protections

Ratings for compliance with the Enrollee Rights and Protections regulations (100%) reflected FirstGuard's commitment to its members and to completing policy and procedure as required. The MCO exhibited a firm commitment to ensuring that members had access to and obtained all of the healthcare services they needed. MCO staff stressed during interviews that showing respect and dignity to members begins with the first contact with the organization. During all telephone contacts, which included Welcome Calls or the first inquiry, members were treated with respect. FirstGuard staff shared the importance of always discussing members with the same respect that was shown when speaking to them directly. The MCO explained that their policy and practice required that everyone from the members themselves, to providers, and their own staff members were trained on what constitutes discrimination, cultural competency, and minority inclusion. Training included the mechanism for reporting any situation where a member believed they were "discriminated against or have witnessed an act of discrimination."

The MCO provided translation services so that communication was not a barrier to obtaining healthcare for members. FirstGuard had staff that spoke Spanish and was actively recruiting for a

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staff member who spoke Vietnamese. They had the capacity to have all written material translated into Braille, or to produce a tape or CD version of the Member Handbook or any other member information. The MCO had access to the Missouri Relay Service to communicate with members who were hearing impaired.

Quality Assessment and Performance Improvement

Access Standards

FirstGuard had a complete network throughout this MC+ Managed Care Region. The observation was shared that the MCO had specialists and PCPs within the network in some of the more rural areas of the Region. The MCO reported that Provider Relations worked diligently to develop an honest and strength-based relationship with providers. This created a loyalty and willingness to provide services to MCO members. Provider Relations staff strictly monitored providers to ensure that care was provided in the prescribed timeframes. They also asked that access surveys were completed to ensure that members had the availability of required services. FirstGuard willingly utilized out-of-network providers if this was the best method to meet the needs of a specific member. Examples included using the Children's Hospitals in Texas and Arkansas for services within the past year. The MCO also sent one member to San Francisco for repair of a congenital heart defect. This required several follow-up trips until the member was stable enough to be seen by the local provider.

FirstGuard had an active case management program. They attempted to provide some care coordination for any member who needed it, not only those with identified special healthcare needs. The case managers monitored provider communication and did follow-up on all members who received mental health services to ensure coordinated communication between providers. FirstGuard case managers made a concerted effort to identify, and make referrals if necessary, to all services that benefit members including those offered through public health agencies, the school, school-based clinics or other community-based caregivers. Case management staff made every effort to identify members who needed a specialist as a PCP. The MCO had a mechanism to locate and place members in a specialist's care if that provider was the most appropriate to become the member's PCP.

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Ratings for compliance Access Standards (88.2%) reflected one documentation issue to be resolved. The SMA required the MCO to obtain full compliance with the access standard regulations. The MCO was required to update their subcontractor agreements. This was done through an amendment process, which was completed at the time of the on-site review. This amendment had not been submitted to the SMA for their review and approval.

Structure and Operation Standards

Ratings regarding compliance with the Structure and Operation Standards (90%) reflect that FirstGuard is substantially compliant with these regulations. The MCO had approved stringent credentialing and disenrollment policies. All practice within the operations outlined in this section met regulatory standards. The unresolved issue was the completion and submission of the amendment to subcontractor agreements. When this issue is resolved with the SMA, FirstGuard will be fully compliant with these regulations.

Measurement and Improvement

FirstGuard actively participated in the Kansas City Quality Improvement Consortium, which developed clinical guidelines for asthma, diabetes, and other medical conditions. The MCO used nationally accepted guidelines where appropriate. The MCO disseminated and monitored application of these guidelines through provider training and posting information on the MCO website. The MCO believed that their one-on-one efforts with providers assisted in the acceptance of the national and local guidelines.

FirstGuard had an active Quality Assessment and Improvement program. The MCO shared its most current program evaluation during the on-site review. This program was composed of an internal system of monitoring, analysis, evaluation and improvement in the delivery of healthcare that included care by all providers. Staff with expertise in quality assessment, utilization management, and continuous quality improvement performed monitoring activities. This information was used to drive system change. The results of the monitoring activities were shared with the MCO board quarterly. This helped to ensure that quality improvement activities were put in place as the result of the monitoring efforts.

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The MCO did provide two Performance Improvement Projects for validation. The results are located in the appropriate section of this report. FirstGuard used the hybrid method for validation of two performance measures. The results of the medical record review for the performance measure validation is contained in the appropriate section of this report. FirstGuard does have a health information system (HIS) capable of meeting the MC+ Managed Care program requirements. The information supplied for the Validating Encounter Data was not submitted in a format that allows for analysis of this data.

Ratings for compliance with the Measurement and Improvement regulations (63%) reflect the need to improve data submission.

Grievance Systems

Ratings for compliance with Grievance Systems regulations (94.4%) reflect that the MCO was substantially compliant regarding policy and practice of their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files followed prescribed policy and timelines. Notices to members were sent timely and contained all required information. This information included the member's ability to file a State Fair Hearing simultaneously with an MCO appeal, or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service. The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained healthcare when needed. If an appeal was filed the MCO maintained a tracking system to ensure that another qualified individual, not involved in the original decision, reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement program. FirstGuard developed a database to effectively track grievance and appeals. This system was designed to track grievances and appeals to ensure that the MCO met all required timeframes. The MCO has also initiated an Appeal and Grievance Committee. This group included members from all internal departments. This committee analyzed available data from grievances and appeals and identified areas for program improvement.

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The issue that remains outstanding is the completion and approval of the amendment to subcontractor agreements. When this issue is resolved with the SMA, FirstGuard will be fully compliant with these regulations

Summary and Follow-up Information

Behavioral Health

There were a number of follow-up issues regarding mental health. Most of these were no longer pertinent as FirstGuard will be changing to a new behavioral health system during the coming year, as the result of new MCO ownership.

The issue that remains outstanding is the completion and approval of the amendment to subcontractor agreements. When this issue is resolved with the SMA, FirstGuard will achieve full compliance with these regulations

Magellan, the contracted BHO for the review period, was interviewed. They were asked about the Post-Partum Depression Study that was started at the time of the previous audit. Magellan staff explained that this was performed by their Chicago Office. When management moved to Dallas, the study was abandoned because the information system could not support it.

School-based Services

FirstGuard reported that they attempted to engage the Kansas City School District in trying to methods, such as a school-based clinic to increase the numbers of preventive health screenings, including EPSDT. The district was not responsive.

Impact of the CLAS (Culturally and Linguistically Appropriate Services) Workgroup

The CLAS workgroup had determined that FirstGuard did well in providing services to the Spanish speaking community. The MCO materials were translated and they had Spanish-speaking staff available. The MCO contracted with several medical clinics that included Spanish-speaking physicians. In analyzing member survey information, enrollment and other demographic information the CLAS workgroup found there were no significant problems or gaps in terms of sensitivity to and knowledge about culturally impacted healthcare issues.

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It was noted that in a case discussed during the on-site review, FirstGuard staff described a situation where a member was in serious need of an obstetric provider who spoke Mandarin Chinese. A provider was located. This physician provided obstetrical services, and agreed to provide follow-up pediatric services to the member and her family.

FirstGuard provided staff training to ensure that smaller groups who might encounter problems, were treated with respect, understanding, and received adequate healthcare services.

Provider Relations

In the past FirstGuard has delivered informational presentations to providers and their staff. These presentations were found to be successful in educating and informing providers about changes and new clinical issues. The MCO planned to reintroduced these sessions during 2005.

STRENGTHS

1. FirstGuard had developed an extensive provider network. This included provider agreements in the small rural communities within their MC+ Region. FirstGuard's network included physicians in specialty areas that have been difficult to recruit. They have done this through consistent service and strong relationship building.
2. FirstGuard developed a project to improve birth weight outcomes for members who have high-risk pregnancies. They used a multi-disciplinary approach, and were looking at the psychosocial issues that research indicated negatively impacted birth weight.
3. FirstGuard staff demonstrated a commitment to quality integration throughout their organization during the entire site visit.
4. FirstGuard utilized an interdisciplinary committee to review grievances and appeals. This group reviewed trends and data to ensure that service improvements were implemented timely and effectively.
5. FirstGuard maintained oversight of services provided by Magellan Behavioral Health. Magellan was located out-of-state. FirstGuard case managers were involved to ensure that members received appropriate services and that PCP's were informed of the mental health services their patients received.

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AREAS FOR IMPROVEMENT

1. FirstGuard will be transitioning members to a new behavioral health organization during the coming year. It is imperative that the MCO maintains oversight of this process to ensure that members do not lose services, and continue receiving appropriate levels of service.
2. FirstGuard had just completed obtaining addendums to their subcontracts. Ensure that required documentation is submitted to and approved by the SMA for final review and approval.

RECOMMENDATIONS

1. Continue completion of documentation with the same level of importance observed in the high standards reflected in the daily practice within the MCO.
2. Continue MCO development in the area of utilizing available data and member information to drive change and create opportunities for organizational growth and development.
3. Work closely with the new BHO to ensure a healthy transition process for members. Develop methods to enhance mental health service delivery.Work with the new BHO to develop studies and to communicate concerns that can lead to improved performance.
4. FirstGuard stated a willingness to re-approach the Kansas City School District to collaborate on opportunities to improve adolescent health screening rates. FirstGuard is encouraged to continue this endeavor. To meet the needs of the MC+ population the MCO may wish to consider engaging another district that includes a significant number of FirstGuard members. By demonstrating the effectiveness of this approach, the MCO may then be able to convince the Kansas City District of the benefits to their students..
5. Continue explicit efforts to be aware of new cultural issues within the community. Continue responsive and proactive focus in informing staff and providers regarding cultural sensitivity.
6. Continue to utilize available data to analyze grievance and appeals and to identify trends to create opportunities for program and process improvement.
7. Utilize the provider presentations to educate providers about clinical guidelines and the benefits of physician profiling.

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BLUE ADVANTAGE PLUS

The previous sections of the 2004 EQRO report present the purpose and objectives technical methods, procedures for evaluation, MCO to MCO comparisons for all MC+ MCOs on analyses, and findings and recommendations for each of the protocols based on the aggregate analysis. This section of the EQRO report summarizes MC+ MCO specific methods, procedures, findings, and recommendations for improving the quality, timeliness, and access to care for MC+ Managed Care Members. Please refer to the main report for detailed technical objectives, methods, and presentation of data that are referenced here for the MC+ MCO.

Performance Improvement Projects

METHODS

Document Review

Blue Advantage Plus supplied the following documentation for review:

- NCQA Quality Improvement Activity Form: Improving Care for Asthmatics
- NCQA Quality Improvement Activity Form: Lead Testing Improvement Project

Interviews

Project Leaders, participants, and the Medical Director were interviewed on-site by the EQRO Project Director on Tuesday, March 15, 2005 to review the methods, study design, and findings. Technical assistance regarding study design and measures was provided, as were references for logic model development and health services research methods. Specific questions regarding each study were addressed:

- Asthma
- What is a baseline goal?
- Measures #1 and #2 indicate, "…in the total asthma population?" How is this defined?
- Regarding the "sample", how many were sampled, how many participated? How many responses were able to be analyzed? What was the size of the population?
- What statistical tests were used, and what were the degrees of freedom?
- To what were the significant findings from baseline and re-measurement attributed?
- To what were the non-significant findings from re-measurement to re-measurement attributed?
- What was the rationale for conducting statistical significance testing from baseline to re-measurement on some measures and re-measurement to re-measurement on other measures?
- What interventions were implemented and when?
- How many letters were sent to members and how many were not returned due to undeliverable addresses?
- What findings are relevant to the MC+ population?

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- Describe how flu shots and depression screening relate to asthma and the measures.
- How was symptom improvement analyzed?
- What are the conclusions about the effectiveness of the intervention(s)?

- Lead Testing
- What was the rationale for using six months continuous enrollment?
- What is the "specified time period?"
- Why were measures restricted to Jackson County?
- Was there an intervention targeted to Jackson County?

FINDINGS

The first PIP evaluated was, "Lead Testing Improvement Project." The topic was to improve lead testing rates for 12- to 72-month-old Blue Advantage Plus members, which was focused on preventing an acute or chronic condition. The need for improvement was presented and supported in the narrative. Although Blue Advantage Plus had not conducted data collection and analysis to support the rationale, secondary data supported rationale for selection of the topic. The project addressed a broad range of key aspects of enrollee care and services by evaluating the effectiveness of provider and member education in increasing blood lead testing rates. It was assumed that MC+ Managed Care Members were included in the study, however, more detailed description of study participants should be provided. Additionally, the rationale for selecting one county was not well-supported and does not map to the 0 to 6-year-old age range or 1 to 6-year-old age range indicated in the narrative. The rationale for this should be specified. There were no actual questions addressed in the Quality Improvement Activity (QIA) Form. Appropriate questions would have been, "Does education of providers and members about blood lead testing improve lead testing rates among 12- to 72- month-old Blue Advantage Plus members; and "Does this improve the rates of lead testing among children 6 years of age and younger in a high-risk area?" The indicators were very well-defined, as well as their benchmarks and sources and baseline goals. They included the percent of 12-month-olds in Blue Advantage Plus service area who had a lead test and at least six months continuous enrollment; percent of 24-month-olds in Blue Advantage Plus service area who had a lead test and at least six months continuous enrollment; percent of 12-month-olds, 24-month-olds, 36-month-olds, 48-month-olds, 60-month-olds, and 72-month-olds residing in Jackson County who had a lead test and at least six months continuous enrollment. The association between the intervention measures and outcomes is implied and apparent, but it would be beneficial to describe it more clearly in the study.

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The age range of members was clearly defined in the study topic, question and indicators. However, a more detailed study of participants, such as an indication that findings relate to MC+ Members specifically, and that all MC+ members (e.g., 1115 Waiver, 1915b Waiver, children in State custody, and consent decree children) were included in the study. There was one county selected on the basis that it had the greatest concentration of children in the Blue Advantage Plus service area. No other sampling was conducted. The sources of data were clearly defined and the study design specified systematic method of collecting valid and reliable data over time. There was no data analysis plan identified in the narrative. This could be included in the section on how the analysis will be conducted, for example, "z scores will be calculated on measures 1 through 5, comparing the baseline rate to the re-measurement rate to assess the impact of the intervention".

The intervention included the education of members, reminder letters for EPSDT testing, supplies of filter paper to providers. There was a good description of analysis of barriers.

Although there was information regarding re-measurement points, graphs could more clearly indicate when re-measurement was done so they are self-contained sources of information. The analysis did identify initial and repeat measurements, statistical significance, and factors that influence initial and repeat measurement. There should be more discussion of the analysis and presentation of confidence intervals. The level of significance should also be presented. A 95% confidence level would be sufficient for this type of study. The same methodology as baseline measurement was used when measurement was repeated. Although there was no statistically significant improvement, there was no decline, suggesting stability in the measure. The data presented were preliminary re-measurements at the first re-measurement point. Therefore, it is difficult to assess sustained improvement until additional re-measurement points are instituted.

This was a very well-designed and implemented study with high potential for producing credible findings. There was a good study topic, a well-developed rationale and nice presentation of results. Although there was an adequate description of the interventions and barriers, there was no description of the efficacy of intervention with regard to the measurements that were done. The possible reasons for no significant improvement at the first re-measurement point should be discussed and barriers and changes to the study or intervention should be suggested.
In the future, specify clearly the study questions and devote more attention to the description of sampling methodology. Outline the data analysis plan in detail and identify statistical tests conducted

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or planned. After re-measurement, evaluate the effectiveness of the study and interventions. QIA Form used to document the study findings may need to be adapted to incorporate some recommendations. Include process measurements of the intervention (e.g., the number of provider medical records in which a verbal lead screen or a BLL are documented).

The next PIP evaluated was, "Improving Care for Asthmatics." The topic and problem statement was to improve asthma management, which represented addressing a clinical issue involving care for an acute or chronic condition. There was a well-developed presentation of study rationale and topic statement. To support the need for improvement, it is important to compare, for example, prevalence rates of asthma in Blue Advantage Plus Members to national benchmark or comparative state data. Multifaceted interventions were developed and implemented to improve care and functional outcomes for people with asthma, addressing a broad spectrum of key aspects of enrollee care and services. The demographic characteristics of the study population should be clearly presented in the narrative. Some information can be inferred, but is scattered throughout the QIA Form. The age groups defined were from 2 to 56 years of age. On-site review indicated study findings were specific to MC+ Members and that no specific groups were excluded from the intervention. All MC+ Members had equal opportunity to participate. The study question appeared to be, "Does the implementation of an asthma disease management program improve the functional outcomes of participants and the use of pharmacy and acute care services among the asthmatic MC+ member population as a whole?"

The study used objective, clearly-defined indicators and targeted goals for the number of inpatient admissions for the care of asthma per 1,000 members, the number of ER visits for the care of asthma per 1,000 members, percent of Blue Advantage Plus members identified with persistent asthma that are prescribed medications acceptable as primary therapy for long-term control of asthma, functional status (frequency of nightmare awakenings). The titles of these indicators were very well detailed and suggested methods of measurement.

A more detailed description of study participants should be presented to specify whether the study findings related to MC+ Members, and whether all MC+ member groups (1115 Waiver, 1915b Waiver, children in State custody, and children in the consent decree). It appears no sampling was conducted and that "all eligible members" were included in the personal interview for one of the measures. There does seem to be some misconception about sampling. One statement indicated

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"the sample size was determined by how many people we were able to contact during the quarter being measured", which describes a participation rate or level of completeness of the data collected rather than a sample. However, the response rates are useful for measuring of the effectiveness of the implementation of the intervention. No actual sampling was conducted. There were excellent descriptions of data, data sources, and methods and procedures for data collection from multiple sources (members and claims). The study also designed a systematic method of collecting valid and reliable data, but no survey tools were provided for review. There should be a standard member survey and this should be included in any descriptions of the PIP. There was not an analysis plan identified in the narrative. Simply stating that "z-scores will be calculated on measures 1 through 5, comparing the baseline rate to the re-measurement rate" would be sufficient.

Blue Advantage Plus presented an excellent analysis of barriers encountered in the process of implementing the intervention. Actions undertaken seem to be adequate to address the barriers. It is clear from the narrative which intervention was designed to address a particular barrier. Tables and figures could be somewhat more clear by identifying statistical significance in footnotes, and indicating baseline re-measurement in intervention points. There was a clear and concise description of data collection cycles for each measure. Statistical significance should be indicated and baseline re-measurement and intervention points should also be labeled. There were well-described limitations and implications for these limitations for each measure. The interpretation of the study findings indicate that the intervention has been successful and there were recommendations for follow-up to implement two additional years of this program. This would allow for measurement of sustained improvement as well as opportunity for additional improvement. The baseline methodology was modified for one measure over time, but this was clearly described and the implications for this change were understood. There was very good presentation of statistical significance testing and findings. The reported improvements had face validity, demonstrated statistical evidence of true improvement, and demonstrated sustained improvement through repeated measurements over comparable time periods.

This study has led to highly credible and valid findings and is considered a Best Practice approach to asthma management. This is a very well done project with a good presentation of measures and results. Data analysis was well described for each measurement cycle. Statistical analysis of change over time was conducted, and the success of the interventions was discussed.

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In the future, identify more clearly the study questions. Outline the data analysis plan and the statistical tests to be conducted. Include attachments and survey tools for future reviews and modify the QIA Form as needed to include components of PIPs.

STRENGTHS

1. Both PIPs validated either produced or were capable of producing highly credible findings to evaluate the effectiveness of care. Blue Advantage Plus demonstrated effectiveness and stability of intervention with the Improving Care for Asthmatics PIP. This is considered a Best Practice for widespread application to MC+ Members. Positive findings regarding the effectiveness of the Lead Testing PIP will also likely result in a Best Practice approach for MC+ Members.
2. Blue Advantage Plus employed statistical significance testing in demonstrating the effectiveness of the intervention and sustainability of improvement in outcome measures over time.
3. Blue Advantage Plus provided explicit descriptions of definitions, sources, and time frames of outcome measures. Numerators and denominators were well defined and could be replicated.
4. Blue Advantage Plus reported of numerators and denominators as well as rates. This allows for trending of rates over time, consistency in measurement, and examination of raw data for the purpose of critically evaluating the process and variation of the interventions over time.
5. There was excellent use and modification of the Quality Improvement Activity Form for the purpose of planning, identifying, and summarizing the findings of Performance Improvement Projects. The study rationale was very well written and described.

AREAS FOR IMPROVEMENT

1. There was some confusion about sampling. A sample is a subset of a target population that is selected for inclusion in a study, so that findings can be extrapolated to the entire population. This is not the same as the number or proportion of those who chose to participate or for whom data could be collected. This would be the response, or participation rate (the number and percent in the sample or population that were targeted that also participated).
2. Articulating interventions, study questions, hypotheses, findings, and interpretations of findings. Findings and conclusions made about the interventions or barriers, as well as recommendations for each measurement period should be summarized.

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RECOMMENDATIONS

1. When submitting PIPs for review, include attachments, surveys, graphic displays, and summaries of the intervention(s).
2. Specify the population, or the proportion of the MC+ population included in the study and in the intervention (e.g., all MC+ members; or "55% of the target population consisted of MC+ members; how many people and from what population/sample were contacted by telephone?). Ideally, all analyses and findings of the outcomes are disaggregated and reported for MC+ Members. For the intervention and process measures, it would be important to report at minimum, the number and proportion of MC+ Members included in the intervention.
3. Report the type of statistical tests used and the degrees of freedom.

Validation Of Performance Measures

METHODS

This section describes the documents, data, and persons interviewed for the Validation of Performance Measures for Blue Advantage Plus. Blue Advantage Plus submitted the requested documents on November 23rd, 2004. The EQRO reviewed documentation between November 23rd, 2004 and February 28th, 2005. On-site review time was used to conduct follow-up questions and provide feedback and recommendations regarding the performance measure rate calculation.

