Recent Trends in Medicaid Hospital Utilization in Missouri

MO HealthNet Oversight Committee
January 28, 2016
Pediatric Asthma Utilization
Rate of Pediatric Asthma ED Visits by Payer

Rate Per 1,000 Children

Sources: HIDI, DHSS Medicaid Eligibility MICA, U.S. Census Bureau Intercensal Population Estimates
Pediatric Asthma ED Visits by Poverty Rate of Child’s Home ZIP

FY 2014 Percent and Cumulative Number of Pediatric Asthma ED Visits per Day by ZIP Code Poverty Quintile (Average Poverty Rate for Children in Parentheses)
Pediatric Asthma ED Hot Spots

ZIP Code Hot Spots for Pediatric Asthma ED Visits per 1,000 Under Age 18

FY 2014 Hot Spots:
- St. Louis Metro
- Kansas City Metro
- Joplin Area
- Bolivar-Springfield-Lebanon
- Union-St. Clair
- Bonne Terre-Farmington
90-Day Pediatric Asthma ED Revisits

FY 2014 Missouri Pediatric Asthma ED Revisit Rate by Day
(Limited to cases with the primary cause of the revisit being asthma)

12.3%
# 90-Day Pediatric Asthma ED Revisit Model Results

<table>
<thead>
<tr>
<th>Effect</th>
<th>Frequency</th>
<th>Odds Ratio</th>
<th>95% CI</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-</td>
<td>0.072</td>
<td>0.056</td>
<td>0.093</td>
</tr>
<tr>
<td>Age</td>
<td>7.63 (mean)</td>
<td>0.989</td>
<td>0.976</td>
<td>1.002</td>
</tr>
<tr>
<td>Male</td>
<td>59.1%</td>
<td>0.923</td>
<td>0.823</td>
<td>1.035</td>
</tr>
<tr>
<td>Black</td>
<td>53.6%</td>
<td>1.548</td>
<td>1.318</td>
<td>1.817</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.5%</td>
<td>1.220</td>
<td>0.882</td>
<td>1.686</td>
</tr>
<tr>
<td>Medicaid Status</td>
<td>70.1%</td>
<td>1.376</td>
<td>1.185</td>
<td>1.597</td>
</tr>
<tr>
<td>Uninsured Status</td>
<td>24.2%</td>
<td>1.197</td>
<td>0.979</td>
<td>1.465</td>
</tr>
<tr>
<td>Patient’s ZIP Code is a Hot Spot (Getis-Ord z &gt; 1.96)</td>
<td>70.0%</td>
<td>1.038</td>
<td>0.838</td>
<td>1.287</td>
</tr>
<tr>
<td>Patient’s ZIP Code Childhood Poverty Rate</td>
<td>26.6% (mean)</td>
<td>1.005</td>
<td>1.000</td>
<td>1.009</td>
</tr>
<tr>
<td>Patient’s ZIP Code is Top Quintile Population Density</td>
<td>79.5%</td>
<td>1.096</td>
<td>0.873</td>
<td>1.376</td>
</tr>
</tbody>
</table>

\[ n = 11,259 \quad C = 0.60 \]

Medicaid Utilization

FY 2015
Total ED Visits for Missouri Patients by Payer: 10-yr Cumulative Percent Change

- Medicaid MC: 41%
- Medicaid FFS: 10%
- All Other Payers: 28%
Psychiatric and Substance Abuse ED Visits for Missouri Patients by Payer: 10-yr Cumulative Percent Change

- Medicaid MC: 111%
- Medicaid FFS: 26%
- All Other Payers: 57%
Percent of All Patients with Select Chronic Conditions

FY 2015 Prevalence of Chronic Conditions for Medicaid Hospital Inpatient and ED Patients in Missouri: Managed Care Compared to Fee For Service

- Hypertension
- Heart Disease
- Diabetes
- Joint Disorder
- COPD
- Asthma
- Psychiatric
- Kidney Disease
- Cancer
- Liver Disease
- Stroke
- Atherosclerosis

Fee For Service
Managed Care
Chronic diseases a major driver: 30% of Managed Care patients diagnosed with one or more chronic disease accounted for 60% of hospital spending. 47% of Fee For Service patients with chronic disease accounted for 83% of hospital spending.

FY 2015 Distribution of Charges by Number of Chronic Conditions for Medicaid Managed Care Hospital Inpatient and ED Patients in Missouri

<table>
<thead>
<tr>
<th>Percent of Patients</th>
<th>Percent of Charges</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>69.6%</td>
</tr>
<tr>
<td>One or Two</td>
<td>19.8%</td>
</tr>
<tr>
<td>Three or More</td>
<td>3.3%</td>
</tr>
</tbody>
</table>

FY 2015 Distribution of Charges by Number of Chronic Conditions for Medicaid Fee For Service Hospital Inpatient and ED Patients in Missouri

<table>
<thead>
<tr>
<th>Percent of Patients</th>
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</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