Document Review

The following are the documents reviewed by the EQRO:

- The Information Systems Capability Assessment (ISCA) submitted by Blue Advantage Plus
- The Baseline Assessment Tool (BAT) submitted by Blue Advantage Plus
- Ernst & Young's NCQA HEDIS 2004 Compliance Audit Report
- Letters of communication between the EQRO and Blue Advantage Plus
- Blue Advantage Plus policies pertaining to HEDIS 2004 rate calculation and reporting
- Blue Advantage Plus Information Services (IS) policies on disaster recovery
- Blue Advantage Plus's HEDIS implementation work plan and HEDIS committee agendas for 2004
- Data warehouse validation procedures for the CRMS software
- DB2 data warehouse models of the interim data warehouse

The following are the data files submitted for review by the EQRO:

- Medicaid_adoles_demoninator_members_with_DOB.xls
- Medicaid_adoles_numerators_members_with_DOB..xls
- Medicaid_adoles_numerators_members_with_DOB.xls
- Medicaid_adoles_numerator_with_claims.xls
- Medicaid_asthma_demoninators_with_claims.xls
- Medicaid_asthma_demoninator_members_with_DOB.xls
- Medicaid_asthma_numerators_members_with_DOB.xls
- Medicaid_asthma_numerators_with_claims.xls

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Interviews

The EQRO conducted on-site interviews with Darren Taylor, Barb Purdon and Marilyn Allison at Blue Advantage Plus in Kansas City on Tuesday, March 15th, 2005. This group was responsible for calculating the HEDIS performance measures. The objective of the visit was to verify the data, methods, and processes behind the calculation of the three HEDIS 2004 performance measures. This included both manual and automatic processes of information collection, storing, analyzing, and reporter.

FINDINGS

Blue Advantage Plus used the Administrative Method for calculation of the HEDIS 2004 Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma measures. The HEDIS 2004 Adolescent Immunization Status, Combination #1 measure was not calculated. MCO to MCO comparisons of the rates of HEDIS 2004 Adolescent Immunization Status Combination #1, Adolescent Well-Care Visits, and Use of Appropriate Medications for People with Asthma measures were conducted using two-tailed z-tests. For comparisons that were statistically significant at the 95% confidence interval (CI), the z-score (z), the upper and lower confidence intervals (CI), and the significance levels ($p < .05$) are reported.

The rate for Blue Advantage Plus for the HEDIS 2004 Adolescent Well-Care Visits measure was 31.20%, which was comparable to the statewide rate for all MC+ MCOs (30.13%; $z = .23$, 95% CI: 26.32%, 36.08%; n.s.). The rate for Blue Advantage Plus for the 2004 HEDIS Use of Appropriate Medications for People with Asthma was 67.39%, which was significantly higher than the statewide rate for MC+ MCOs (63.92%, $z = .92$; 95% CI: 63.75%, 71.03%; $p > .95$).

The following sections summarize the findings of the process for validating each of the performance measures in accordance with the Validating Performance Measures Protocol. The findings from all review activities are presented according to the EQRO validation activity, with the findings for each measure discussed within the activities as appropriate. Please refer to the tables in the main report for activities, ratings, and comments related to the Attachments.

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Data Integration and Control

Blue Advantage Plus used a NCQA-certified vendor application from McKesson, Inc. for calculation of rates for the HEDIS 2004 measures. The EQRO was provided with a process overview of the FACETS claims management system and a validation overview of the CareEnhance Resource Management System (CRMS) data warehouse. The EQRO was given a demonstration of the data flow and integration mechanisms for external databases for these measures, and provided with a layout of the data structure of the internally-developed data warehouse for storing interim data. For the two measures calculated, Blue Advantage Plus was found to meet all criteria for producing complete and accurate data (see Attachment V: Data Integration and Control Findings). There were no biases or errors found in the manner in which Blue Advantage Plus transferred data into the repository used for calculating the HEDIS 2004 measures of Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma.

Documentation of Data and Processes

Data and processes used for the calculation of measures were adequate (see Attachment VII: Data and Processes Used to Calculate and Report Performance Measures). Blue Advantage Plus met nearly all criteria that applied for the two measures validated. The two criteria that were not met involved the use of statistical significance testing to document changes in performance over time and using this information to support claims of improvement or stability in performance over time. Although many auditors conduct statistical tests to examine various aspects of data validity, such tests should be used by the MCO to assess the significance of change related to quality improvement activities and operational changes.

Processes Used to Produce Denominators

Blue Advantage Plus met all criteria for the processes employed to produce the denominators of both performance measures validated (see Attachment X: Denominator Validation Findings). This involves the selection of eligible members for the services being measured. Denominators in the final data files were consistent with those reported on the DST for the two measures validated. All members were unique and the date of birth ranges were valid. A total of 6,593 members eligible were reported and validated for the Adolescent Well-Care Visits measure; and 788 members eligible were reported for the denominator of the Use of Appropriate Medications for People with Asthma measure. Age ranges, dates of enrollment, medical events, and continuous enrollment were programmed to include only those members who met HEDIS 2004 criteria.

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Processes Used to Produce Numerators

Both measures validated included the appropriate data ranges for the qualifying events (e.g., immunizations, well-care visits, and asthma medications) as specified by the HEDIS 2004 criteria (see Attachment XIII: Numerator Validation Findings). Given that the Adolescent Immunization Status, Combination # 1 measure rate was not calculated, it was not possible to estimate the total bias.

There were a total of 2,057 administrative hits reported and validated for the HEDIS 2004 Adolescent Well-Care Visit measures. The dates of service and medical event codes (CPT and ICD-9 CM) were all within the valid ranges. The rate validated by the EQRO for Adolescent Well-Care Visits was 31.20% , with no observed bias.

The HEDIS 2004 Use of Appropriate Medications for People with Asthma measure was another measure validated. The dates of birth and dates of service were in the valid range. The final rate was calculated by the EQRO was 67.39%, with no observed bias.

Sampling Procedures for Hybrid Methods

No sampling or medical record reviews were conducted or validated for the performance measures validated. Attachment XII; Impact of Medical Record Review Findings and Attachment XV: Sampling Validation Findings do not apply to the Administrative Method.

Submission of Measures to the State

Blue Advantage Plus submitted the DST for two of the three measures validated to the SPHA (the Missouri Department of Health and Senior Services: DHSS) in accordance with the Code of State Regulations (19 CSR §10-5.010 Monitoring Health Maintenance Organizations) and the SMA Quality Improvement Strategy. The Adolescent Immunization Status, Combination #1 measure was not calculated by Blue Advantage Plus and thus was not reported. The 2004 Compliance Audit Report indicated that the Blue Advantage Plus did not calculate the measure, but no further information was available regarding the reason.

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Determination of Validation Findings and Calculation of Bias

As referenced earlier, there was no bias found in the reporting of numerators, denominators, or rates of the two HEDIS 2004 performance measures validated. The Adolescent Immunization Status, Combination #1 measure was not calculated or reported and was thus unable to be validated.

Table 1. Estimate of Bias in Reporting of HEDIS 2004 Measures.

Measure	Estimate of Bias	Direction of Estimate
Adolescent Immunization Status, Combination #1	Unable to determine	Unable to determine
Adolescent Well-Care Visits	0.00%	None
Use of Appropriate Medication for People with Asthma	0.00%	None

Final Audit Rating

The Final Audit Rating for each of the performance measures was based on the findings from all data sources that were summarized in the Final Performance Measure Validation Worksheet for each measure.

Table 2. Final Audit Validation Rating for Performance Measures

Measure	Final Audit Rating
Adolescent Immunization Status, Combination #1	Not Valid
Adolescent Well-Care Visits	Fully Compliant
Use of Appropriate Medications for People with Asthma	Fully Compliant

Note: Fully Compliant = Measure was fully compliant with State specifications; Substantially Compliant = Measure was substantially compliant with State specifications and had only minor deviations that did not significantly bias the reported rate; A significant bias in the rate was defined as a number calculated by the EQRO that fell outside the 95% confidence interval of the rate reported by the MCO. Not Valid = Measure deviated from State specifications such that the reported rate was significantly biased. This designation is also assigned to measures for which no rate was reported; Not Applicable = No MC+ Members qualified for the measure.

STRENGTHS

1. The calculation of the HEDIS 2004 Adolescent Well-Care Visits and the Use of Appropriate Medications for People with Asthma measures were fully compliant with SMA and SPHA specifications.
2. Blue Advantage Plus used NCQA-certified software (CRMS of McKesson) for the HEDIS rate calculations. This application was reviewed and tested by NCQA-certified auditors and has been found to accurately generate rates. There is an effective and documented CRMS validation process in place. The data for the calculation of HEDIS measures is loaded into the CRMS warehouse from the internally-developed central decision support (CDS) repository.
3. Blue Advantage Plus had documented policies and procedures on calculation of HEDIS measures. There was an organization-wide, high-level policy for the calculation of HEDIS measures. There were associated project plans for calculation of HEDIS measures and effective disaster recovery policies in place.
4. There was an efficient data integration process in place. The pharmacy data was incorporated from Argus into the CDS repository. The CDS repository also collects data from the FACETS claims management system.

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5. There were good system edits, validity checks and balancing for data accuracy both within the FACETS claims management system and the CDS repository.
6. The information system had a unique business entity key for calculation of continuous enrollment for the Blue Advantage Plus's members. This facilitates non-duplication of member data entry in the process.
7. Blue Advantage Plus is currently migrating to a new data warehouse system that incorporates an NCQA-certified vendor for HEDIS rate calculations.
8. Upon review of the preliminary of findings of the performance measure validation, Blue Advantage Plus acknowledged the need and expressed the intent to calculate and report the Adolescent Immunization Status, Combination #1 measure to the SMA and SPHA.

AREAS FOR IMPROVEMENT

1. There is a need to report the Adolescent Immunization Status, Combination #1 measure to the SPHA and SMA. Reporting of the Adolescent Immunization Status performance measure is mandatory under the Code of State Regulations (19-CSR §10-5.010) and is also required under the SMA Contract for Medicaid Managed Care (see Quality Improvement Strategy).
2. Data analysis should incorporate tests of statistical significance to assess the statistical significance of changes in rates from year to year. There is an opportunity to include tests of statistical significance to identify changes or stability from year to year.

RECOMMENDATIONS

1. Report the Adolescent Immunization Status, Combination #1 rate to the SMA and the SPHA regardless of whether or not the measure is reported to NCQA. The rates provide a valuable comparison mechanism for the SMA to facilitate policy making and quality assessment.
2. Conduct and document statistical comparisons on rates from year to year.
3. Continue the migration to a new data warehouse system with an integrated NCQA-certified vendor. This would provide better analytical processes for future performance.

Validation of Encounter Data

FINDINGS

The findings for the encounter data validation are organized according to the encounter data evaluation questions presented in the Technical Methods section for the encounter data validation in the aggregate report. Please refer to the main report for detailed objectives, technical methods and procedures for encounter data validation.

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What is the Baseline Level of Completeness, Accuracy, and Reasonableness of the Critical Fields?

For the Medical claim type, there were a total of 75,956 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Outpatient Recipient ID field was 100.00% complete, accurate and valid.
3. The Outpatient First Date of Service field was 100.00% complete, accurate and valid.
4. The Outpatient Last Date of Service field was 100.00% complete, accurate and valid.
5. The Outpatient Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete, accurate and valid.
7. The Outpatient Place of Service field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 46.74% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 20.27% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 9.54% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 0.00% complete, accurate and valid.

For the Dental claim type, there were a total of 7,491 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All of the fields examined were 100.00% complete, accurate and valid.

For the Home Health claim type, there were a total of 567 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All of the fields except the second through fifth Diagnosis Code fields examined were 100.00% complete, accurate and valid. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (54.67%, 19.75%, 6.88%, 3.35%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).

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For the Inpatient claim type, there were a total of 1,569 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Inpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The Admission Type field was 100.00% complete, accurate and valid.
4. The Admission Date field was 100.00% complete and accurate, and 94.26% valid. There were 90 invalid dates ranging from 09/13/2003 – 12/31/2003.
5. The Discharge Date field was 100.00% complete with the correct number of 99.43% (with 9 entries of "99999999"). Valid values were present 96.75% of the time. In addition to the nine invalid "99999999" entries, 42 invalid dates ranged from 04/01/2004 – 04/29/2004.
6. The Bill Type field was 100.00% complete, accurate and valid.
7. The Patient Status field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.
9. The second, third, fourth, and fifth Diagnosis Code fields fell well below the 100% threshold for completeness, accuracy, and validity established by the SMA (84.51%, 68.36%, 48.50%, 36.90%, respectively). The remaining fields were blank (incomplete, inaccurate, and invalid).
10. The First Date of Service field was 100.00% complete and accurate, and 94.26% valid. There were 90 invalid dates of service ranging from 09/13/2003 – 12/31/2003.
11. The Last Date of Service field was 100.00% complete and accurate, and 97.20% valid. There were 44 invalid dates of service ranging from 04/01/2004 – 04/29/2004.
12. The Revenue Code field was 100.00% complete, accurate and valid.
13. The Units of Service field was 100.00% complete, accurate and valid.

For the Outpatient Hospital claim type, there were a total of 33,155 encounter claims paid by the SMA for the period January 1, 2004 through March 31, 2004.

1. The Outpatient Claim Type field was 100.00% complete, accurate and valid.
2. The Recipient ID field was 100.00% complete, accurate and valid.
3. The First Date of Service field was 100.00% complete and accurate, and valid.
4. The Last Date of Service field was 100.00% complete and accurate, and valid.
5. The Units of Service field was 100.00% complete, accurate and valid.
6. The Outpatient Procedure Code field was 100.00% complete and accurate, and 100.00% valid (with rounding). The invalid code was a "W0039" entry.
7. The Outpatient Revenue Code field was 100.00% complete, accurate and valid.
8. The first Diagnosis Code field was 100.00% complete, accurate and valid.

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9. Although the second through fifth Diagnosis Code fields are optional according to the Health Plan Record Layout Manual, they fell well below the 100% threshold established by the SMA for this validation. The second Diagnosis Code field was 57.39% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The third Diagnosis Code field was 2659% complete, accurate and valid (incomplete, inaccurate, and invalid). The remaining fields were blank (incomplete, inaccurate, and invalid). The fourth Diagnosis Code field was 13.78% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid). The fifth Diagnosis Code field was 7.66% complete, accurate and valid. The remaining fields were blank (incomplete, inaccurate, and invalid).
10. For the Pharmacy claim type, there were a total of 52,577 claims paid by the SMA for the period January 1, 2004 through March 31, 2004. All fields examined were 100.00% complete, accurate and valid.

What Types of Encounter Claim Data are Missing and Why?

Based on the above analysis of the accuracy, completeness, and validity of the data in the SMA encounter claims extract file for Blue Advantage Plus, an error analysis of the invalid entries was conducted for fields which were lower than the 100.00% threshold specified by the SMA. Medical, Dental, Home Health, and Pharmacy claim type critical fields examined were 100.00% complete, accurate, and valid. The Discharge Date for the Inpatient claim type contained some invalid codes, and the Outpatient Procedure Code field contained some invalid procedure codes.

What is the Level of Volume and Consistency of Services?

When comparing the rate of encounter claim types per 1,000 members, Blue Advantage Plus demonstrated rates consistent with the average for all MC+ MCOs for the Medical, Dental, Outpatient Hospital, and Pharmacy claim types; and a significantly higher rate for Home Health encounter claim types. There was a significantly lower rate of Inpatient encounter claim types for Blue Advantage Plus than the average for all MC+ MCOs. The relation between the higher Home Health and lower Inpatient encounter claims may be related to claims administration processes. These findings suggest high levels of complete data and at least moderate access to care for Blue Advantage Plus members. The findings from the performance measure analysis indicate that Blue Advantage Plus found significantly higher administrative hits for the HEDIS 2004 Adolescent Well-Care Visits and Use of Appropriate Medications for People with Asthma measures than the average for all MC+ MCOs. This also suggests high levels of complete data.

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To what Extent do the Claims in the State Encounter Claims Database Reflect the Information Documented in the Medical Record? What is the Fault/Match Rate between State Encounter Claims and Medical Records?

To examine the degree of match between the SMA encounter claims database and the medical record, 100 encounters from each MC+ MCO were randomly selected from Medical claim types for the period of January 1, 2004 through March 31, 2004 for medical record review. Of the 95,566 Medical encounter claim types in the SMA extract file for January 1, 2004 through March 31, 2004, a total of 100 encounters were randomly selected. This was an oversample, as the minimum required sample size was 88 per MC+ MCO. Providers were requested to submit both medical records and claim forms or claim histories for review. There were 84 medical records (84.0%) and 17 claim forms (17.0%) submitted for review. Encounters for which no documentation was submitted were unable to be validated. The match rate for procedures was 63.0%, with a fault rate of 37.0%. The match rate for diagnoses was 57.0%, with a fault rate of 41.0%.

What Types of Errors were Noted?

An error analysis of the errors found on the medical record review and claim forms for procedure and diagnosis codes and descriptors was conducted. For the diagnosis code in the medical record, the reasons for diagnosis codes not matching the SMA extract file were missing information (n = 85) or incorrect information (n = 3). For the diagnosis description in the medical record, the reasons for diagnoses not matching the SMA extract file were missing or illegible information (n = 41), or no match with the description of the symptoms based on the information in the medical record (n = 11). For the diagnosis code on the claim form, the reason for diagnosis codes not matching the SMA extract file was missing or illegible information (n = 85). The reason for the diagnosis descriptor on the claim form not matching the SMA extract file included missing or illegible information (n = 79).

For the procedure code in the medical record, the reasons for procedure codes in the SMA extract file not being supported by documentation in the medical record were missing information (n = 6), downcoding (billing a service that is reimbursed at a lower rate or for less time than actually spent with the patient of the information in the medical record; n = 2), incorrect codes (n = 6), upcoding (billing a service that is reimbursed at a higher rate or for more time than actually spent with the patient; n = 7), illegible information (n = 1), and not enough information to code (n = 1). For the procedure code on the claim form, the reason for procedure codes not matching the SMA extract

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file was missing or illegible information (n = 86). For the procedure description on the claim form, the reason for procedure codes not matching the SMA extract file was missing or illegible information (n = 92).

What Problems are there with How Files are Compiled and Submitted by the MC+ MCO?

It was not possible to conduct the planned analysis of comparing MC+ MCO encounter data to the SMA encounter claim extract file due to the variability across MC+ MCOs in the submission of data for the encounter data validation. The plan was to compare MC+ MCO paid and unpaid claims to the SMA encounter claim extract file. MC+ MCOs were requested to submit data in national standard format for the MC+ Managed Care Members represented in the encounter claim sample selected by the EQRO for validation.

For purposes of the EQRO, Blue Advantage Plus had no difficulty submitting files for paid claims in the requested file layouts encounter data validation processes. Files were requested in flat file (comma-delimited), machine readable format. The following section summarizes the findings for reviewing the files submitted for encounter data validation analysis.

What are the Data Quality Issues Associated with the Processing of Encounter Data?

The documentation received from DMS (dated December 28, 2004) from Mary Lyn Childs and Judy Reynolds indicates that "Drug claims are in the old format prior to October 2004, and the physician, hospital, and dental claims are in the new format that was implemented October, 2004. Your request includes the submission of data in the format used prior to October 2004. As you are aware, the State continues to provide direction to the Plans as to how to submit encounter data in accordance with the Encounter Data Corrective Action Plan. According to State guidelines, we have converted our data submission format and are unable to go back to the previous format. For this reason, the data you are requesting can only be submitted in the current format. We are unable to submit denied claims per your request. We do not send rejected encounters to the State. Dental denied claims are on a totally different table from paid encounters. Accessing this information would require requesting a new IS project. We are checking to find out what format the drug encounter information will be available from our PBM."

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1. bhc_Dental_encs.txt 136KB Text Document 12/16/2004 10:08 AM
   This file was in NSP/CMS 1500 file layout and was able to be loaded for analysis.

2. bhc_Drug_encs.txt 372KB Text Document 12/16/2004 10:18 AM
   A total of 476 Pharmacy claim types were able to be loaded for analysis.

3. bhc_Hosp_encs.txt 237KB Text Document 12/16/2004 10:09 AM
   This file was in UB-92 file layout and was able to be loaded for analysis.

4. bhc_Phys_encs.txt 1,279KB Text Document 12/16/2004 10:11 AM
   This file was in NSF/CMS 1500 file layout and was able to be loaded for analysis.

5. EQRO-NonPaid_Claims_2004.xls
   This file was unable to be loaded for analysis.

STRENGTHS

1. The critical field validation of all six claim types resulted in few fields under the SMA established threshold of 100.00% accuracy, completeness, and validity.
2. The critical fields evaluated for the Medical, Dental, Home Health and Pharmacy claim types were 100.00% complete, accurate, and valid.
3. The match between medical records and the SMA encounter claims database for procedure codes and descriptions was significantly higher than the average for all MC+ MCOs; and the match rate between diagnosis codes and descriptions was consistent with the average for all MC+ MCOs. Errors were related to missing or illegible information, and no upcoding or downcoding errors were found.
4. The rate of claims for each claim type was consistent with the average for all MC+ MCOs, except for the rate of the Pharmacy claim type, which was higher and the rate of Inpatient claim type which was lower than the average for all MC+ MCOs. The rates of identification of administrative claims for adolescent well care and medications for the performance measures were higher than the average for all MC+ MCOs. The rate of claims suggest at least moderate levels of completion of data and access to services.

AREAS FOR IMPROVEMENT

1. For the Inpatient claim type, there were invalid dates in the Discharge Date field.
2. The Outpatient Procedure Code field in the Outpatient Hospital claim type contained 1 invalid entry.

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RECOMMENDATIONS

1. Examine and revise as needed internal system edits for invalid procedure codes in the UB-92 file layout for the Outpatient Procedure Code and Discharge Date fields, and run validity checks after the programming of new edits.

MCO Compliance with Managed Care Regulations

METHODS

Objectives, technical methods, and procedures are described earlier in this report. This section describes the documents, data, and persons interviewed for the Monitoring Medicaid Managed Care Organizations (MCOs) protocol for Blue Advantage Plus (BA+). The EQRO reviewed documentation between December 1, 2004 and February 28, 2005. On-site review time was used to conduct follow-up questions, review additional documentation made available by Blue Advantage Plus, and provide feedback and recommendations regarding compliance with federal Medicaid Managed Care Regulations.

Document Review

In addition to the documents previously identified that were reviewed at each MC+ MCO, Blue Advantage Plus was requested to provide the following documents on-site:

- Member Handbook
- Provider Handbook
- Provider Agreements (Physician's Participation Agreements)
- Samples of both Grievances and Appeals related to members and providers

Additional documentation provided by Blue Advantage Plus on-site:

- 2004 Blue Advantage Plus Telephone Follow-Up Prevention Program report
- Office Site Assessment Standards 2005
- Medical Record Documentation Review Standards 2004
- Provider Eligibility policy
- Physician Access Standards policy
- Blue Advantage Plus Care Coordination policy
- Blue Advantage Plus Specialist as Primary Care Physician policy
- Blue Advantage Plus Analysis of Vendor and Downstream Practitioner Contracts
- Blue Advantage Plus Hospital Quality Initiative report
- Provider Directory
- Ancillary Provider Agreement
- Processing and Payment of Claims by BC/BSKC

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New Directions Behavioral Health supplied the following documents regarding their services to Blue Advantage Plus:

- 2004 Blue Advantage Plus Member Satisfaction Survey results
- Personal Transitions Services Assessment tool
- Blue Advantage Plus Acute Care 7 Day Follow-Up report
- New Directions Physicians Helpline tools
- Personal Transition Services brochures

Interviews

The following individuals were interviewed during the on-site review:

Plan Administration
Judy Brennan, Director of State Programs, Blue Advantage Plus Plan Administrator
Dr. Loretta Britton, Vice President and Medical Director
Shelly Bowen, AVP, Quality Management
Mary Lyn Childs, Special Programs Coordinator

Quality Assurance
Judy Brennan, Director of State Programs
Shelly Bowen, AVP, Quality Management
Cheryl Banks, Manager, Quality Performance Measurement
David Wilson, Director, Population Management

Member Services/Case Management /Utilization Management
Judy Brennan, Director of State Programs
Mary Lyn Childs, Special Programs Coordinator
Casey Cantin, Director, Local/National Claims
Gene Payne, Supervisor, Blue Advantage Plus Customer Service
Sandy Wederquist, Director, Medical Management – Case Management
Rhonda Janky, Director, Medical Management – Prior Authorization
Carol Kemper, Senior Director, Quality Management, Children's Mercy Hospital

Provider Services
Wayne Bunge, Vice President, Provider Services
Randy Meyer, Director, Hospital Services
Dennis Radio, Director, Professional Services
Derrick Swetlishoff, Manager, Network Development
Judy Brennan, Director of State Programs
Mary Lyn Childs, Special Programs Coordinator

Mental Health
Myron Unruh, AVP, Clinical Operations
Garth Smith, Director, Network Operations
Lisa Woodring, Director, Prevention and Support Services
Judy Brennan, Director of State Programs

FINDINGS

Enrollee Rights and Protections

Blue Advantage Plus exhibited a committed and enthusiastic approach to ensuring member rights and protections. The MCO used every possible opportunity to make initial contact with members to ensure that they chose a PCP, and had all introductory information including the Member Handbook. They used these initial contacts to ensure that members had written information in a

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language and format that they understood. The MCO used a TDD line with members who were hearing-impaired. They could produce member information in Braille if requested, and were willing to spend the time reading or explaining benefits and policies to members on the telephone if required.

Blue Advantage Plus believed its members were an important component of the larger commercial organization and they treated members with respect and dignity. Staff attempted to provide good service to members. They made a concerted effort to ensure that their healthcare needs were met. Blue Advantage Plus knew that members had a right to all services in their benefit package. The MCO saw its mission as eliminating barriers to members obtaining needed healthcare services.

Ratings regarding compliance with Enrollee Rights and Protections regulations (84.6%) reflected two policy issues to be resolved for the MCO to achieve full compliance. The MCO must complete these policies and submit them to the SMA for their final review and approval.

Quality Assessment and Performance Improvement

Access Standards

Blue Advantage Plus had an extensive provider network in place. In addition to the Blue Advantage Plus network, they had additional providers, particularly specialists, who were part of the larger Blue Cross/Blue Shield of Kansas City (BC/BSKC) network, that agreed to see Blue Advantage Plus members if requested. The MCO did not object to utilizing out-of-network providers. They expressed a willingness to do this any time this was in the best interest of the member. Blue Advantage Plus responded to every member complaint regarding provider access, which assisted the MCO in evaluating network adequacy. The MCO monitored access standards regarding appointment and waiting room time using a number of methods. They conducted on-site office visits, consumer surveys, and responded to consumer complaints. The MCO used the information gained to initiate corrective action, but stated that occurred very rarely.

Blue Advantage Plus operated an in-depth case management program. Case managers viewed their goal was to assist members in receiving all the healthcare services required. Case managers actively attempted to identify members with special healthcare needs. They provided assessments to all members who were referred for or requested special services. The MCO staff indicated that if they

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learned that a child had an illness requiring any specialized care, they categorized them as having special healthcare needs to ensure that they received additional services or assistance they might require. Case management staff involved the member and PCP in defining an appropriate treatment plan and worked to ensure that members obtained the services identified in that plan.

Ratings regarding Access Standards regulations (82.4%) reflect that Blue Advantage Plus had a number outstanding policies to complete to be fully compliant with these regulations. This included correcting language in the subcontractor agreement that was considered non-compliant by the SMA, and completion of policy regarding coordination of care between PCPs and specialists, including expected response time for consultations.

One additional concern existed regarding the Member Handbook. On page 14, under services requiring prior authorization, Prenatal Care was listed. This was not a listed service in other MC+ MCO handbooks. This discrepancy was noted as it may discourage members who are pregnant, or who believe they are pregnant from seeking appropriate healthcare.

Structure and Operation Standards

Ratings for compliance with Structure and Operation Standards regulations (90%) reflect that Blue Advantage Plus was substantially compliant with these regulations. They had credentialing and recredentialing standards that exceeded the requirements. Blue Advantage Plus used a twelve-member review panel comprised of providers form the community who reviewed potential network members, and re-reviewed existing providers for the recredentialing process. They had stringent policy for recognizing and eliminating providers who were no longer licensed.

All policy and practice was in place regarding the disenrollment process. Language in the Member Handbook explained the steps necessary for a member to change MC+ MCOs.

The area of concern related Structure and Operation Standards was the issue of approved subcontractor agreements. The SMA disallowed certain language and at the time of the on-site review the revisions had not been submitted by the MCO for final review and approval. This issue must be resolved for Blue Advantage Plus to be fully compliant.

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Measurement and Improvement

Blue Advantage Plus was involved in the community-based Kansas City Quality Improvement Consortium. This group developed clinical practice guidelines for diabetes, asthma, and was in the process of developing obesity guidelines. The MCO used additional national standards, particularly in the area of behavioral healthcare. These guidelines were updated every two years and more often if nationally recognized information changes. The MCO believed the use of these standards improved the quality and consistency of care for members. Practice guidelines were disseminated through initial and on-going provider training, inclusion in the Providers Office Guide, and MCO newsletters. Application of guidelines was reviewed through the normal monitoring processes. Provider profiles included monitoring results on the use of clinical guidelines. The Medical Director became involved if a question about a standard of care was raised by a member or MCO staff.

Blue Advantage Plus was involved in the BC/BSKC Corporate Quality Program. The MCO believed this had a significant benefit for members. Blue Advantage Plus demonstrated software during the on-site review that assisted in indicating trends in healthcare needs. The development and utilization of that software that created predictive modeling was the result of issues discussed in that committee and became a quality initiative.

The MCO did submit two Performance Improvement Projects for validation. These PIPs produced credible findings and sustainability of statistically significant improvement over time. The full report regarding PIPs can be found in the appropriate section of this report. The MCO explained that they did not compile or submit findings on one of the required performance measures. Details of the Validation of Performance Measures can be found in the appropriate section of this report. The MCO did have a health information system (HIS) that was capable of meeting the MC+ Managed Care program requirements. Encounter Validation Data was not submitted in a format that allowed analysis as required.

Ratings for compliance with the Measurement and Improvement regulations (72.7%) reflect the need to improve data submission.

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Grievance Systems

Ratings for compliance with Grievance Systems regulations (100%) indicate that the MCO had completed all requirements regarding policy and practice in their grievance and appeal system. Files for both grievances and appeals, filed by members and providers, were reviewed on-site. All files followed prescribed policy and timelines. Notices to members were sent within required timeframes and contained all required information. This information included the member's ability to file a State Fair Hearing simultaneously with an MCO appeal, or later if the outcome of an appeal was not favorable to the member. All policy and information to members included the message that members can maintain healthcare coverage while an appeal was pending, and explained the member's responsibility to pay for charges if a decision was reached to deny the disputed service. The Medical Director was involved in many disputed issues and made every attempt to ensure that members obtained the healthcare needed. If an appeal was filed, it was recorded in the MCO tracking system to ensure that another qualified individual reviewed the information submitted to obtain an independent appeal decision. The MCO took the grievance and appeal system very seriously and used information generated to inform their quality improvement process.

Summary and Follow-up

Behavioral Health

During the past year, New Directions Behavioral Health (NDBH) became a wholly owned subsidiary of Blue Cross/Blue Shield of Kansas City. The MCO reported that this change increased the availability of information sharing between behavioral health providers and PCPs. New Directions Behavioral Health case managers co-case managed with Blue Advantage Plus staff when members received both behavioral health and physical health services. NDBH case managers were informed when members they served were hospitalized for any reason. All Emergency Room visits that appeared to be the result of mental health needs were reviewed by both systems.

Blue Advantage Plus was an active member in committees and activities pertinent to the local healthcare community. The MCO believed that this enabled them to provide the best services available to their members.

If a member was admitted to a hospital as the result of mental health problem, the PCP was notified. There was follow-up after release to ensure that the member kept appointments. In 2003 45% of members kept after-care appointments. In 2004, 60% were keeping aftercare appointments. The

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NDBH information system reminded staff to conduct follow-up contacts on a regular basis. An acuity system was in place that indicated the frequency of contacts discharged patients should receive. NDBH placed over 5,139 follow-up calls in 2004. They were successful in reaching members 61% of the time. Contacts were attempted for all discharged members.

Blue Advantage Plus and NDBH continued to collaborate with Gillis Center to provide in-home crisis intervention. Intensive services included assessment, parenting skills training, and school coordination. The Gillis Center staff assisted the member and/or the family in connecting to a therapist for ongoing support at the appropriate CMHC if they required continued wrap-around services, or through NDBH if therapy services were recommended. Blue Advantage Plus and NDBH believed that this resource assisted families in preventing a crisis that created a need for or caused longer inpatient treatment, or led to more serious external interventions for the family.

Access to Care

There were a number of follow-up issues regarding different aspects of access to care that Blue Advantage Plus has resolved. Blue Advantage Plus utilized additional incentive payments for physicians who accepted and treated MC+ members. Blue Advantage Plus used BC/BSKC commercial network specialists who agreed to see MC+ members, but were reimbursed at the commercial network rate. The MCO used out-of-network physicians when necessary. Blue Advantage Plus developed specific policy on access standards that they described as exceeding the requirements of their MC+ Medicaid Managed Care contract.

Collaborative Projects

Blue Advantage Plus continued to be actively involved in understanding and serving foster children who were part of the federal Consent Decree in Jackson County. The MCO was involved in ensuring that all aspects of case management, as required by the Consent Decree, were in place, managed, tracked and recorded to meet required standards. Attention to this important group of members was noteworthy.

Blue Advantage Plus was an active member in committees and activities pertinent to the local healthcare community. The MCO believed that this enabled them to provide the best services available to their members.

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Blue Advantage Plus was working with the Local Investment Commission (LINC) to bring a community-based healthcare clinic to the McCoy School District.

Correct Contact Information

The MCO completed a formal study on the number of members who came into the MCO with incorrect contact information. Blue Advantage Plus asserted that the study determined that the time and resources expended on correcting addresses and telephone numbers was a serious problem, which the MCO has not been able to resolve.

Case Management

Blue Advantage Plus recently acquired a software package for predictive modeling analysis. This software was used to identify the members most likely to need case management services. The system was based on in-patient stay probability. It was being piloted with a subset of numbers to evaluate its use in the prevention of problems through case management. The focus was on prevention. However, the MCO believed the system could also be used in disease management.

STRENGTHS

1. Blue Advantage Plus continued its partnership with New Directions Behavioral Health and Gillis Children's Center to provide intensive in-home services to families in crisis. This effort produced positive results for members and introduced them to community resources and healthcare services in an effort to teach proactive coping skills. The MCO and BHO provided many positive outcomes for members and their families.
2. Blue Advantage Plus staff gave examples of how the MCO went beyond what is prescribed in the MC+ Medicaid Managed Care contract with the State to ensure that families obtain services that meet their health and mental health needs. The MCO demonstrated a firm commitment to ensuring that members' lives were enhanced by their involvement with Blue Advantage Plus..
3. Blue Advantage Plus was starting to use a predictive modeling tool to provide information, analysis, and trends that would assist them in developing a proactive approach to designing future member services.
4. Blue Advantage Plus staff throughout the organization had a thorough knowledge of programs and initiatives in the local healthcare community in this MC+ Region. They used this knowledge to ensure that members obtained all of the best services available.
5. The staff at Blue Advantage Plus was well organized and exhibited strong working relationships. These relationships were indicative of an approach focusing on providing the best care available to their members and an effective utilization of resources.

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AREAS FOR IMPROVEMENT

1. Blue Advantage Plus should ensure timely completion of the contract compliance process so all policies and procedures are submitted to and approved by the SMA. This will create full compliance with MC+ Medicaid Managed Care contract requirements and federal regulations.

RECOMMENDATIONS

1. Continue MCO development in the area of utilizing of available data and member information to drive change and create opportunities for organizational growth and development.
2. Continue involvement in community initiatives to open up opportunities for members.
3. Continue to share information with NDBH, particularly in the area of hospitalization and prescription drugs, to ensure that members receive adequate follow-up care, and appropriate medications.
4. Continue the Blue Advantage Plus/NDBH program with Gillis Center. Conduct an outcome study to support the positive impact of this service.
5. Maintain partnerships with both public and private agencies in an effort to continue service improvements and expansions for MC+ members where this is possible.
6. Share objective study information with the SMA and request their partnership to influence effective problem solving regarding access to member contact information. This is a common concern throughout all of the MCOs. Having well researched statistics to share may increase the opportunity for effective communication.
7. Continue to define Impact Pro System usage for the benefit of Blue Advantage Plus members.

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APPENDICES

Appendix 1: CY 2004 External Quality Review Process

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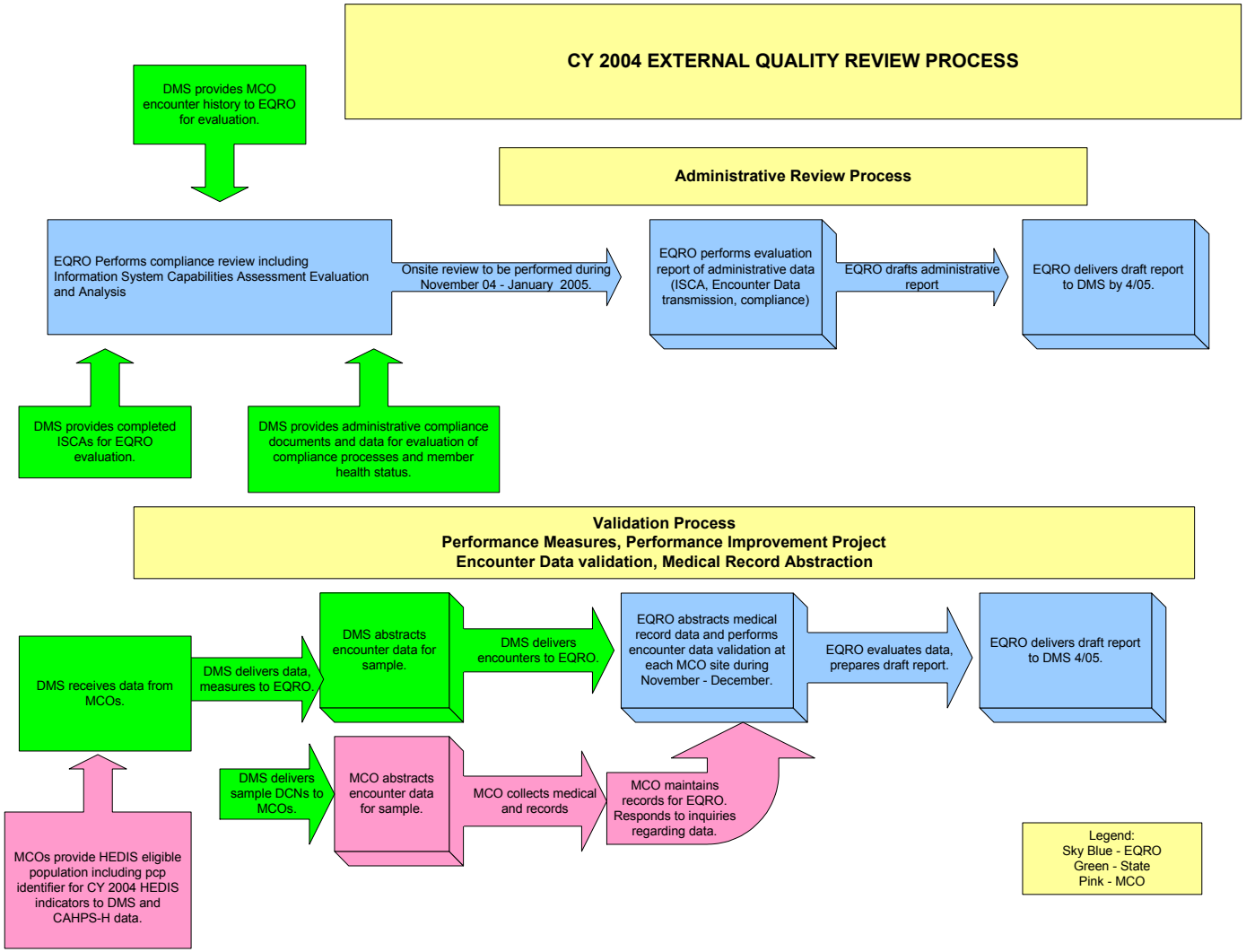
CY 2004 EXTERNAL QUALITY REVIEW PROCESS
DMS provides MCO encounter history to EQRO for evaluation.
Administrative Review Process
EQRO Performs compliance review including Information System Capabilities Assessment Evaluation and Analysis
Onsite review to be performed during November 04 - January 2005.
EQRO performs evaluation report of administrative data (ISCA, Encounter Data transmission, compliance)
EQRO drafts administrative report
EQRO delivers draft report to DMS by 4/05.
DMS provides completed ISCAs for EQRO evaluation.
DMS provides administrative compliance documents and data for evaluation of compliance processes and member health status.
Validation Process
Performance Measures, Performance Improvement Project
Encounter Data validation, Medical Record Abstraction
DMS receives data from MCOs.
DMS delivers data, measures to EQRO.
DMS abstracts encounter data for sample.
DMS delivers encounters to EQRO.
EQRO abstracts medical record data and performs encounter data validation at each MCO site during November - December.
EQRO evaluates data, prepares draft report.
EQRO delivers draft report to DMS 4/05.
DMS delivers sample DCNs to MCOs.
MCO abstracts encounter data for sample.
MCO collects medical and records
MCO maintains records for EQRO. Responds to inquiries regarding data.
MCOs provide HEDIS eligible population including pcp identifier for CY 2004 HEDIS indicators to DMS and CAHPS-H data.
Legend:
Sky Blue - EQRO
Green - State
Pink - MCO

Appendix 2: Preparation of MC+ MCO

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Orientation Agenda

- Introductions
- Orientation to Technical Methods and Objectives of Protocols
- Review of Information, Data Requests, and Timeframes
  - Performance Measures
  - Performance Improvement Projects
  - Encounter Data Validation
  - Compliance and Site Visits
- Closing Comments, Questions

6/1/2005

2004 External Quality Review for the Missouri MC+ Managed Care Program

Behavioral Health Concepts, Inc.
Performance Management Solutions Group
Janet S. Reed, PhD, MHA
Vice President

6/1/2005

Materials Provided

- Objectives and Technical Methods
  - Validation of Performance Measures
  - Validation of Encounter Data
  - Validation of Performance Improvement Projects
  - MCO Compliance
- Requests for information and data
- List of BHC contacts for each protocol
- Presentation

6/1/2005

Overview

- Protocol Activities
- Information and Data Requests
- Contact Persons

6/1/2005

Validation of Performance Measures

- HEDIS 2004 Measure Validation for MC+
  - Adolescent Immunization Status
  - Adolescent Well Visits
  - Use of Appropriate Medications for People with Asthma
- Administrative
- Hybrid method
  - Review up to 30 medical records per measure sampled randomly

Submission Requirements for PM Validation

For each of the three measures:

- 2004 HEDIS Audit Report
- Baseline Assessment Tool for HEDIS 2004
- BHC EQRO Performance Measure Checklist (Method for Calculating HEDIS Measures; Table 1.xls)
- List of cases for denominator with all HEDIS 2004 data elements specified in the measures
  - Comma delimited format
  - Listing of fields names and descriptions of fields (i.e., data dictionary)
- List of cases for numerators with all HEDIS 2004 data elements specified in the measures
  - Comma delimited format
  - Listing of fields names and descriptions of fields (i.e., data dictionary)
- List of cases for which medical records were reviewed, with all HEDIS 2004 data elements specified in the measures
- BHC will request MCOs to gather up to 30 records per measure, based on a random sample, and MCO will send copies
- Sample medical record tools used for hybrid methods for HEDIS 2004 measures and instructions.
- All worksheets, memos, minutes, documentation, policies and communications within the MCO and with HEDIS auditors regarding the calculation of the selected measures
- Policies, procedures, data and information used to produce numerators and denominators
- Policies, procedures, data used to implement sampling
- Policies and procedures for mapping non-standard codes
- Others as needed

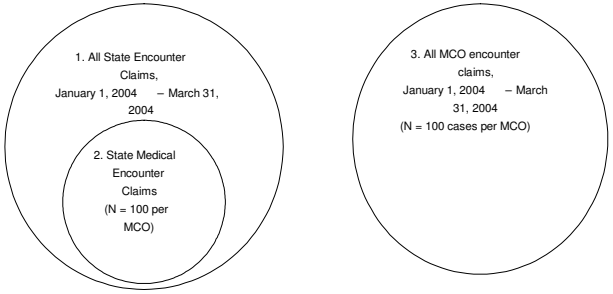
Validation of Encounter Data

- State encounter claim database
- Randomly selected encounters from medical claims, with service dates January 1, 2004 – March 31, 2004
- Review medical records for matching claims
- Match state and MCO claims databases for all encounters

Purpose and Objectives

1. To obtain a baseline of the State encounter claim database quality (completeness, accuracy, and reasonableness).
2. To validate the State encounter claims (paid) data against medical record documentation and obtain a baseline fault rate.
3. To examine the match between MCO claims (paid) and the State encounter claims database.

Sampling

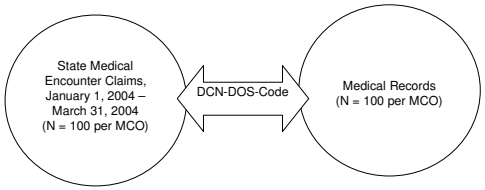


Analyses: 1

Critical fields will be examined for completeness (data in field), accuracy (correct type and length of data), and reasonableness (valid data for field) for each MCO. This will be conducted for all encounters in the specified time frame.

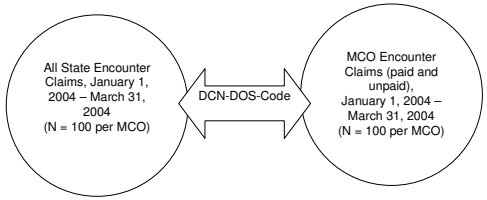
Analyses: 2

BHC will abstract the medical records and claims history/forms for each patient for the medical service provided during the entire time frame, enter into a database, and determine the rate(s) of matches, omissions and commissions between the medical record and the State encounter claims for each MCO. Matches will be cases that are consistent on patient DCN, date of service, and diagnosis or procedure code.



Analyses: 3

BHC will determine the rate(s) of matches, omissions and errors between the State encounter claims and MCO encounter claims for each MCO for the sample of selected cases.



Encounter Data Validation Submission

- File 1: Provider mailing address and contact information for sampled claims (service dates January 1, 2004 to March 31, 2004). This will be used for medical record requests and validation of the State medical encounter claims database against the medical record.
- File 2: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***paid*** claims and should be the same layout as that submitted to Verizon.
- File 3: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***unpaid*** claims and should be the same layout as that submitted to Verizon.

Validation of Performance Improvement Projects

- Two Performance Improvement Projects underway in 2004

Validation of Performance Improvement Projects and Submission Requirements

PIP Checklist Elements

- Project narratives, baseline measures, methods, interventions, and planned analyses. Examples of information are contained in the CMS protocol, Validation of Performance Measures[1]
- Phase-in/timeframe for each phase of each PIP[1]
- Problem identification
- Hypotheses
- Evaluation Questions
- Description of intervention(s)
- Methods of sampling, measurement
- Planned analyses
- Sample tools, measures, surveys, etc.
- Baseline data source and data
- Cover letter with clarifying information
- Raw data files (if applicable, on-site)
- Medical records or other original data sources (if applicable, on-site)
- Additional data as needed

[1] U.S. Department of Health and Human Services, Centers for Medicare & Medicaid Services (2002) VALIDATING PERFORMANCE IMPROVEMENT PROJECTS A protocol for use in Conducting Medicaid External Quality Review Activities: Final Protocol Version 1.0 May 1, 2002

Medical Record Reviews

- Encounter
  - Encounter sample provided to MCO
  - MCO to develop Files 1, 2, 3 (2 weeks)
  - BHC to request records from providers directly; interim feedback to MCO (4 weeks)
- HEDIS
  - Medical record samples requested from MCOs for 2 possible hybrid measures ($N \leq 30$ per measure; 4 weeks)

Medical Record Reviews (Cont'd)

- Request to providers
  - Letter from Sandra Levels
  - Instructions for submitting records
  - Encounter claim supporting information, dates, notes, claims information
  - Explanation of Confidentiality, storage of files
  - Explanation of HIPAA, Business Associate Agreement, Health Oversight Authority

Medical Record Reviews (Cont'd)

- Reviewed and abstracted by experienced and certified medical coders
- Standard abstraction tools
- Matching DCN, Date of Service, Diagnosis Code, Procedure Code

MCO Compliance

- Enrollee Rights
- Grievances and Appeals
- Quality Improvement
- Submission Requirements TBD

Site Visits

- Target for February, 2005
- MCO Compliance Reviews
- On-site activities
  - Information Systems Capability Assessments
  - Performance Measure Validation
  - Performance Improvement Project Validation

Final Report

- MCO to MCO Comparisons:
  - Encounter data match/fault rates for diagnoses and procedures
  - Performance Measure audit findings and rates
  - Performance Improvement Project element compliance
  - MCO Compliance

BHC Team and Coordination

Protocol/ Activity	BHC Contact Behavioral Health Concepts, Inc. 2716 Forum Blvd., Suite 4a Columbia, MO 65203 Tel. 573-446-0405 Tel. 573-446-1816	MCO Contact
Performance Measures (HEDIS 2004)	Dr. Anca Geana ageana@bhcinfo.com	
Performance Improvement Projects	Ms. Mariya Chumak Research Associate mchumak@bhcinfo.com	
Encounter Data, ISCA	Mr. William Chase Director, Research and Information Systems wchase@bhcinfo.com	
MCO Compliance	Dr. Janet Reed Vice President, Project Director jreed@bhcinfo.com	
Site Visits	Dr. Janet Reed jreed@bhcinfo.com	
Medical Records	Ms. Mariya Chumak Research Associate mchumak@bhcinfo.com	

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www.bhcinfo.com

Monday, November 08, 2004

Re: 2004 External Quality Review of the MC+ Managed Care Program

This letter represents the first request for information and data for the 2004 External Quality Review of MC+ Managed Care Organizations, conducted by Behavioral Health Concepts, Inc (BHC). We appreciate very much you and your staff's participation in the 2004 EQRO conference calls and presentations at the All-Plan and QA & I Advisory Group meetings in October, 2004. We have received many good suggestions and have modified our procedures as needed to ensure better communication of expectations. As you know, we are implementing four CMS protocols:

- Validating Performance Measures (Adolescent Well-Care Visits, Adolescent Immunizations, and Appropriate Medications for People with Asthma)
- Validating Performance Improvement Projects (two State-selected PIPs per MCO)
- Validating Encounter Data
- MCO Compliance

We are continuing to work with the Division of Medical Services to identify readily available documents and data that have been submitted to other entities in the past. For the performance measures, the DMS is working to obtain the File Content referenced in the legislation (19 CSR 10-5.010) for the HEDIS 2004 measures for the MC+ product and regions (HEDIS Data Submission Tool) under the Cooperative Agreement between The Missouri Department of Social Services, Division of Medical Services and The Missouri Department of Health and Senior Services for Quality Assessment and Improvement. However, if this is not available from the DHSS, BHC will request this from MCOs by November 23, 2004.

We have been asked by MCOs to communicate both with MC+ Plan Administrators and Quality Improvement Managers. Therefore, as with last year, we are sending all initial requests for information to the QI Managers with carbon copies of communications to the MC+ Plan Administrators. We will assume that MCO Managers and staff are communicating internally with one another regarding the External Quality Review. We have asked for the names and contact information of individuals at each MCO for us to communicate with regarding follow-up questions for each protocol. Similarly, individual BHC staff is assigned to implement each protocol, respond to questions, and conduct follow-up. Names and contact information were provided in the orientation and are provided again in the enclosed summary sheet.

Enclosed are instructions for requests, mailing addresses, due dates, and contact information for our staff implementing each protocol. Please review them carefully, as there have been some minor modifications made as a result of the conference calls. This request replaces the items discussed in the teleconference calls. We have included a binder, tabs, and mailing label for your convenience. We anticipate sending requests for encounter data files and hybrid performance measure medical records by the end of November, 2004; sending requests for on-site information by the end of January, 2005; and arranging site visits toward the end of January 2005, to occur in February and March, 2005.

Specific information about the implementation of the protocols can be found in the documents previously forwarded to MCOs for the EQRO orientation and in the corresponding CMS Protocols for External Quality Review. Behavioral Health Concepts Inc.'s working documents and copies of this request will be available at our web site, at http://www.bhcinfo.com/eqro. We look forward to working with you again this year in implementing the External Quality Review.

Sincerely,

Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

Encl:

1. **2004 EQRO Communication Plan**
2. **Summary of Performance Improvement Projects to be Validated**
3. **Performance Improvement Project Validation General Instructions**
4. **Performance Improvement Project Validation Submission Requirements**
5. **Summary of Performance Measures to be Calculated**
6. **Method for Calculating HEDIS 2004 Performance Measures**
7. **Performance Measure Validation General Instructions**
8. **Performance Measure Validation Submission Requirements**
9. **Encounter Data Validation General Instructions**
10. **MCO Compliance General Instructions**

CC:

Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

Performance Improvement Project Validation
General Instructions

Mail Binder To:
Attn: External Quality Review Submission
Behavioral Health Concepts, Inc.
2716 Forum Blvd., Suite 4a
Columbia, MO 65203

Due Date: November 23, 2004

Please refer to Performance Improvement Project Validation Submission Requirements and Summary of Performance Improvement Projects to be Validated.

Performance Measure Validation
General Instructions

Mail Binder To:
Attn: External Quality Review Submission
Behavioral Health Concepts, Inc.
2716 Forum Blvd., Suite 4a
Columbia, MO 65203

Due Date: November 23, 2004

When applicable, submit one for each of the three measures:

- Adolescent Immunization Status
- Adolescent Well Visits
- Use of Appropriate Medications for People with Asthma

Note: We are continuing to work with the Division of Medical Services to identify readily available documents and data that have been submitted to other entities in the past. For the performance measures, the DMS is working to obtain the File Content referenced in the legislation (19 CSR 10-5.010) for the HEDIS 2004 measures for the MC+ product and regions (HEDIS Data Submission Tool) under the Cooperative Agreement between The Missouri Department of Social Services, Division of Medical Services and The Missouri Department of Health and Senior Services for Quality Assessment and Improvement. However, if this is not available from the DHSS, BHC will request this from MCOs by November 23, 2004.

Unless otherwise indicated, please send all documents in hard copy, using the enclosed binder and tabs. If an item is not applicable or not available, please indicate this in the tab.

General data submission instructions
Data file formats all need to be ASCII, and readable in Microsoft Windows environment. Use an appropriate delimiter for data that may contain commas or quotation marks. Insure that date fields either contain a null value or a valid date. Make all submissions using compact disk (CD) formats. Insure that files on the CD are accessible on a Microsoft Windows workstation prior to submitting.

Specific data submission instructions
You may submit measure-specific files or a single numerator and denominator file. Please provide documentation of the measure and file type that is being submitted.

There should be at least 2 files
The third file is only for those MCO's using hybrid methodology.

1. HEDIS numerator file for each of the 3 measures. Insure that each file type sent has additional documentation identifying record layouts and field definitions.
2. HEDIS denominator file for each of the 3 measures. Insure that each file type sent has additional documentation identifying record layouts and field definitions.
3. For measures calculated using hybrid methodology, a list of all records selected for review.

Please see Performance Measure Validation Submission Requirements and Summary of Calculation Methods for Performance Measures.

Encounter Data Validation
General Instructions

Mail To:

Behavioral Health Concepts, Inc.
Attn: William Chase
2716 Forum Blvd., Suite 4a
Columbia, MO 65203

Label the package CONFIDENTIAL

Due Date: This will be requested within ten business days of MCO receipt of the encounter sample.

General data submission instructions
Data file formats all need to be ASCII, and readable in Microsoft Windows environment. Use an appropriate delimiter for data that may contain commas or quotation marks. Insure that date fields either contain a null value or a valid date. Make all submissions

using compact disk (CD) formats. Insure that files on the CD are accessible on a Microsoft Windows workstation prior to submitting.

Specific data submission instructions
Please provide some documentation on what each electronic file being submitted.

There should be at least 3 files:

1. File 1: Provider mailing address and contact information for sampled claims (service dates January 1, 2004 to March 31, 2004). This will be used for medical record requests and validation of the State medical encounter claims database against the medical record. This listing needs to include provider names, clinic manager names, complete address information as well as a clear indication of the sampled members receiving services. **When the sample is drawn, a file will be sent to the MCO with full instructions and detailed documentation on what to return to BHC.**

2. File 2: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***paid*** claims and should be the same layout as that submitted to Verizon.

   This submission should be the same record layout used by the MCO for submitting data to Verizon during this same time period. Use the record layout in effect **prior** to October 2004. The "Encounter Claims PAID" submission is designed to replicate the data submitted to Verizon from the original submission period. Indicate on the submission documentation what you are sending and the file name.

3. File 3: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***unpaid*** claims and should be the same layout as that submitted to Verizon.

   This submission should be the same record layout used by the MCO for submitting data to Verizon during this same time period. Use the record layout in effect **prior** to October 2004. The "Encounter Claims UNPAID" submission is designed to replicate the data submitted to Verizon from the original submission period.

MCO Compliance General Instructions

These will be determined following BHC review of State compliance review findings.

Appendix 3: Validation of Performance Improvement Projects

Performance Management Solutions Group
BHC
a Division of Behavioral Health Concepts, Inc.
2716 Forum Blvd., Suite 4
Columbia, MO 65203
www.bhcinfo.com/PMSG
T: 573.446.0405
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Performance Improvement Projects

Janet Reed
Vice President
Behavioral Health Concepts, Inc.
Presented at the Quarterly Meeting of the Quality Assessment and Improvement Group
St. Mary's Building, Jefferson City, MO
Thursday, October 28, 2004

Definition

- A project designed to *assess* and *improve* processes and outcomes of care…. that is designed, conducted and reported in a *methodologically sound* manner.

PIP, QI Activity, and Focused Study

- Performance Improvement Project
  - Designed to improve processes and outcomes of care over time.
  - A **comprehensive study** with every detail written and prospectively defined
  - **Tests** the effectiveness of an intervention
  - Involves the improvement of quality or access
  - Quasi-experimental research design
- QI Activity
  - The intervention being tested by the PIP
- Focused Study
  - Is designed to assess processes and outcomes on a one-time basis

What is NOT a PIP

- Pilot projects
- Satisfaction survey report
- A chart or figure
- A workplan
- A timeline
- A manual, policy, or procedure
- A pre-authorization manual

PIP Elements

- Study Topic
- Study Question
- Study Indicators
- Study Population
- Sampling Methods
- Data Collection Procedures
- Improvement Strategies (Intervention/Activity)
- Data Analysis
- Data Interpretation
- Validity
- Sustained Improvement

PDSA Cycle

- Plan
  - Problem identification and quantification
  - Barrier analysis
  - Potential interventions
  - Design study
- Do
  - Implement and measure the intervention
  - Collect data
- Study
  - Conduct analyses
  - Interpret data
  - Determine if intervention was effective
  - Refine intervention
- Act
  - Implement refined intervention
  - Continue or expand effective intervention

Study Topic

- What is the problem?
- What is the magnitude of the problem (baseline)?
- Is there an intervention to address the problem?
- Who does it currently impact?

Selecting Topics

- High volume services or diagnoses
- High risk conditions, services, and procedures
- Focus on health promotion, disease prevention, acute care, and chronic care
- Based on a clinical or nonclinical intervention
- NOT solely utilization or cost-based

Sources of Problem Identification

- From data collection and analysis of client needs
- Analysis of over or under utilization of services
- Based on enrollee input (satisfaction surveys, grievances, focus groups)

Considerations

- Why was this problem chosen?
- What is the potential impact of the intervention?
  - Quality
  - Access
  - Efficiency
- What are the current barriers to the current performance?
- What are the promising approaches to change identified in the marketplace and literature?

Sample Study Topic

Interventions that have been implemented to date include system wide collaboration with lead coalitions, coordination with school-based health clinics, lead case management, and provider education. This MCO is interested in addressing the need for parent education on blood lead level testing and case management interventions in identifying and treating children with lead poisoning.

Study Question

- Should be detailed, specifying the intervention, the population, and the expected outcome
- Should be clearly understood by anyone
- Examples:
  - Will providing childcare to MC+ Members increase the access of parents of young children to prenatal care?
  - Will adding a mobile case manager for MC+ Members increase the access of high risk infants to pediatric services?

Hypotheses

Children whose parents received reminder cards and lead education materials will be more likely to:

- Schedule an EPSDT visit,
- Receive a BLL,
- Be identified with lead toxicity; and

Less likely to:

- Have sick child visits
- Be hospitalized for chelation therapy

Sample Study Questions

1. Does parent education and early identification of children with blood lead levels greater than 15µ/dL result in better outcomes for children?
2. Does sending birthday cards to children before their 1st or 2nd birthday with parent education materials on the importance of blood lead testing result in increased identification of children for lead case management?
3. Does lead case management result in lower blood lead levels and better functional status?
4. Are the interventions cost effective?

Logic Model

- Identifies the conceptualization of the project
- Suggests study design and measures
- What is the logic model; i.e., what is the logic behind the performance improvement project?
- How and what is expected to be changed?
- What will be done to make change occur?
- Who will be involved in the change?
- How will change be measured?
- How will you know that if change occurred, that it is due to the intervention?

Study Design Considerations

- What data are available or able to be collected on the individuals at pre- and post-intervention?
- What other data need to be collected?
- Is the intervention strong enough to impact the pre- and post-intervention measure(s)?
- What are the questions to be answered?
- How will you know whether the intervention worked or not? A priori definition.

Study Indicators

- Implementation Measures
  - To assess how well the intervention is being implemented (e.g., number of home visits; number of outreach phone calls made)
  - To identify the need for modification of the intervention or the delivery of the intervention
- Short-Term Measures
  - To assess early indices that the intervention is taking place (e.g., service utilization, participation, inquiries)
- Intermediate-Term Measures
  - To assess shorter term impact of the intervention
- Long-Term Measures (multi-year) to assess impact and outcomes
  - Benefit/Cost (in addition to outcome measures)
  - Change in performance measure (e.g., HEDIS, MCH Indicators)
  - Health Status – physical or emotional
  - Functional status
  - Quality of life
  - Attitude and perception
  - Family functioning
  - Satisfaction with care, provider, MCO

Sample Study Indicators

Intervention
- **Rate of returned mail**
- **Rate of lead poisoning case management units per member of the study population**

Short-Term
- **Rate of scheduling of appointments for well-child care in the study population**

Intermediate Term
- **Rate of blood lead testing conducted in the study population (goal = 75%)**
- **Blood lead level**

Long-Term
- **Rate of children identified for lead case management**
- **Rate of children hospitalized for chelation therapy**
- **Rate of sick child visits**
- **Costs of chelation therapy, case management, and birthday cards/notification**

Study Design

- Quasi-experimental research
- Control or comparison groups
  - Time series design
  - Across providers
  - Members who decline services
- Measurement points
- Data to be collected and methods
  - Who, what, where, when, and how
- Data analysis plan

Sample Study Design

- Who is being studied
- Description of intervention
- Description of measures, how, and when they will be measured

Study Population

- The study population to be included in the performance improvement project will be children enrolled in the MC+ Managed Care Program, and their parents. Children will be identified two months prior to their 1st or 2nd birthday.

Sampling

- Probability
  - Simple random
  - Stratified random
    - Based on the subgroups identified for comparison
- Cluster
  - Nonprobability
  - Systematic/Purposive
  - Convenience/Judgment

Sampling

- Probability
  - Every element has a known chance of being selected
  - Can calculate means, totals, proportions
  - Lower samples required
    - Small (less than 20)
    - Moderate (20 – 50)
    - Large to very large (100 or more)
- Nonprobability
  - Selection of units based on the judgment of how well the sample represents the population
  - Proportional
  - High standard errors

Sampling

- Sampling frame
- Sampling units
- Selection process

Intervention

- One or many levels
  - System
  - Provider
  - Child/Family
  - MCO Operation (nonclinical)
- Strength (Dosage)

Pilot the Intervention (not a PIP)

- Helps estimate the magnitude of the change
- Opportunity for failure without a big investment
- Become aware of other issues and "side effects"
- Learn how to adapt the intervention to multiple settings

Data Collection

- Baseline data for the previous year on all the indicators for the study population will be collected and examined on a monthly basis. Upon implementation of the intervention, data for each indicator for the study population will be measured on a monthly basis. Data will be entered into MS Excel or the Statistical Package for the Social Sciences to create quality control charts and chi-square analysis.

System Interventions

- School-based testing and exams
- Underwrite urgent care centers, dental offices, and clinics
- Ensure specialty physician access for rural areas
- Lay community workers/neighborhood centers
- Transportation vouchers
- Free smoking cessation programs with transportation
- Provide MVI with folic acid for all scripts for childbearing women
- Outbound calling on weekends and evenings
- Distribute phone cards to members in case management

Provider Interventions

- Draw blood lead level at the office, arrange for lab pick up
- Have admitting nurse do Lead Risk Assessment
- Send nurse practitioner to do EPSDT in the home
- Allow billing for education visits
- Nurse home visiting
- Patient educator based at provider office
- Incentives for prenatal visits
- Home-based mental health therapy

Interventions or Not?

- Care coordination
- Case management
- Reminder cards and letters
- Provider education
- Newsletter articles

Data Analysis

- A mixed model design
  - Statistical quality control charts will be used to measure the pre- and post- intervention effectiveness of the parent education materials and lead case management services. Measures of central tendency and standard deviation will be used for analysis, with a 1.5 standard deviation considered significant. Analyses will be conducted separately for 12- and 24- month olds.
  - Those who are unable to be reached via mail but remain enrolled in the MCO will serve as a control group. The same measures will be examined for the intervention group (those who were sent information without the mail returned), and the comparison group (those whose mail was returned). Chi-square analyses comparing the intervention and comparison groups will be conducted on all measures, using the 95% level of significance. Analyses will be conducted separately for 12- and 24- month olds.
- A benefit-cost analysis will be conducted to compare the costs of lead poisoning case management services and birthday card reminders relative to chelation treatment and sick child visits.

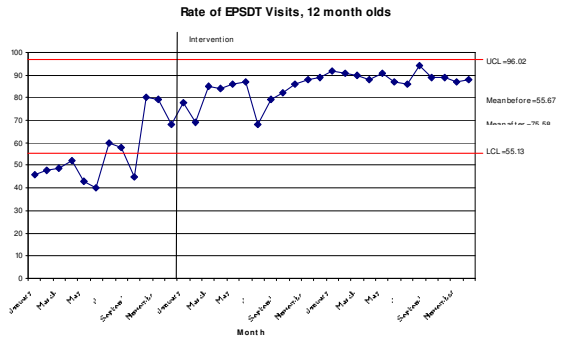
Descriptive and Inferential Statistics

- Descriptive
  - Totals
  - Central tendency
  - Proportion
- Inferential
  - Chi-square (ratios)
  - T-tests (means)
  - Confidence intervals (variance)

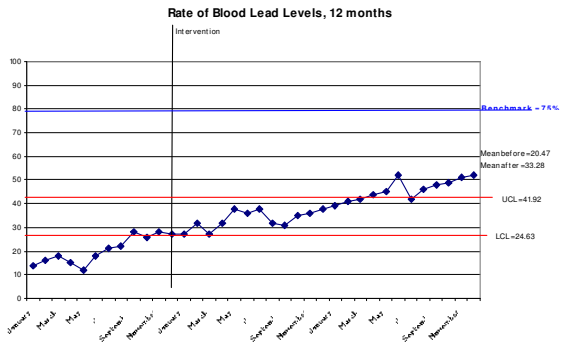
Confidence Interval

- Range of accuracy/sensitivity/certainty
- 95% (1.96 standard deviation units)
- 99% (2.58 standard deviation units)
- 99.7% (3.00 standard deviation units)

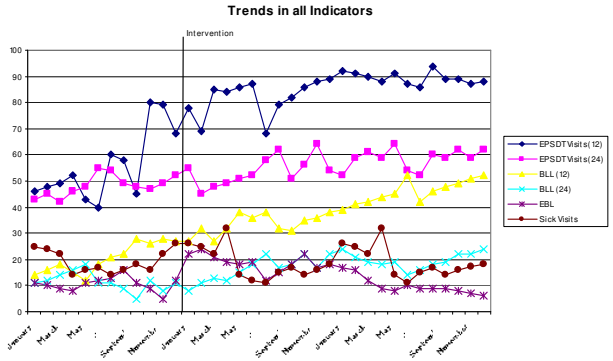
Sample Analyses



Sample Analyses



Sample Analyses



Did it Work?

- Conduct analyses as planned
- Examine extraneous factors that may have contributed to findings
- Control statistically on post-hoc analyses
- If no effects…..
  - Was the intervention implemented as planned?
  - Did the intervention include a large enough number of members (or providers, or participants)?
  - Was the intervention STRONG enough?
  - Examine the implementation and short-term measures
  - Explain
  - Modify

Discussion of Findings

- Discuss each study question
- Discuss the limitations of the study
- Discuss whether the findings are likely to be accurate, or if they are related to aspects of the intervention or analysis
- Propose methods to refine the project, measures, and/or intervention

REMEMBER……

It is almost impossible to design the perfect study or PIP. Concentrate instead on developing a PIP that will make the greatest difference for the greatest number of your members.

Resources

CMS Protocols
www.cms.hhs.org.gov/medicaid/managedcare

Health Care Professionals Network
http://wlm-web.com/hcnet/PIFiles/pimain.htm

Physician Performance Improvement Measurement Sets
http://www.ama-assn.org/ama/ pub/ category/ 4837.html

Program Outcomes for Children http://ag.arizona.edu/fcs/cyfernet/nowg/health.html

Improving Birth Outcomes Toolkit
http://www.chcs.org/usr_doc/bcaptoolkit.pdf

AHRQ Nat'l Quality Measures Clearinghouse
http://www.qualitymeasures.ahrq.gov/resources/measureindex.aspx

Professional Organizations & Federal Agencies
http://www.abimfoundation.org/agencymiddle.html

REFERENCES FOR HEALTH SERVICES RESEARCH METHODS

Methods and Statistics

Katz, D. L. (2001). Clinical Epidemiology and Evidenced-Based Medicine: Fundamental Principles of Clinical Reasoning and Research. Thousand Oaks, CA: Sage.

Langley, R. (1970). Practical Statistics. New York: Dover Publications.

Austin, C. J., and Boxerman, S. B. (1995). Quantitative Analysis for Health Services Administration. Ann Arbor, MI: Health Administration Press.

Levy, P. S. , and Lemshow, S. (1999). Sampling of Populations: Methods and Applications, Third Edition. New York: John Wiley and Sons, Inc.

Logic Model Development and Performance Improvement Project Planning

Practical Evaluation of Public Health Programs Workbook
http://www.phppo.cdc.gov/phtn/Pract-Eval/workbook.asp

Program Development and Evaluation, University of Wisconsin Extension
http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html#more

W.J. Kellogg Foundation Logic Model Development Guide
http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf

Children, Youth and Families Education and Research Network
http://www.cyfernet.org/

Performance Management Solutions Group
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Performance Improvement Project Validation Worksheet

Use this or similar worksheet as a guide when validating MCO/PIHP Performance Improvement Projects. Answer all questions for each activity. Refer to protocol for detailed information on each area.

ID of evaluator JR _____ Date of evaluation _____

Demographic Information

MCO/PIHP Name or ID _____ **Project Leader Name** _____ **Telephone Number** _____

Name of the Performance Improvement Project

_____

Dates of Study _____ **Date Study Initiated** _____

Type of Delivery System (check all that apply)

☐ Staff Model ☐ Network ☐ Director IPA

☐ IPA Organization ☐ MCO ☐ PIHP

_____ Number of Medicaid Enrollees in MCO or PIHP*

_____ Number Medicare Enrollees in MCO or PIHP

_____ Number of Medicaid Enrollees in the Study

_____ Total Number of MCO or PIHP Enrollees in Study

_____ Number of Members in Study

_____ Population of Members in Sample Frame

_____ Number of MCO/PIHP primary care physicians

_____ Number of MCO/PIHP specialty physicians

_____ Population of physicians in sample frame

_____ Number of physicians in study

Note: DK = Don't Know; NA = Not Applicable

* Source: Missouri Medicaid Management Information System COLD Reports, State Session MPRI Screen, Revised June 25, 2004. Enrollment totals include enrollees with a future start date; 1115, 1915b, and Title XXI enrollees as of June 25, 2004.

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Activity 1: ASSESS THE STUDY METHODOLOGY

Step 1. Review the selected study topics(s)

1.1 The topic was selected through data collection and analysis of comprehensive aspects of enrollee needs, care and services.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Topic or problem statement: _____

Clinical

☐ Prevention of an acute or chronic condition
☐ Care for an acute or chronic condition
☐ High volume services
☐ High risk coniditions

Nonclinical

☐ Process of accessing or delivering care

Comments

1.2 MCO's/PIHP's PIPs, over time, addressed a broad spectrum of key aspects of enrollee care and services.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Project must be clearly focused on identifying and correcting deficiences in care or services rather than on utilization or cost alone.

Comments

1.3 MCO's/PIHP's PIPs over time, included all enrolled populations: i.e., did not exclude certain enrollees such as those with special health care needs.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Demographic description of MC+ population

_____ Age
_____ Gender
_____ Race
Payor
_____ MC+
_____ Commercial

Comments

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Step 2: Review the study question(s)

2.1 Study question(s) stated clearly in writing.

☐ Met ☐ Partially met ☐ Not met

☐ Not applicable ☐ Unable to determine

Study question(s) as stated in narrative:

Comments

Step 3. Review selected study indicators(s)

3.1 The study used objective, clearly defined, measurable indicators.

☐ Met ☐ Partially met ☐ Not met

☐ Not applicable ☐ Unable to determine

Indicators (list):

Comments

3.2 The indicators measured changes in health status, functional status or enrollee satisfaction; or process of care with strong association with improved outcomes.

☐ Met ☐ Partially met ☐ Not met

☐ Not applicable ☐ Unable to determine

Long term outcomes implied or stated: ☐ Yes ☐ No

Health status: _____ Satisfaction (members): _____

Functional status: _____ Satisfaction (providers): _____

Comments

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Step 4: Review the identified study population

4.1 MCO/PIHP clearly defined all Medicaid enrollees to whom the study questions and indicators are relevant.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Demographic description of MC+ population sampled

Age _____ Gender _____ Race _____ MC+ _____ Commercial _____

Did it include:

1115	☐ Yes	☐ No	☐ Unable to determine	☐ NA
1915b	☐ Yes	☐ No	☐ Unable to determine	☐ NA
Children in state custody	☐ Yes	☐ No	☐ Unable to determine	☐ NA
Consent Decree (Western)	☐ Yes	☐ No	☐ Unable to determine	☐ NA

Comments

4.2 If the MCO/PIHP studied the entire population, did its data collection approach capture all enrollees to whom the study question applied?

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Methods of identifying participants:

☐ utilization data ☐ referral
☐ self-identification ☐ other _____

Comments

Step 5: Review sampling methods

5.1 Sampling technique considered and specified the true (or estimated) frequency of occurrence of the event, the confidence interval to be used, and the margin of the error that will be acceptable.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Previous findings from:

☐ literature review ☐ baseline assessment of indices ☐ Other _____

Comments

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5.2 The MCO/PIHP employed valid sampling techniques that protected against bias.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

The type of sampling used:

☐ Probability ☐ Nonprobability ☐ Random ☐ Simple ☐ Stratified

☐ Convenience ☐ Judgment ☐ Quota ☐ Cluster

Comments

5.3 Sample contained sufficient number of enrollees.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

_____ N of enrollees in sampling frame

_____ N of sample

_____ N of participants (i.e., return rate)

Comments

Step 6: Review data collection procedures

6.1 Study design clearly specified the data to be collected.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Comments

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6.2 The study design clearly specified the sources of data.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Source of data:

☐ Member ☐ Claims ☐ Provider ☐ Other _____

Comments

6.3 The study design specified a systematic method of collecting valid and reliable data that represents the entire population to which the study's indicators apply.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Comments

6.4 The instruments for data collection provided for consistent, accurate data collection over the time periods studied.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Instrument(s) used:

☐ Survey ☐ Medical Record Abstraction Tool ☐ Other _____

Comments

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6.5 The study design prospectively specified a data analysis plan.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Comments

6.6 Qualified staff and personnel were used to collect the data.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Name _____ Title _____

Role(s) of Project Leader _____

Comments

Step 7: Assess improvement strategies

7.1 Reasonable interventions were undertaken to address causes/barriers identified through data analysis and QI processes undertaken.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Describe Intervention: _____

Comments

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Step 8: Review data analysis and interpretation of study results

NA if study is not yet complete

8.1 An analysis of the findings was performed according to data analysis plan.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Not met if study is complete and no indication of a data analysis plan (see step 6.5)

Comments

8.2 The MCO/PIHP presented numerical PIP results and findings accurately and clearly.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

☐ Are tables and figures labeled?

☐ Labeled clearly, accurately?

Comments

8.3 The analysis identified initial and repeat measurements, statistical significance, factors that influence comparability of initial and repeat measurement, and factors that threaten internal and external validity.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Indicate time periods of measurements: _____

Indicate statistical analyses used: _____

Indicate statistical significance level or confidence level used: ☐ 99% ☐ 95% ☐ Unable to determine

Comments

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8.4 Analysis of study data included an interpretation of the extent to which its PIP was successful and follow-up activities.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Limitations described: _____

Conclusions regarding the success of the interpretation: _____

Recommendations for follow-up _____

Comments

Step 9: Assess whether improvement is "real" improvement

Note: NA only if study period is not yet complete: otherwise "Unable to Determine" or "No"

9.1 The same methodology as the baseline measurement was used when measurement was repeated.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Same source of data	☐ yes	☐ No	☐ Not applicable	☐ Unable to determine
Same method of data collection	☐ yes	☐ No	☐ Not applicable	☐ Unable to determine
Same participants examined	☐ yes	☐ No	☐ Not applicable	☐ Unable to determine
Same tools used	☐ yes	☐ No	☐ Not applicable	☐ Unable to determine

Comments

9.2 There was a documented, quantitative improvement in process or outcomes of care.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

☐ increased ☐ decreased

Statistical significance _____ Clinical significance _____

Comments

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9.3 The reported improvements in performance have "face" validity: i.e., the improvement in performance appears to be the result of the planned quality improvement intervention.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Degree to which the intervention was the reason for change: ☐ No relevance ☐ Small ☐ Fair ☐ High

Comments

9.4 There is statistical evidence that any observed performance improvement is true improvement.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

☐ Weak ☐ Moderate ☐ Strong

Comments

Step 10: Assess sustained improvement

10.1 Sustained improvement was demonstrated through repeated measurements over comparable time periods.

☐ Met ☐ Partially met ☐ Not met
☐ Not applicable ☐ Unable to determine

Comments

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ACTIVITY 3: EVALUATE OVERALL VALIDITY AND RELIABILITY OF STUDY RESULTS: SUMMARY OF AGGREGATE VALIDATION FINDINGS AND RECOMMENDATIONS

Conclusions

Recommendations

Check one:

- ☐ High confidence is reported
- ☐ Low confidence level is reported in MCO/PIHP PIP results
- ☐ Moderate confidence is reported MCO/PIHP PIP results
- ☐ Reported MCO/PIHP PIP results not credible
- ☐ Not Applicable, study not complete

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Appendix 4: Validation of Performance Measures

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(573)446-1816 (fax)
(866)463-6242 (toll-free)
www.bhcinfo.com

Friday, November 12, 2004

Re: 2004 External Quality Review Performance Measure Submission Request

Dear Quality Managers:

In response to some questions that have arisen following the teleconference orientation and our written request for files regarding the three performance measures to be validated for the 2004 External Quality Review, we are providing the following clarification. As you know, we are validating three measures from the HEDIS 2004 measures for the MC+ Managed Care Program population:

- Use of Appropriate Medications for People with Asthma
- Adolescent Well-Care Visits
- Adolescent Immunization Status

Use of Appropriate Medications for People with Asthma

Denominators
- Provide all cases selected for denominators
- Include date of birth, enrollment start date, qualifying event/diagnosis (see pages 127 and 128, HEDIS 2004 Technical Specifications), and exclusions

Numerators
- Provide all positive cases or "hits" with National Drug Code (NDC)
- Include date of birth, enrollment start date, qualifying event/diagnosis, and exclusions

Adolescent Well-Care Visits

Denominators
- Provide all cases selected for denominators
- Include date of birth and enrollment start date

Numerators
- Administrative Method
  - Provide all positive cases ("hits"), with CPT and ICD-9CM codes
- Hybrid Method
  - Provide all positive cases ("hits"), with CPT and ICD-9CM codes for administrative "hits"
  - Provide all cases selected for medical record review
    - Include an indicator for status of the medical record (reviewed/not reviewed, substitution)
    - Include an indicator for positive ("hits") and negative cases

Adolescent Immunization Status

Denominators
- Provide all cases selected for denominators
- Include date of birth and enrollment start date

Numerators
- Administrative Method
  - Provide all positive cases ("hits"), with CPT and ICD-9-CM codes for administrative "hits"
  - Include an indicator for positive cases ("hits") using other administrative data (e.g., MOHSAIC)
  - Include cases with exclusions and the contraindication or ICD-9-CM code
- Hybrid Method
  - Provide all positive cases ("hits"), with CPT and ICD-9-CM codes for administrative "hits"
  - Provide all cases selected for medical record review
    - Include an indicator for status of the medical record (reviewed/not reviewed, substitution)
    - Include an indicator for positive ("hits") and negative cases
  - Include cases with exclusions and the contraindication or ICD-9-CM code

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January 3, 2005

Re: 2004 External Quality Review Performance Measure Validation Protocol (for hybrid measures only)

Due Date: February 4, 2004

We have reviewed your MCOs numerator files for the medical record review of the HEDIS 2004 Adolescent Immunization measure. Enclosed is a listing of cases sampled for review. We are requesting copies of medical records for the sampled cases that contributed to the numerator. Please forward copies of the medical records to Behavioral Health Concepts, Inc. (BHC) for the Performance Measure Validation Protocol with the case listings. Send them to BHC at the address listed above, and mark the package as confidential.

If you have any questions, Ms. Prater, the EQRO Assistant Project Director can be reached at (573) 446-0405.

Thank you,

Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

CC:
Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

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Tuesday, April 26, 2005

Re: 2004 External Quality Review Performance Measure Validation Protocol

Due Date: May 16, 2004

Dear QA & I/UM Coordinator:

The CMS Final Protocol for the Validation of Performance Measures provides for a process whereby the MCO reviews the summary findings of the EQRO regarding the Performance Measure Validation. The findings will be incorporated into the External Quality Review Organization report to be submitted 60 days after final ratings are received by the State Medicaid Agency. In accordance with Option 1 of the Protocol, I have enclosed several documents for your review. Please send any comments or corrections in writing to me no later than May 16, 2004 at the above address. The following are the enclosed documents:

- Objectives and Technical Methods
- Final Performance Measure Validation Worksheets
- Attachments
- Validation of Performance Measure summary for your MCO

Thank you,

Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

CC:
Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

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Appendix 5: Validation of Encounter Data

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Recommended Encounter Data Validation Criteria

Data Element	Expectation	Validity Criteria
Enrollee ID	Should be valid as found in the State's eligibility file.	100% valid
Principal Diagnosis	Well-coded lead-related diagnoses (or well-child visit)	> 90% non-missing and valid codes.
Date of Service	Dates should be evenly distributed across time	If looking at a full year of data 5-7% of the records should be distributed across each month.
Unit of Service (Quantity)	The number should be routinely coded.	98% non-zero <70% should be one if CTP code in range of 99200-99215, 99241-99291
Procedure Code	This is a critical element and should always be coded. Will be assessed only for presence of code except for lead-related codes which will be validated with medical records.	99% present (not zero, blank, 8- or 9-filled). 100% should be valid, State-approved codes. There should be a wide range of procedures with the same frequency as previously encountered.

Source: Medstat (1999). A Guide for States to Assist in the Collection and Analysis of Medicaid Managed Care Data:: Second Edition.

ENCOUNTER CLAIMS DATA REQUEST

Please pull Encounter Claims data for the 2004 EQR. Report all Encounter Claims on file for dates of service January 1, 2004 – March 31, 2004. Include all claim types, Inpatient, Outpatient, Dental, Medical, Drug, and Home Health. Use the layouts from last year's request with one exception. On the Outpatient layout, add a separate field for Revenue Code. If there is no revenue code on the claim, leave the field blank.

Please put data on a CD.

The layouts for last year's request are below. Please send an updated Outpatient Layout with the Revenue Code field added.

```
01  OUTPATIENT-RECORD.
    05  OUTPAT-HEADER-COMMON.
        10  OUTPAT-CLAIM-TYPE          PIC X(01).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-SUBMIT-TYPE         PIC X(01).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-CLAIM-STATUS        PIC X(01).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-TOT-PAID-AMT        PIC $$$$$$$9.99.
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-PROCESSED-RECIP-ID  PIC X(08).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-LAST-NAME     PIC X(14).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-FIRST-NAME    PIC X(12).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-BIRTHDATE     PIC 9(08).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-SEX-CODE      PIC X(01).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-CNTY-CD       PIC 9(3).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-RECIP-RACE-CODE     PIC X(01).
        10  FILLER                     PIC X VALUE '@'.
        10  OUTPAT-PATIENT-ACCT-NUM    PIC X(20) VALUE SPACES.
        10  FILLER                     PIC X VALUE '@'.
```


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```
      10  OUTPAT-HEADER-EOB
          OCCURS 2 TIMES.
          15  OUTPAT-EOB            PIC X(03) VALUE SPACES.
          15  FILLER                PIC X(01) VALUE '@'.
      10  OUTPAT-PROV-NUM           PIC X(09).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-HEADER-DIAGNOSIS
          OCCURS 5 TIMES.
          15  OUTPAT-DX             PIC X(05) VALUE SPACES.
          15  FILLER                PIC X(01) VALUE '@'.
*******INSURANCE COVERAGE CODE (TPL)********************
      10  OUTPAT-KEY-TPL-IND        PIC X(01).
      10  FILLER                    PIC X VALUE '@'.
   05  OUTPAT-DETAIL.
      10  OUTPAT-DTL-LINE-NUM       PIC 9(02).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-FIRST-DT-SVC       PIC 9(08).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-LAST-DT-SVC        PIC 9(08).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-PLACE-OF-SVC       PIC X(02).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-TYPE-SVC           PIC X(01).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-UNITS-SVC          PIC 9(05).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-RECIP-ME-CODE      PIC X(02).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-DTL-PRCD.
          15  OUTPAT-DTL-PROC       PIC X(05).
          15  OUTPAT-DTL-PROC-MOD-P PIC X(02).
          15  OUTPAT-DTL-PROC-MOD-I PIC X(02).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-PERF-PROV-MCARE-NUM  PIC X(16).
      10  FILLER                    PIC X VALUE '@'.
      10  OUTPAT-DTL-DIAG-CODE      PIC X(05).
      10  FILLER                    PIC X VALUE '@'.
```


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```
    10  OUTPAT-DTL-PAID-AMT        PIC $$$$$$9.99.
    10  FILLER                     PIC X VALUE '@'.
*******CLAIMS REJECTION MESSAGE*************************
    10  OUTPAT-DTL-EOB-CODE        PIC X(03).
    10  FILLER                     PIC X VALUE '@'.
    10  FILLER                     PIC X(24).



01  INPATIENT-RECORD.
  05  INPAT-HEADER-COMMON.
    10  INPAT-CLAIM-TYPE           PIC X(01).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-SUBMIT-TYPE          PIC X(01).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-CLAIM-STATUS         PIC X(01).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-TOT-PAID-AMT         PIC $$$$$$$9.99.
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-PROCESSED-RECIP-ID   PIC X(08).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-LAST-NAME      PIC X(14).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-FIRST-NAME     PIC X(12).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-BIRTHDATE      PIC 9(08).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-SEX-CODE       PIC X(01).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-ME-CODE              PIC X(02).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-CNTY-CD        PIC 9(3).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-RECIP-RACE-CODE      PIC X(01).
    10  FILLER                     PIC X VALUE '@'.
    10  INPAT-PATIENT-ACCT-NUM     PIC X(20) VALUE SPACES.
```


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```
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-ADMIT-TYPE            PIC X(01).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-ADMIT-DT              PIC 9(08).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-MED-DSCHG-DT          PIC 9(08).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-BILL-TYPE             PIC X(03).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-PATIENT-STAT          PIC X(02).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-HEADER-EOB
        OCCURS 2 TIMES.
        15  INPAT-EOB               PIC X(03) VALUE SPACES.
        15  FILLER                  PIC X(01) VALUE '@'.
      10  INPAT-PROV-NUM              PIC X(09).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-HEADER-DIAGNOSIS
        OCCURS 5 TIMES.
        15  INPAT-DX                PIC X(05) VALUE SPACES.
        15  FILLER                  PIC X(01) VALUE '@'.
*******INSURANCE COVERAGE CODE (TPL)********************
      10  INPAT-KEY-TPL-IND           PIC X(01).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-FIRST-DT-SVC          PIC 9(08).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-LAST-DT-SVC           PIC 9(08).
      10  FILLER                  PIC X VALUE '@'.
   05  INPAT-DETAIL.
      10  INPAT-DTL-LINE-NUM          PIC 9(02).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-REVENUE-CD            PIC X(03).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-UNITS-SVC             PIC 9(05).
      10  FILLER                  PIC X VALUE '@'.
      10  INPAT-DTL-PAID-AMT          PIC $$$$$$9.99.
      10  FILLER                  PIC X VALUE '@'.
```


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```
*******CLAIMS REJECTION MESSAGE*************************
      10  INPAT-DTL-EOB-CODE          PIC X(03).
      10  FILLER                     PIC X VALUE '@'.
      10  FILLER                     PIC X(31).



01  PHARMACY-RECORD.
   05  PHARMACY-HEADER-COMMON.
      10  PHARM-BIN-MO-MEDICAID      PIC 9(06) VALUE 004047.
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-VERSION-NUM          PIC X(02) VALUE '3C'.
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-SUBMIT-TYPE          PIC X VALUE SPACES.
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-TRANSACTION-CODE     PIC X(03) VALUE SPACES.
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-PROV-NUM             PIC X(09).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-PROV-NABP-NUM        PIC X(07) VALUE SPACES.
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-PROCESSED-RECIP-ID   PIC X(08).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-KEY-TPL-IND          PIC X(01).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-FIRST-DT-SVC         PIC 9(08).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-RECIP-LAST-NAME      PIC X(14).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-RECIP-FIRST-NAME     PIC X(12).
      10  FILLER                     PIC X VALUE '@'.
   05  PHARMACY-DATA-RECORD.
      10  PHARM-PRESCRIPTION-NUM     PIC X(07).
      10  FILLER                     PIC X VALUE '@'.
      10  PHARM-REFILL-IND           PIC X(01).
      10  FILLER                     PIC X VALUE '@'.
```


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```
10  PHARM-DRUG-QTY-DSPNS          PIC 9(05).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-DAYS-SUPPLY             PIC 9(03).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-COMPOUND-IND            PIC X(01).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-DRUG-NDC-CODE           PIC X(11).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-PRESCRIBE-PROV-NUM      PIC X(09).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-DRUG-KEYED-EPSDT-IND    PIC X(01).
10  FILLER                        PIC X VALUE '@'.
10  PHARM-TOT-CLM-PMT             PIC $$$$$$9.99.
10  FILLER                        PIC X VALUE '@'.
10  FILLER                        PIC X(11) VALUE SPACES.
```


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DATA REQUEST FOR RESEARCH AND EVALUATION

Please run the following request for the 2004 EQR.

Provide an unduplicated file of recipients who were locked in and eligible at any time between January 1, 2004 – March 31, 2004. Do not include recipients whose lockin start date = lockin stop date. Please provide data on a CD.

Valid health plan lockin numbers are:

817919905
817920002
817919608
818101305
818920407
818287708
818280109
818287807
815337407

Please report the following fields:

DCN
Recipient Name
Recipient Address
Recipient Street
Recipient City
Recipient State
Recipient Zip
Recipient Phone Number
Casehead Name
DOB
Sex/Gender Indicator
County Codes
Race
Ethnicity
Category of Assistance
Language Indicator
SSN

AD HOC REQUEST FOR DIAGNOSIS CODES

Provide a listing and description of diagnosis codes currently active in the Diagnosis file. Please put data on a CD.

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December 6, 2004

Re: 2004 External Quality Review Encounter Data Validation Protocol

Due Date: December 31, 2004

Enclosed is a list of the materials we received from your organization in response to our first request for the 2004 External Quality Review, as of Friday, December 03, 2004. We will review the information we have available to conduct the validation of performance measures and the validation of performance improvement projects, and will follow-up if we need clarification on specific items.

Enclosed is a CD-ROM of a file containing the sample of encounters with patient identifying information. BHC will use this sample to request medical records from providers. We will send the request to providers no later than January 7, 2004, so the prompt return of the data requested below will allow 20 business days for providers to gather and submit records. BHC does not provide reimbursement for the cost of photocopying or mailing records. Records will be required to be submitted no later than February 4, 2005. Records not received by that date will be considered undocumented encounters. BHC will not be responsible for incorrect provider addresses or provider information.

In the past, several MCOs have expressed a preference for sending an advance communication to providers and following-up with them during the medical record submission process. Feel free to send the enclosed list of providers a notification of the upcoming requirement to help them prepare to submit records. It is assumed that medical records are complete and that encounters were documented. Therefore, providers are not to be instructed or otherwise encouraged to change their medical record documentation for the purpose of this review.

As in the past two years, BHC will provide a status report indicating on the submission rate of records during the review process to facilitate MCO follow-up with providers. At the time we send out the medical record request, we will also send a copy of the materials to each MCO. These will include a letter from Sandra Levels, instructions on the submission, and information regarding federal and state requirements for adherence to HIPAA and the External Quality Review.

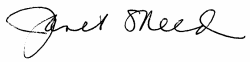
As discussed with quality managers individually, with MCO staff in the technical assistance meeting over teleconference, and at the All-Plan meeting, we are requesting the following information from each MCO for the enclosed encounters:

1. Complete and current contact information for providers, including clinic manager name when it is available.
2. All additional paid encounters for the individuals associated with each sampled claim.
3. All unpaid encounters the individuals associated with each sampled claim.

Identifiers for paid and unpaid encounters and claim type are to be included on each record. The record layouts for paid and unpaid claims are to be consistent with the record layout in effect prior to October, 2004.

Once we have selected samples from the hybrid HEDIS measures calculated by your MCO, we will forward them to you to obtain and forward the medical record to BHC no later than February 4, 2004 for the performance measure validation process. If you have questions about the file submission process for the encounter sample, contact William Chase, Director of Research and Information Systems. For questions about the medical record review process, contact Mona Prater, our new Assistant Project Director. She will be coordinating and leading the compliance review process and facilitating project coordination. Both Mr. Chase and Ms. Prater can be reached at (573) 446-0405.

Thank you,



Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

Encl:

1. **Listing of submissions received for the validation of performance improvement projects and performance measures for 2004 External Quality Review**
2. **Encounter Validation Submission Instructions**
3. **CD-ROM with sample of encounters for encounter data validation**

CC:
Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

MC+ MCO Administrator

Encounter Data Validation Submission Instructions

Mail To:

Behavioral Health Concepts, Inc.
Attn: William Chase
2716 Forum Blvd., Suite 4a
Columbia, MO 65203

Label the package CONFIDENTIAL

Due Date: December 31, 2004

General data submission instructions
Data file formats all need to be ASCII, and readable in Microsoft Windows environment. Use an appropriate delimiter for data that may contain commas or quotation marks. Insure that date fields either contain a null value or a valid date. Make all submissions using compact disk (CD) formats. Insure that files on the CD are accessible on a Microsoft Windows workstation prior to submitting.

Specific data submission instructions
Please provide documentation for each electronic file being submitted. The CD containing the sample includes a Microsoft Excel document with several sheets. One sheet includes some instructions, another sheet has the 100 specific sample encounters, and another sheet includes specific fields for provider address information your MCO will need to provide.

There should be at least 3 files:

1. File 1: Provider mailing address and contact information for sampled claims (service dates January 1, 2004 to March 31, 2004). This will be used for medical record requests and validation of the State medical encounter claims database against the medical record. This listing needs to include provider names, clinic manager names, complete address information as well as a clear indication of the sampled members receiving services.

The CD contains a Microsoft Excel file with 100 sample encounters. The data included for the sample includes this type of information.

Field Name	Field contents
PROCESSED-RECIP-ID	The Missouri Medicaid recipient identification number.
RECIP-LAST-NAME	Entire name may be entered. Only the first two letters of the recipient's last name and the first letter of the recipient's first name will be verified against the recipient's Medicaid enrollment records. The plan must send a minimum of two characters for the last name and one character for the first name.
RECIP-FIRST-NAME	Entire name may be entered. Only the first two letters of the recipient's last name and the first letter of the recipient's first name will be verified against the recipient's Medicaid enrollment records. The plan must send a minimum of two characters for the last name and one character for the first name.
RECIP-BIRTHDATE	Recipient date of birth
RECIP-SEX-CODE	1 Male 2 Female
FIRST-DT-SVC	This is the first date the service was performed.

2. File 2: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***paid*** claims and should be the same layout as that submitted to InfoCrossing.

   This submission should be the same record layout used by the MCO for submitting data to InfoCrossing during this same time period. Use the record layout in effect **prior** to October 2004. The "Encounter Claims PAID" submission is designed to replicate the data submitted to InfoCrossing from the original submission period. Indicate on the submission documentation what you are sending and the file name.

3. File 3: All other encounters for the selected sample from January 1, 2004 to March 31, 2004 for selected cases, with provider information, from all databases (e.g., inpatient, outpatient, medical, dental, home health, pharmacy). This should include only ***unpaid*** claims and should be the same layout as that submitted to InfoCrossing.

   This submission should be the same record layout used by the MCO for submitting data to InfoCrossing during this same time period. Use the record layout in effect **prior** to October 2004. The "Encounter Claims UNPAID" submission is designed to replicate the data submitted to InfoCrossing from the original submission period.

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www.bhcinfo.com

January 7, 2005

Re: Provider Medical Record Request for the 2004 External Quality Review Encounter Data Validation Protocol

Due Date: February 4, 2004

Enclosed is a copy of the information sent to providers by Behavioral Health Concepts, Inc. (BHC), whose claims were selected for review in the Encounter Data Validation Protocol. Medical records received by February 4, 2004 will be included in the review process.

As with the past three years, BHC will update MCOs during the record review submission status of providers and send reminder cards to providers that have not submitted records within two weeks.

Some MCOs in the past have chosen to facilitate the process of medical record submission for their providers. If you are submitting records on behalf of providers, please separate the records using the pre-printed face sheets given to the provider by BHC, or supplied on the enclosed CD-ROM.

If you have any questions, Ms. Prater, the EQRO Assistant Project Director can be reached at (573) 446-0405.

Thank you,

Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

Encl:
CD-ROM with face sheets for medical record requests
Letter from Sandra Levels
Instructions to providers

CC:
Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

MC+ MCO Administrator

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Wednesday, January 19, 2005

Re: Provider Medical Record Request for the 2004 External Quality Review Encounter Data Validation Protocol

Thank you for your assistance in obtaining provider contact information for the 100 randomly selected medical encounters for MC+ Managed Care Program Recipients. We are in the process of tracking the receipt of medical records for the Encounter Data Validation Protocol, and will be sending reminder cards this week to providers who have not yet responded. There are two issues for which we are requesting additional assistance.

- First, we have enclosed a list of providers whose medical record requests were returned undeliverable after several attempts to find correct addresses. We now need your assistance in obtaining these medical records. Enclosed is a list of these providers, as well as green face sheets with patient and provider information to be included with the medical record. Please have these records with the face sheets forwarded to our office by **February 4, 2005** for the medical record review portion of the Encounter Data Validation Protocol.

- Second, in an number of cases, there was more than one provider associated with a particular patient on the specified service date, resulting in more providers than encounter claims. We would like to determine which providers are associated with each of the randomly selected encounter claims.

Enclosed is a CD-ROM with an MS Excel 2000 database file containing the randomly selected encounter claims for the 2004 External Quality Review Encounter Data Validation medical request. The file also contains the provider contact information submitted by your MCO in response to our request to append provider contact information for the selected encounters. The encounter claims randomly selected by BHC are shown in white, with the providers associated with the patient for the date of the encounter claim shown in gray. Not all encounters selected had more than one provider. We have displayed only those encounter claims for which there was more than one provider listed.

We have supplied the same list of randomly selected encounters, with additional data fields for each randomly selected encounter for the purpose of matching one provider with each selected encounter claim. For example, we have added the first diagnosis and procedure code as well as other data fields for each encounter claim.

Please review the encounter claims in which there was more than one provider (as shown in the shaded rows) and indicate on the spreadsheet (placing an "x" in the designated column) which provider is associated with each randomly selected claim (shown in the white rows). Please return the completed file to BHC by **January 28, 2005**.

If you have any questions about this request, please contact me at (573) 446-0405.

Sincerely,

Janet S. Reed, PhD, MHA
Vice President, Behavioral Health Concepts, Inc.
Director, Performance Management Solutions Group

Encl:
CD-ROM with MSExcel 2000 file
Patient Face Sheets and Undeliverable Provider Addresses

CC: Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services
MC+ MCO Administrator

Behavioral Health Concepts, Inc.
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March 30, 2005

RE: 2004 Encounter Data Validation

Due date: April 8, 2005

Enclosed on a CD-ROM is an MS Excel 2000 spreadsheet containing patient identifying information from some of the claims selected for 2004 EQR encounter data validation. We need your assistance in identifying a single provider associated with each of the claims listed. We are interested in obtaining the contact information for the providers based on the Internal Control (ICN) numbers for each claims. The file contains the following data fields:

Data Provided by BHC, Inc.

Field name from State database	Field name descriptor
PROCESSED_RECIP_ID	Recipient Medicaid (Departmental Control Number)
ICN	Internal Control Number
RECIP_FIRST_NAME	Recipient First Name
RECIP_LAST_NAME	Recipient Last Name
FIRST_DT_SVC	First Date of Service
RECIP_BRITHDATE	Recipient DOB
DX_1	First Diagnosis Code
DTL_PROC	Procedure Code

Please **add** to this file the following information on providers that is associated with the provided Internal Control Number (ICN).

Provider First Name
Provider Last Name
Provider Title
Provider First Address
Provider Second Address
Provider City
Provider State
Provider ZIP Code

Thank you very much for your assistance in facilitating the process of encounter data validation.

If you have any questions about this, please contact me at (573) 446-0405 or via e-mail mchumak@bhcinfo.com.

Sincerely,

Mariya A Chumak
Research Associate
Behavioral Health Concepts, Inc.

Encl:
CD-ROM with Excel 2000 file

CC:
Ms. Judy Muck, Assistant Deputy Director, MC+ Managed Care, Missouri Department of Social Services, Division of Medical Services

MC+ MCO Administrator

CRITICAL FIELD VALIDATION PARAMETERS

There is one table for each claim type. The first column represents the name of the field from the Missouri Medicaid system, with a brief descriptor for the field name. The second column shows the length of the contents of the field, and any specified formats for the field. The third column is the type of information contained in the data string (e.g., alpha = letters; numeric = numbers; alphanumeric = a combination of letters and numbers). The fourth column is the State definition of valid codes, from the Data Dictionary provided and Health Plan Record Layout Manual and adapted in the tables below as they apply to each claim type.

Inpatient Claim Validation, UB-92 Layout

Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-CLAIM-TYPE Inpatient Claim Type	1	Alpha	This field indicates the claim type that has been submitted by the Health Plan. Valid values are: I = Inpatient [Table C-97]	I Only
INPAT-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	00000001 - 99999999

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-ADMIT-TYPE Admission Type	1	Numeric	Admission Type [Table C-6] The only valid values are: The only valid values are: 1 = Emergency 2 = Urgent 3 = Elective 4 = Newborn 9 = Information Not Available Required for Inpatient claims.	See list of values at left.
INPAT-ADMIT-DT Admission Date	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	UB-92 CLAIMS - UB-92 dates are in MMDDYY format The date the recipient was admitted to the hospital. This field is required for Inpatient claims. The date the recipient was admitted to the hospital. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004
INPAT-MED-DSCHG-DT Discharge Date	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	The date the recipient was discharged from the hospital. If the patient is still in the hospital, the latest date of service that applies to the claim. [Table C-16]	01/01/2004 – 03/31/2004

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-BILL-TYPE Bill Type	3	Numeric	Valid bill type codes are: 11x 12x ~~18x (~~Not valid for inpatient) [Table C-43]	110 - 119; or 120 - 129

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-PATIENT-STAT Patient Discharge Status	2	Numeric	The code that represents the condition under which the recipient was discharged. 01 Home 02 Hospital 03 Skilled Nursing Facility (SNF) 04 Intermediate Care Facility (ICF) 05 Institution (Inst) 06 Home Health Agency (HHA) 07 Left 08 Other 20 Death 30 Still A Patient 50 Discharge from Hospice to Home 51 Discharge from Hospice to Another Medical Facility 62 Discharged/transferred to an inpatient rehabilitation facility (IRF) including rehabilitation distinct part units of a hospital 64 Discharged/transferred to a nursing facility certified under Medicaid but not certified under Medicare 65 Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital Required for Inpatient and Outpatient- Hospice claims only. [Table C-7]	See list of values at left.

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Required. [Table C-17]	See DMS Diagnosis Codes
INPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Optional [Table C-17]	See DMS Diagnosis Codes

Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes
INPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes
INPAT-FIRST-DT-SVC First Date of Billing	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	Inpatient covered Period From and Thru Dates The date that this billing period begins. [Table C-16]	On or after 01/01/2004
INPAT-LAST-DT-SVC Last Date of Billing	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	Inpatient covered Period From and Thru Dates The date that this billing period ends. [Table C-16]	On or before 01/31/2004

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Field Name and Description	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
INPAT-REVENUE-CD Revenue Code	3 This field should be right justified, left zero filled.	Numeric	Missouri Medicaid currently utilizes a three byte revenuecodes, while the UB-92 layout allows for a four byte revenue code.The three-digit code from **100 to 999** that represents the services that are billed on this particular line item. The combined total number of accommodation and ancillary services billed cannot exceed 28 lines per claim. Accommodation revenue codes range from 10X through 21X. Ancillary revenue codes range from 22X through 99X. NOTE: Emergency Room (rev 450 and 459) and Ambulance (rev 540 to 549) may only be billed as inpatient if the patient is admitted to the hospital. [Table C-9]	100 - 999
INPAT-UNITS-SVC Units of Service	5	Numeric, Integer Whole numbers only are accepted for the days.	The number of days per room rate for both covered and non-covered accommodations (revenue codes 100 through 239). [Table C-28]	00001 - 99999

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Drug Claim Validation, NCPDP Layout

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
PHARM-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	00000001 - 99999999
PHARM-FIRST-DT-SVC Dispensing Date	8 NCPDP V3.C dates are in CCYYMMDD format	Alphanumeric	The dispense date. Multiple claims submitted via the same transaction will have the same dispense date. [Table C-16]	01/01/2004 – 01/31/2004
PHARM-PRESCRIPTION-NUM Pharmacy Prescription Number	1 - 7	Alphanumeric The only characters allowed are A through Z, 0 through 9, and hyphens. If less than 7 digits, left justify and fill the remaining positions to the right with spaces.	The prescription number of the prescription filled or refilled. Default: None, this is a required field. [Table C-4]	A – Z; 0 - 9

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
PHARM-DRUG-QTY-DSPNS Drug Quantity Dispensed	5	Numeric	The metric or non-metric quantity of the drug being dispensed. For example: A quantity of 100 would be 0100. [Table C-28]	00001 – 99999
PHARM-DAYS-SUPPLY Number of Days Supply	3	Numeric	The estimated number of days the dispensed amount represents. A days supply greater than 365 is invalid. [Table C-29]	001 - 365
PHARM-DRUG-NDC-CODE National Drug Code	11	Numeric	The code designated for the drug dispensed. The field is 5-4-2 format with no hyphens or spaces Default: None, this is a required field. [Table C-26]	00000000000 - 99999999999

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Medical Claim Validation, CMS1500/NSF Layout

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
OUTPAT-CLAIM-TYPE Outpatient Claim Type	1	Alpha	This field indicates the claim type that has been submitted by the Health Plan. Valid values are: M=Medical [Table C-97]	M only
OUTPAT-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	00000001 - 99999999
OUTPAT-FIRST-DT-SVC First Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the first date the service was performed. This date cannot exceed the current date. [Table C-16]	On or after 01/01/2004
OUTPAT-LAST-DT-SVC Last Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the last date the service was performed. This date cannot exceed the current date. [Table C-16]	On or before 01/31/2004
OUTPAT-PLACE-OF-SVC Place of Service	2	Numeric	03 School 04 Homeless Shelter 05 Indian Health Service Free-Standing Facility 06 Indian Health Service Provider-Based Facility	See list of values at left

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
			07 Tribal 638 Free-Standing Facility 08 Tribal 638 Provider-Based Facility 11 Office 12 Home 13 Assisted Living Facility 14 Group Home 15 Mobile Unit 20 Urgent Care Facility 21 Inpatient Hospital 22 Outpatient Hospital 23 Emergency Room - Hospital 24 Ambulatory Surgical Center 25 Birthing Center 26 Military Treatment Facility 31 Skilled Nursing Facility 32 Nursing Facility 33 Custodial Care Facility 34 Hospice 41 Ambulance - Land 42 Ambulance - Air or Water 49 Independent Clinic 50 Federally Qualified Health Center (FQHC) 51 Inpatient Psychiatric Facility 52 Psychiatric Facility - Partial Hospitalization 53 Community Mental Health Center 54 Intermediate Care Facility/Mentally Retarded 55 Residence Substance Abuse Treatment Facility 56 Psychiatric Residential Treatment Facility 57 Non-Residential Substance Abuse Treatment Facility 60 Mass Immunization Center	

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
			61 Comprehensive Inpatient Rehabilitation Facility 62 Comprehensive Outpatient Rehabilitation Facility 65 End Stage Renal Disease Treatment Facility 71 State or Local Public Health Clinic 72 Rural Health Clinic 81 Independent Laboratory 97 Parochial/Private Schools 98 Schools 99 Other Unlisted Facility [Table C-14]	
OUTPAT-UNITS-SVC Units of Service	5	Numeric, Integer	The number of units of services performed. Whole numbers only are accepted for days or units. [Table C-28]	00001 - 99999
OUTPAT-DTL-PROC Procedure Code	5	Alphanumeric	Enter the HCPCS (CPT-4) procedure code that represents the service performed. Required for Home Health and Outpatient claims. [Table C-30]	CPT-4; or HCPCS 2003 or 2004 codes
~~OUTPAT-DTL-PROC-MOD-P Procedure Modifier P(?)~~	~~2~~		~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~Field is empty; Unable to validate due to file error.~~
~~OUTPAT-DTL-PROC-MOD-I – Procedure Modifier I (?)~~	~~2~~		~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~There are 1 – 5 characters, with both numeric and alpha data; Unable to validate~~

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
				~~due to file error.~~
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the diagnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Required. [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Optional [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces.	See DMS Diagnosis Codes

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Range of Valid Values
			Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes

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Outpatient Hospital Claim Validation, UB-92 Layout

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-CLAIM-TYPE Outpatient Claim Type	1	Alpha	This field indicates the claim type that has been submitted by the Health Plan. Valid values are: O=Outpatient [Table C-97]	O only
OUTPAT-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	00000001 - 99999999
OUTPAT-FIRST-DT-SVC First Date of Service	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	This is the first date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-LAST-DT-SVC Last Date of Service	8 UB-92 dates are in MMDDYY format	Alphanumeric (Translated from Julian calendar)	This is the last date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004
OUTPAT-UNITS-SVC Units of Service	5	Numeric, Integer	The number of units of services performed. Whole numbers only are accepted for days or units. [Table C-28]	00001 -99999
OUTPAT-DTL-PROC Procedure Code	5	Alphanumeric	For outpatient hospital claims, a procedure code is required only when the revenue code range for outpatient services is 300 through 319. This revenue code range represents laboratory services. The appropriate CPT procedure code range for laboratory services is 80048 through 89399. All other outpatient services must be designated by revenue code. (Note: Including a procedure code for services other than lab will not cause the encounter to reject as long as the revenue code is also present). [Table C-30]	Blank; or CPT-4; or HCPCS 2003 or 2004 codes
~~OUTPAT-DTL-PROC-MOD-P Procedure Modifier P(?)~~	~~2~~	~~Alphanumeric~~	~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~Field is empty; Unable to validate due to file error.~~

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
~~OUTPAT-DTL-PROC-MOD-I – Procedure Modifier I (?)~~	~~2~~	~~Alphanumeric~~	~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~There are 1 – 5 characters, with both numeric and alpha data; Unable to validate due to file error.~~
REVENUE CODE Revenue Code	3	Numeric	The three digit code from **100 to 999** which represents the services that are billed on this particular line item. A revenue code is required on all Outpatient claims. For those revenue codes representing lab services (300-319), a procedure code must also be submitted. [Table C-9]	DMS to clarify whether or not less than 100 is valid; 100 - 999
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Required. [Table C-17]	See DMS Diagnosis Codes

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Optional [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes

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E-mail: info@bhcinfo.com

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes

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Home Health Claim Validation, CMS1500/NSF Layout

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-CLAIM-TYPE Outpatient Claim Type	2	Alphanumeric	This field indicates the claim type that has been submitted by the Health Plan. Valid values are: H=Home Health [Table C-97]	H only
OUTPAT-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	8 characters, numbers only
OUTPAT-FIRST-DT-SVC First Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the first date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004
OUTPAT-LAST-DT-SVC Last Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the last date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-UNITS-SVC Units of Service	5	Numeric, Integer	The number of units of services performed. Whole numbers only are accepted for days or units. [Table C-28]	00001 - 99999
OUTPAT-DTL-PROC Procedure Code	5	Alphanumeric	Enter the HCPCS (CPT-4) procedure code that represents the service performed. Required for Home Health and Outpatient claims. [Table C-30]	97003-99510 (not consecutive) A4230 – Y2300 (not consecutive)
~~OUTPAT-DTL-PROC-MOD-P Procedure Modifier P(?)~~	~~2~~	~~Alphanumeric~~	~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~Field is empty; Unable to validate due to file error.~~
~~OUTPAT-DTL-PROC-MOD-I Procedure Modifier I (?)~~	~~2~~	~~Alphanumeric~~	~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~There are 1 – 5 characters, with both numeric and alpha data; Unable to validate due to file error.~~
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included.	See DMS Diagnosis Codes

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
			Required. [Table C-17]	
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Any decimal point needed in the diagnosis code is implied and must not be included. Optional [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces.	See DMS Diagnosis Codes

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
			Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	
OUTPAT-DX	3 - 5	Alphanumeric, left justified	The ICD-9 diagnosis code of the recipient's primary diagnosis. If the dia gnosis code has less than five characters, the data must be left justified and fill the remaining positions to the right with spaces. Optional Any decimal point needed in the diagnosis code is implied and must not be included. [Table C-17]	See DMS Diagnosis Codes

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Dental Claim Validation, CMS1500/NSF Layout

Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-CLAIM-TYPE Outpatient Claim Type	1	Alphanumeric	This field indicates the claim type that has been submitted by the Health Plan. Valid values are: L=Dental [Table C-97]	L only
OUTPAT-PROCESSED-RECIP-ID Recipient ID	8	Numeric	The Missouri Medicaid recipient identification number. The Missouri Medicaid recipient identification number. Allowed characters are 0 through 9. NOTE: Reference the recipient's Medicaid card for the correct Medicaid identification number. [Table C-1]	8 characters
OUTPAT-FIRST-DT-SVC First Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the first date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004
OUTPAT-LAST-DT-SVC Last Date of Service	8 Yyyy/mm/dd	Alphanumeric (Translated from Julian calendar)	This is the last date the service was performed. This date cannot exceed the current date. [Table C-16]	01/01/2004 – 03/31/2004

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Field Name	Length of Data [Number of Characters] and Format	Type of Data	Valid Codes and Definitions	Codes Found in File Layout
OUTPAT-UNITS-SVC Units of Service	5	Numeric, Integer	The number of units of services performed. Whole numbers only are accepted for days or units. [Table C-28]	00001 - 99999
OUTPAT-DTL-PROC Procedure Code	5	Alphanumeric	Enter the HCPCS (CPT-4) procedure code that represents the service performed. Required for Home Health and Outpatient claims. [Table C-30]	D0120 – D9999
~~OUTPAT-DTL-PROC-MOD-P Procedure Modifier P(?)~~	~~2 ?~~		~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~Field is empty; Unable to validate due to file error.~~
~~OUTPAT-DTL-PROC-MOD-I Procedure Modifier I (?)~~	~~2 ?~~		~~The 2-digit modifier that applies to the service provided.~~ ~~[Table C-35]~~	~~There are 1 – 5 characters, with both numeric and alpha data; Unable to validate due to file error.~~

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PROCEDURE AND DIAGNOSIS CODE CRITERIA FOR CRITICAL FIELD VALIDATION

Procedure Codes

DMS[1]	HCPCS 2003, 2004
X4003-X9999	A0021-A9999
Y0050-Y9504	B4043-B9999
Z0020-Z6012	(C100-C9711)
	D0120-D9999
	E0100-E2599 (E2000-E2101)
	G0001-G9016
	H0001-H2037 (H0001-H2001)
	J0120-J9999
	K0001-K0620
	L0100-L9900
	M0064-M0301 (M0064-M0302)
	P2028-P9615
	Q0035-Q4077 (Q0034-Q9940)
	R0070-R0076
	(S0009-S9999)
	T1000-T5999 (T1000-T2007)
	V2020-V5364

VALID PROCEDURE CODES

DMS[2]	CPT-4 2004 Codes*
00001-99501	0001F-0011F
	0001T-0061T

* = does not account for deleted codes

DMS Diagnosis Codes[3]

0010-99899
ADP
CVA
DJD
E80-E9991
ENS
EPS
HT1
IHP
MUD
NHDX
OT1
OT2
OTE

PAP
SPH
SBHO
SBHOO
SC1-SC4
SHP
V010-V8389
X01-X02
Y01-Y89

[1] *Source: Missouri Department of Social Services, Division of Medical Services, Payable Procedure Codes.xls*
[2] Ibid.,
[3] *Source: Missouri Department of Social Services, Division of Medical Services, Diagnosis Codes.xls*

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Appendix 6: Medical Record Review

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DEC 27 2004

BOB HOLDEN
GOVERNOR

MISSOURI
DEPARTMENT OF SOCIAL SERVICES
DIVISION OF MEDICAL SERVICES
P.O. BOX 6500
JEFFERSON CITY
65102-6500

RELAY MISSOURI
for hearing and speech impaired
TEXT TELEPHONE
1-800-735-2966
VOICE
1-800-735-2466

January 7, 2005

Dear Medicaid Provider:

The State of Missouri, Department of Social Services, Division of Medical Services (DSS/DMS) has contracted with Behavioral Health Concepts, Inc. (BHC) to perform the Missouri MC+ Managed Care Program Calendar Year (CY) 2004 External Quality Review. This external quality review is being performed in accordance with the requirements of The Centers for Medicare and Medicaid Services (CMS) within 42 CFR 438.204(d). This federal regulation requires the performance of an annual, external independent review of the quality outcomes and timelines of, and access to, the services covered under each Managed Care Organization (MCO) contract.

The State of Missouri, Division of Medical Services is a Health Oversight Agency as designated by the Health Insurance Portability and Accountability Act (HIPAA). BHC is a business associate of the State of Missouri. Specific references within the HIPAA "Standards for Privacy of individually Identifiable Health Information", 45 CFR 164.512(d), provide that protected health information (PHI) may be disclosed without authorization in order to determine compliance with program standards. Accordingly, individual authorization from your patients for release of their medical records for this quality review is not required.

We need very specific information to perform this review. We are also seeking to minimize your cost of complying with this requirement. We are requesting photocopies of certain portions of medical records for the patient names on the attached listing. Information is confidential and PHI. Please do not deliver these records via facsimile (fax) or electronic mail (email), follow the attached instructions. Records not received by the date will be considered undocumented encounters.

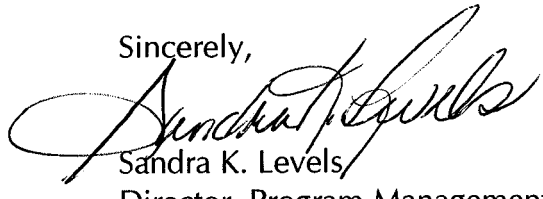
The following are references that may be useful to you in complying with this request. The contract can be accessed through the Office of Administration, Division of Purchasing and Materials Management website at http://www.oa.mo.gov/purch/webimaging/Homepage.htm. You can search under

the referenced contract number. Documents regarding these final rules can be found at the CMS website at http://www.cms.hhs.gov/medicaid/managedcare.

State of Missouri/BHC Contract # C301154001
Medicaid Managed Care Final Rule 42 CFR Part 400, et.al. (June 14, 2002)
External Quality Review Final Rule 42 CFR Parts 433 and 438 (January 24, 2003)
HIPAA Privacy Final Rule 45 CFR Parts 160 and 164 (August 14, 2002)

Thank you for your cooperation in the CY 2004 annual External Quality Review. If you have any questions about the submission of the medical records, please contact Ms. Mona Prater, BHC, Inc. at 573-446-0405.

Sincerely,



Sandra K. Levels
Director, Program Management

SKL/em

MEDICAL RECORD SUBMISSION INSTRUCTIONS

January 7, 2005

Dear Clinic Manager:

Enclosed is a listing of medical records and green face sheets with provider and patient demographic information for individual patients selected from your office for the 2004 MC+ Managed Care External Quality Review. As explained in the enclosed cover letter from Sandra Levels, Director of Program Management, Division of Medical Services, the purpose of this review is to examine encounter claims that were submitted for patients enrolled in the MC+ Managed Care Program (Medicaid) during calendar year 2004.

We are interested in all services provided to these patients by the designated provider from January 1, 2004 through March 31, 2004. This information is used to document the volume and type of services provided to MC+ Managed Care Program Members and to validate the accuracy and completeness of the State encounter claims database.

For each medical record that is requested, please provide the following:

- Face/Demographic sheet enclosed or other documentation that identifies the patient receiving services and primary care provider, January 1, 2004 through March 31, 2004. This information includes:
  - Patient Name
  - Medicaid ID Number
  - Date of Birth
  - Provider Name
  - Provider Number
    - Documentation of all services (professional, physician's/doctor's orders, laboratory test results) from January 1, 2004 through March 31, 2004. Sources for this information may include:
      - Primary Diagnosis
      - Progress Notes
      - Laboratory findings
      - Treatment Plans
      - Claim Forms or Superbills
      - Flow Sheets

Behavioral Health Providers:

Due to the sensitive nature of these records, please include only the primary diagnosis code, claim information, and minimum necessary information to support the diagnosis and procedure codes for which services were billed during the specified time frame (January 1, 2004 – March 31, 2004). Please do not send raw test data, protocols, or shadow charts. We also recommend that you de-identify names of individuals related to the patient in progress notes.

Include any and all information to support the procedures for which a claim was submitted.

Records not received by the due date will be considered undocumented encounters

(see back)

THE DEADLINE FOR RECEIPT IS February 4, 2005

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If more than one record is requested, please separate patient records using the matching green face sheets provided, and complete the summary sheet. If you do not have a record for the patient, please indicate this on the summary sheet and return to BHC, Inc. by the due date.

Please note that BHC will not reimburse providers or copy services for copy and postage costs. Please do not submit invoices.

In the interest of confidentiality, please DO NOT FAX or E-MAIL any forms or portions of medical records.

Mail to:

Mariya Chumak, BS, Research Associate
Behavioral Health Concepts, Inc.
2800 Forum Blvd., Ste. 3A
Columbia, MO 65203

We want to express our appreciation in advance for your participation in this process and sincerely hope to minimize any inconvenience and interruption in providing clinical services to your patient

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MEDICAL RECORD REVIEW TRAINING MANUAL TABLE OF CONTENTS

Introduction 3
About BHC 3
About RHC 4
Background of Project 6
External Quality Review of Medicaid Managed Care 6
Qualifications of Reviewers 6
Confidentiality and Privacy 6
Conflict of Interest 7
Record Review Protocols 8
Purpose of Medical Record Reviews 8
Process of Request of Medical Records 8
General Medical Record Review Guidelines 8
Definition of Medical Record 8
Claim Form or Claim History 9
Date Specificity 9
Organization of Medical Records 9
Encounter Claim Validation Protocol 10
Background 10
Time Period Reviewed 10
Instructions 10
Medical Record Abstraction Tool 10
Adolescent Immunization Status Protocol 19
Background 19
Time Period Reviewed 19
General Instructions 19
Adolescent Immunization Abstraction Tool 20
Adolescent Well Care Visits Protocol 25
Background 25
Time Period Reviewed 25
Instructions 25
Adolescent Immunization Abstraction Tool 25
Requests for Medical Records 31
Medical Record Abstraction Tool 41
Sample Medical Records 47
Sample Claim Forms/Histories 51
Missouri EPSDT Coding 61
Adolescent Immunization Abstraction Tool 73
APIC Guidelines 79
Sample Vaccine Administration Record 83
Adolescent Well Care Abstraction Tool 89
Summary of Adolescent Well Visit Guidelines 93
Bright Futures Guidelines for Adolescent Well Care 97
Healthy Children and Youth Forms 111
Glossary 128

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Adolescent Well Care Abstraction Tool

Patient Name

Last

First

Date of Birth
Missing = 99999999

m m d d y y y y

Provider Name

Last

First

Name of MCO
(Check only one)

- ❑ Community Care Plus (1)
- ❑ Mercy Health Plan (2)
- ❑ HealthCare USA (3)
- ❑ Missouri Care (4)
- ❑ Family Health Partners (5)
- ❑ FirstGuard (6)
- ❑ Blue Advantage Plus (7)

Abstractor Initials

Date of abstraction

m m d d y y

Data entry operator initials

Start Time

h h : m m

Search the medical record for a well care visit during the calendar year 2003

Source of Documentation:

- ❑ Medical Record (1)
- ❑ Claim Form (2)
- ❑ Both (3)
- ❑ None (0)

Documented Components of Well Care Visit:
(Check all that apply)

Health and Developmental History
- ❑ Yes (1)
- ❑ No (0)

Physical Exam
- ❑ Yes (1)
- ❑ No (0)

Anticipatory Guidance
- ❑ Yes (1)
- ❑ No (0)

Date of Well Care Visit
Unless ALL components above are checked, code Missing = 99999999

m	m	d	d	y	y	y	y

Procedure Code
Missing = 99999
Insufficient Information = 22222
Don't Know = 88888

Acceptable Procedure Codes:

99383 - 99385
99393 - 99395

See list to the right of Procedure Codes. Does procedure code match one of these?

Procedure Code Match
- ❑ Yes (1)
- ❑ No (0)

Acceptable Diagnosis Codes:

V20.2	V70.5	V70.9
V70.0	V70.6	
V70.3	V70.8	

Diagnosis Code
Decimal is implied.
Start at left. If only 3 or 4 digits, leave the right spaces blank.
Missing = 99999
Insufficient Information = 22222
Don't Know = 88888

Diagnosis Code Match
- ❑ Yes (1)
- ❑ No (0)

Notes:

End Time

h	h	m	m
	:		

Adolescent Immunization Abstraction Tool

Patient Name

Last

First

Date of Birth:
Missing = 99999999

m m d d y y y y

Provider Name

Last

First

Name of MCO
(Check only one)

- ❑ Community Care Plus (1)
- ❑ Mercy Health Plan (2)
- ❑ HealthCare USA (3)
- ❑ Missouri Care (4)
- ❑ Family Health Partners (5)
- ❑ FirstGuard (6)
- ❑ Blue Advantage Plus (7)

Abstractor Initials

m m d d y y y y

Date of abstraction

Data entry operator initials

h h m m

Start Time :

Search the medical record for the complete immunization history from 1991 through 2003

MMR

Source of Documentation:
Check One

- ❑ Medical Record (1)
- ❑ Claim Form (2)
- ❑ Both (3)
- ❑ None (0)

Type of Documentation
Check One

- ❑ Dated Immunization History (1)
- ❑ Immunization Certificate (2)
- ❑ Both (3)
- ❑ None (0)

Is There Evidence of a History of:

Measles
- ❑ Yes (1)
- ❑ No (0)

Mumps
- ❑ Yes (1)
- ❑ No (0)

Rubella
- ❑ Yes (1)
- ❑ No (0)

Measles Seropositive Test Date
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Mumps Seropositive Test Date
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Rubella Seropositive Test Date
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

MMR Date 1
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

MMR Date 2
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

MMR Date 3
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

MMR Date 4
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

First Birthday

m	m	d	d	
				1991

Fourth Birthday

m	m	d	d	
				1994

Thirteenth Birthday

m	m	d	d	
				2003

Were two MMRs completed <u>after</u> the member's first (1991) AND <u>before</u> the member's fourth birthday (1994)?
- ❑ Yes (1)
- ❑ No (0)

Was <u>one</u> of the MMRs completed <u>after</u> the member's fourth birthday (1996) and <u>before</u> the member's thirteenth birthday (2003)?
- ❑ Yes (1)
- ❑ No (0)

Hep B

Source of Documentation:
(Check all that apply)

- ❑ Medical Record (1)
- ❑ Claim Form (2)
- ❑ Both (3)
- ❑ None (0)

Type of Documentation:
(Check only one)

- ❑ Dated Immunization History (1)
- ❑ Immunization Certificate (2)
- ❑ Both (3)
- ❑ None (0)

Is there documented evidence of a history of Hep B?

- ❑ Yes (1)
- ❑ No (0)

Hep B Seropositive Test Result Date
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Hep B Date 1
Missing = 99999999
Not Applicable = 88888888
At delivery/birth = 11111111

m	m	d	d	y	y	y	y

Hep B Date 2
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Hep B Date 3
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Hep B Two Dose Regimen Date 1
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Hep B Two Dose Regimen Date 2
Missing = 99999999
Not Applicable = 88888888

m	m	d	d	y	y	y	y

Were three Hep Bs completed by the members' 13th birthday?

- ❑ Yes (1)
- ❑ No (0)

Was one dose of the two-dose regimen and 2 other doses of Hep B completed by the members' 13th birthday?

- ❑ Yes (1)
- ❑ No (0)

End Time

h	h	m	m
	:		

Notes:

Medical Record Abstraction Tool

Patient Name Jane Doe
Date of Birth 11/4/1968
Patient DCN 00000001
Provider Name Sample Provider Name
Provider Address Some Street Address Some Suite Number
First Date of Service 2/14/2004

Abstractor Initials [ ][ ][ ]

Date of abstraction m m d d y y y y [ ][ ][ ][ ][ ][ ][ ][ ]

Data entry operator initials [ ][ ]

Start Time h h m m [ ][ ] : [ ][ ]

Examine only the information provided in physician and professional documentation. DO NOT use the CMS-1500, any claim forms, or any claim histories.

Medical Record											
Element	**Comparison**									**Match**	**Error Type**
Date of Service	**2/14/2004**									0 = No 1 = Yes	Code only 1, 3, 8, 9, or 0
	m	m	d	d	y	y	y	y			
Missing = 99999999											
Comment (Required if Error Type = Other)											
Primary Diagnosis	**2189**									0 = No 1 = Yes	Code only 1, 3, 8, 9, or 0
Decimal is implied. Start at left. If only 3 or 4 digits, leave the right spaces blank.											
Missing = 99999											
Comment (Required if Error Type = Other)											
Primary Diagnosis Description	**UTERINE LEIOMYOMA NOS**									0 = No 1 = Yes	Code only 3, 8, 9, or 0
Comment (Add description from medical record; Required if Error Type = Other)											

Error Analysis Codes: 1 = Data Entry; 2 = Insufficient Information; 3 = Incorrect (No match); 8 = No Error (Match); 9 = Missing; 0 = Other

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Element	**Code**					
Procedure Code	**To be coded by reviewer**					
Decimal is implied. Start at left. If only 3 or 4 digits, leave the right spaces blank.						
Not Enough Information = 22222						
Comment (Required if Error Type = Other)						
Procedure Description	**To be coded by reviewer**					
Comment (Add description from medical record; Required if Error Type = Other)						

Referrals Documented in the Medical Record (check all that apply; only if not related to the claim validated)

- ☐ None (0)
- ☐ Laboratory (1)
- ☐ Pharmacy (2)
- ☐ Specialist (3)
- ☐ Radiology (4)
- ☐ Other (5)_____

See next page for the procedure code and procedure code description to be validated.

Does the medical record documentation adequately support the procedure code and description?

☐ Yes ☐ No

If no, Reason (check only one):

- ☐ Not enough information (e.g., the date of service and information are present, but there is not enough information to make a determination) (1)
- ☐ Upcoded (2)
- ☐ Incorrect (3)
- ☐ Missing (9)
- ☐ Other (4) _____

Comment

Error Analysis Codes: 1 = Data Entry; 2 = Insufficient Information; 3 = Incorrect (No match); 8 = No Error (Match); 9 = Missing; 0 = Other

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Examine the CMS-1500 or any claim forms. If there is no claim form or history, code as missing.

Claim Form or History										
Element	**Comparison**								**Match**	**Error Type**
Date of Service	**2/14/2004**								0 = No 1 = Yes	Code only 1, 3, 8, 9, or 0
	m	m	d	d	y	y	y	y		
Missing = 99999999										
Comment (Required if Error Type = Other)										
Primary Diagnosis	**2189**								0 = No 1 = Yes	Code only 1, 3, 8, 9, or 0
Decimal is implied. Start at left. If only 3 or 4 digits, leave the right spaces blank.										
Missing = 99999										
Comment (Required if Error Type = Other)										
Primary Diagnosis Description	**UTERINE LEIOMYOMA NOS**								0 = No 1 = Yes	Code only 3, 8, 9, or 0
Comment (Required if Error Type = Other)										
Procedure Code	**00840**								0 = No 1 = Yes	Code only 1,3,8, 9, or 0
Comment (Required if Error Type = Other)										
Procedure Description	**ANESTHESIA FOR INTRAPERITONEAL PROCEDURES IN LOWER ABDOMEN NOT OTHERWISE SPECIFIED**								0 = No 1 = Yes	Code only 3,8, 9, or 0
Comment (Required if Error Type = Other)										

Error Analysis Codes: 1 = Data Entry; 2 = Insufficient Information; 3 = Incorrect (No match); 8 = No Error (Match); 9 = Missing; 0 = Other

End Time: h h : m m

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Appendix 7: MC+ MCO Compliance with Managed Care Regulations

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2004

Missouri MC+
Managed Care Program

External Quality Review

SITE VISIT AGENDA

Morning

TIME	ACTIVITY	ATTENDEES	LOCATION
8:30 – 9:00	INTRODUCTION - OPENING	BHC, Inc. Dr. Janet Reed Mona Prater Myrna Bruning Anca Geana Sachi Rath MCO Attendees	
9:00 – 10:00	Validation of Performance Improvement Projects	BHC, Inc. – Dr. Janet Reed MCO Attendees	
9:00 – 10:00	Validation of Performance Measures – Document Review Will need access to computers and individuals who can answer questions and have access to the data files that produce the HEDIS measures. **Computer access may be needed throughout the day.**	BHC, Inc. – Anca Geana Sachi Rath MCO Attendees	
9:00 – 10:00	Compliance – Document Review	BHC, Inc. – Mona Prater Myrna Bruning	
10:00 – 10:15	Reviewer Break – Order Lunch		
10:15 – 11:45 10:15 – 11:45 (continued)	Validation of Performance Measures -- Interviews	BHC, Inc. – Dr. Janet Reed Anca Geana Sachi Rath MCO Attendees	
10:15 – 11:00	Compliance Review – Interview With Mental Health	BHC, Inc. – Mona Prater Myrna Bruning	

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		MCO Attendees	
11:00 – 11:45	Compliance Review – Interview with Provider Relations/Provider Services/Contract Management	BHC, Inc – Mona Prater Myrna Bruning MCO Attendees	

Afternoon

TIME	ACTIVITY	ATTENDEES	LOCATION
11:45 – 1:00	Working Lunch on Site Reviewer Meeting	BHC Staff	
1:00 – 2:30	Validation of Performance Measures – Interviews (continued)	BHC, Inc. – Dr. Janet Reed Anca Geana Sachi Rath MCO Attendees	
1:00 – 1:45	Compliance Review – Interviews - Member Services/ Utilization/Case Management	BHC, Inc. – Mona Prater Myrna Bruning MCO Attendees	
1:45 – 2:30	Compliance Review – Interview - Quality Assurance	BHC, Inc. – Mona Prater Myrna Bruning MCO Attendees	
2:30 – 3:15	Compliance Review – Interview – Organization Leadership	BHC, Inc – Dr. Janet Read Mona Prater Myrna Bruning MCO Attendees	
2:30 – 3:15	Validation of Performance Measures – Continued Document Review/Interview follow-up	Anca Geana Sachi Rath MCO Attendees, as needed	
3:15 – 4:00	Exit Interview Preparation	Site Review Team	
4:00 – 4:30	Exit Conference	BHC, Inc. – Dr. Janet Reed Mona Prater Anca Geana Myrna Bruning Sachi Rath MCO Attendees	

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February 1, 2005

RE: SITE VISIT AGENDA AND DOCUMENT REVIEW

We are in the process of finalizing plans for the on-site reviews of each MCO. We are providing the following information in an effort to make preparation for the on-site review as efficient as possible for you and your staff. The following is information or persons needed at the time of the on-site review at (MCO name).

Performance Improvement Projects

One hour is scheduled in the morning to conduct follow-up questions, review databases, and provide verbal feedback to the MCO regarding the planning, implementation, and credibility of findings from the Performance Improvement Projects (PIPs). Any staff responsible for planning, conducting, and interpreting the findings of PIPs should be present during this time. The review will be limited to the projects and findings submitted at the end of 2004. Please be prepared to review databases and any data collection forms not originally submitted.

Performance Measure Validation

As you know, BHC is in the process of validating the following three performance measures:

- HEDIS 2004 Use of Appropriate Medication for Persons with Asthma
- HEDIS 2004 Adolescent Immunization Status, Combination #1
- HEDIS 2004 Adolescent Well Care Visits

BHC is following the CMS protocol for validating performance measures. The goals for this process are to:

- Evaluate the accuracy of Medicaid performance measures reported by the MCO; and
- Determine the extent to which Medicaid-specific performance measures calculated by the MCO followed specifications established by the Division of Medical Services. These specifications consist of the HEDIS 2004 Technical Specifications.

To complete this process we will review the following documents while on-site:

- **Data Integration and Processes Used to Calculate and Report Performance Measures**

1. Documentation of the performance measure generating process
2. Report production logs and run controls
3. Documentation of computer queries, programming logic, or source code (if available) used to create denominators, numerators and interim data files - for each of the three measures
4. Code mapping documentation
5. Documentation of results of statistical tests and any corrections with justification for such changes, if applicable - for each of the three measures
6. Documentation showing confidence intervals of calculations when sampling methodology used – for each of the three measures
7. Description of the software specifications or programming languages instructions used to query each database to identify the denominator, and/or software manual
8. Source code for identifying the eligible population and continuous enrollment calculation – for each of the three measures
9. Description of the software specification or programming languages used to identify the numerator
10. Programming logic and/or source code for arithmetic calculation of each measure to ensure adequate matching and linkage among different types of data

- **Sampling Validation**

1. Description of software used to execute sampling sort of population files
2. Source code for how samples for hybrid measures were calculated
3. Policies to maintain files from which the samples are drawn in order to keep population intact in the event that a sample must be re-drawn or replacements made
4. Documentation that the computer source code or logic matches the specifications set forth for each performance measure, including sample size and exclusion methodology
5. Documentation of "frozen" or archived files from which the samples were drawn
6. Documentation assuring that sampling methodology treats all measures independently, and there is no correlation between drawn samples

Performance Measure Interviews

In addition to the documentation reviews, interviews will be conducted with the person(s) responsible for:

- Overseeing the process of identifying eligible members from MCO data sources for the measures to be validated;
- Programming the extraction of required elements from the MCO data sources for the measures to be validated;
- Integrity checks and processes of verifying the accuracy of data elements for the measures to be validated;
- Overseeing the process of medical record abstraction, training, and data collection for the measures to be validated; and

- Contractor oversight and management of any of the above activities.

On-site activities may also include, but are not limited to, the following:

- Demonstration of HEDIS software
- Demonstration of the process for extracting data from MCO databases
- Possible data runs for identifying numerator and denominator cases

Compliance Review

The final activity to prepare for during the on-site visit will be the compliance review. Many documents will be reviewed prior to the on-site visit. Interviews will also occur with staff from the Division of Medical Services before the on-site review to enable BHC to use the time at the MCO as efficiently as possible. The following information will be needed on the date of the on-site review:

Compliance Documents

- Member Handbook
- Provider Handbook
- Provider Agreements
- (requested) Protocols or Policies
- Marketing Plan

Compliance Interviews

The agenda sent previously contained the times for interviews on the day of the site visit. We have tried to group questions together to make this process more effective. If you can get the following groups together for the interview process it would be very helpful.

- Quality Assurance Director and staff
- Mental Health
- Provider Services/Provider Relations/Contract Management
- Member Services/Utilization Management/Case Management staff
- Organization Leadership –
  Plan Director
  Medical Director
  Quality Assurance Director

There are concurrent activities and interviews occurring during both the morning and afternoon. If separate conference rooms or meeting spaces can be arranged, this will make the process much easier to coordinate. Also, the on-site review team will need to order a working lunch on the day of the visit. If you can provide a name and telephone number on the day of the review of a service in the vicinity to accommodate this, we will appreciate it.

The MCO staff involved in any of the referenced interviews or activities, or anyone identified by the MCO, are welcome to attend the introduction or the exit interview.

Your assistance in organizing the documents, individuals to be interviewed, and the day's activities is appreciated. If you have questions, or need additional information please let me know.

Sincerely,

Mona Prater
Assistant Project Director

Cc: Dr. Janet Reed, Project Director
Plan Administrator
Judy Muck, Division of Medical Services

Attachment: On-Site Review Agenda

BHC MCO COMPLIANCE REVIEW SCORING FORM

This document is used to score the number of items met for each regulation by the MCO.

1. Review all available documents prior to the site visit.
2. Follow-up on incomplete items during the site visit.
3. Use this form and the findings of Interviews and all completed protocols to complete the Documentation and Reporting Tool and rate the extent to which each regulation is met, partially met, or not met.

Scores from this form will be used to compare document compliance across all MCOs.

0 = Not Met: Compliance with federal regulations could not be validated.

1 = Partially Met: MCO practice or documentation indicating compliance was observed, but total compliance could not be validated.

2 = Met: Documentation is complete, and on-site review produced evidence that MCO practice met the standard of compliance with federal regulations.

	Contract Compliance Tool	Federal Regulation	Description	Comments	Site Visit and Findings	Rating 0 = Not Met 1 = Partially Met 2 = Met
	Subpart C: Enrollee Rights and Protections					
1	2.6.1(a)1-25, 2.2.6(a), 2.6.2(j)	438.100(a)	Enrollee Rights: General Rule			
2	2.6.1(a)1, 2.9, 2.6.2(j), 2.6.2(n)	438.10(b)	Enrollee Rights: Basic Rule			
3	2.15.2(e), 2.8.2	438.10(c)(3)	Alternative Language: Prevalent Languages			
4	2.8.2, 2.8.3, 2.6.2(n)(2)	438.10(c)(4,5)	Language and format: Interpreter Services			
5	2.6.1(a)1, 2.6.2(n)1	438.10(d)(1)(i)	Information Requirements: Alternative Formats			
6	2.6.1(a)1, 2.6.2(n)2 - dot point 35, 2.6.2(q), 2.8.2, 2.8.3	438.10(d)(1)(ii)and (2)	Information Requirements: Easily Understood			
7	2.3.5, 2.6.1(a)2/3, 2.6.2(k)1, 2.6.2(n), 2.6.2(n)(2), 2.6.2(q)	438.10(f)	Enrollee Rights: Information, Free Choice			

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	Contract Compliance Tool	Federal Regulation	Description	Comments	Site Visit and Findings	Rating 0 = Not Met 1 = Partially Met 2 = Met
8	2.6.2(n)(2)	438.10 (g)	Information to Enrollees: Physician Incentive Plans			
9	2.4, 2.4.5, 2.4.5(a)2-4, 2.20.1(all), 3.5.3(f)	438.10(i)	Liability for Payment and Cost Sharing			
10	2.2.6(a), 2.2.6(b), 2.6.1(a)(3), 2.6.2(j), 2.9.1	438.100(b)(2)(iii)	Specific Enrollee Rights: Provider-Enrollee Communications			
11	2.6.2(j), 2.30.1, 2.30.2, 2.30.3	438.100(b)(2)(iv,v)	Right to Services, including right of refusal. Advance Directives			
12	2.6.2(j), 2.4.8, 2.13, 2.14	438.100(b)(3)	Right to Services			
13	2.2.6, 2.14.3, 2.14.8, 2.14.9	438.100(d)	Compliance with Other State Requirements			
		Total Enrollee Rights and Protections				
	Subpart D: Quality Assessment and Performance Improvement					
	Subpart D: Quality Assessment and Performance Improvement: Access Standards					
14	2.3.1, 2.6.2(j), 2.14.3, 2.7.1(g), 3.5.3	438.206(b)(1)(i-v)	Availability of Services: Provider Network			
15	2.7.1(e), 2.7.1(f), 2.14.8	438.206(b)(2)	Access to Well Woman Care: Direct Access			
16	2.13	438.206(b)(3)	Second Opinions			
17	2.3.2, 2.3.18, 2.7.1(bb), 2.12.3, 2.12.4, 2.14.5	438.206(b)(4)	Out of Network Services: Adequate and Timely Coverage			
18	2.4, 2.20.1(d)	438.206(b)(5)	Out of Network Providers: Cost Sharing			
19	2.3.14(a)2, 2.14.1, 2.14.4(a-f), 2.17.1, 3.5.3	438.206(c)(1)(i-vi)	Timely Access			
20	2.2.6(a)1-3, 2.17.1	438.206(c)(2)	Cultural Considerations			
21	2.3.2, 2.6.2(k) 1-4, 2.14.11, 2.3.5, 2.35	438.208(b)	Primary Care and Coordination of Healthcare Services			
22	2.6.2(m), 2.14.11, 2.5.3(e)	438.208(c)(1)	Care Coordination: Identification			
23	2.12.10, 2.14.2(c), 2.14.11, 2.17.5, Attachment 3 - Children with Special Healthcare Needs	438.208(c)(2)	Care Coordination: Assessment			

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	Contract Compliance Tool	Federal Regulation	Description	Comments	Site Visit and Findings	Rating 0 = Not Met 1 = Partially Met 2 = Met
24	2.7.1, 2.12, 2.14.11	438.208(c)(3)	Care Coordination: Treatment Plans			
25	2.3.8, 2.3.7, 2.6.1(k)(3), 2.14.6, 2.14.7	438.208(c)(4)	Access to Specialists			
26	2.2.1(i), 2.3.7, 2.7.4, 2.9.2, 2.10.2, 2.14.1, 2.14.2(a-h), 2.14.2(d)1-2	438.210(b)	Authorization of Services			
27	2.15.4, 2.14.2(d)6	438.210(c)	Notice of Adverse Action			
28	2.6.2(k)(3), 2.14.2(d)6, 2.15.4(a-c), 2.16.3(e)	438.210(d)	Timeframe for Decisions			
29	2.17.5(b)	438.210(e)	Compensation for Utilization Management Decisions			
30	2.4.8, 2.7.1, 2.7.1(y), 2.7.3(v), 2.14.2	438.114	Emergency and Pos-stabilization pgs 24/25 Rev. Checklist			
	Subpart D: Quality Assessment and Performance Improvement: Structure and Operation Standards					
31	2.17.2(n), 2.17.5(c), 2.30.2	438.214(a,b)	General Rules for Credentialing and Recredentialing			
32	2.2.6(b)(c)	438.214(c) and 438.12	Nondiscrimination and Provider Discrimination Prohibited			
33	2.31.5	438.214(d)	Excluded Providers			
34	2.3.9, 2.3.17	438.214(e)	Other State Requirements: Provider Selection			
35	2.6.2(n)(2), 2.6.2(s)(all), 2.6.2(u)	438.226 and 438.56(b)(1-3)	Disenrollment: Requirements and Limitations			
36	2.5.1, 2.5.2, 2.5.6, 2.6.1(g), 2.6.2®	438.56(c)	Disenrollment Requested by Enrollee			
37	2.6.2(r,s-1,t)	438.56(d)	Procedures for Disenrollment -- Pgs 29/30 Rev. Checklist			
38	2.6.2(u)	438.56(e)	Timeframe for Disenrollment Determinations			
39	2.15, 2.15.3(a,b)	438.228	Grievance Systems			
40	2.6.1(a)(18), 2.16.2(c), 2.31.2(a)8, 2.31.3, 3.5.1, 3.5.2, 3.5.3	438.230(a,b)	Subcontractual Relationships and Delegation			
	Subpart D: Quality Assessment and Performance Improvement: Measurement and Improvement					

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	Contract Compliance Tool	Federal Regulation	Description	Comments	Site Visit and Findings	Rating 0 = Not Met 1 = Partially Met 2 = Met
41	2.17.2(d)	438.236(b)(1-4)	Adoption of Practice Guidelines	There is very little in the contract compliance tool regarding practice guidelines.		
42	2.17.2(d)	438.236(c)	Dissemination of Practice Guidelines			
43	2.17.2(d,f)	438.236(d)	Application of Practice Guidelines -- Pgs 32/33 of Rev. Checklist			
44	2.17.1, 2.17.5	438.240(a)(1)	Quality Assessment and Improvement Program			
45	2.17.5(d)	438.240(b)(1) and 438.240(d)	Basic Elements of MCO QI and PIPs			
46	2.17, 2.17.3, Attachment 6	438.240(b)(2)(c) and 438.204(c)	Performance Measurement			
47	2.17.5(b)	438.240(b)(3)	Basic elements of MCO QI and PIPs: Monitoring Utilization			
48	2.17.5	438.240(b)(4)	Basic elements of MCO QI and PIPs			
49	Attachment 6 - State Quality Strategy	438.240(e)	Program Review by State			
50	2.25	438.242(a)	Health Information Systems			
51	2.25(all) - 2.25.1, 2.25.2(a,b), 2.25.3, 2.25.4	438.242(b)(1,2)	Basic Elements of HIS			
52	2.26.1, 2.29.1	438.242(b)(3)	Basic Elements of HIS			
		Total Quality Improvement and Assessment				
	Subpart F: Grievance Systems					
53	2.15	438.402(a)	Grievance and Appeals: General Requirements			
54	2.15.2, 2.15.5(a), 2.15.6(a)	438.402(b)(1)	Grievance and Appeals: Filing Authority			
55	2.15.6(a)	438.402(b)(2)	Grievance and Appeals: Timing			
56	2.15.2(a), 2.15.5(a), 2.15.6(a,b)	438.402(b)(3)	Grievance and Appeals: Procedures			
57	2.15.2(e), 2.15.4(a),2.6.2(q)	438.404(a)	Notice of Action: Language and Format			

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	Contract Compliance Tool	Federal Regulation	Description	Comments	Site Visit and Findings	Rating 0 = Not Met 1 = Partially Met 2 = Met
58	2.15.4(b)	438.404(b)	Notice of Action: Content			
59	2.15.4(c)	438.404(c)	Notice of Action: Timing			
60	2.15.5(b,c,d), 2.15.6(h,i,j)	438.406(a)	Handling of Grievances and Appeals: General Requirements			
61	2.15.6(g) 2.15.6(h) 2.15.6(i) 2.15.6(j)	438.406(b)	Handling of Grievances and Appeals: Special Requirements			
62	2.15.5(e), 2.15.6(k)	438.408(a)	Resolution and notification: Grievances and Appeals - Basic rule			
63	2.15.5(e,f), 2.15.6(k-l)	438.408(b,c)	Resolution and notification: Grievances and Appeals - Timeframes and extensions			
64	2.15.5(e), 2.15.6(k,m)	438.408(d)(e)	Resolution and notification: Grievances and Appeals - Format and content			
65	2.15.2(i), 2.15.6(m)	438.408(f)	Resolution and notification: Grievances and Appeals - Requirements for State fair hearing			
66	2.15.6(n,o)	438.410	Expedited resolution of appeals			
67	2.15.2(c), 3.5.3(c)	438.414	Information about the grievance systems of providers and subcontractors			
68	2.15.3	438.416	Recordkeeping and reporting			
69	2.15.6(p)	4388.420	Continuation of Benefits while the MCO/PIHP Appeal and the State Fair Hearing are Pending			
70	2.15(q,r)	438.424	Effectuation of reversed appeals			
		Total All Items				

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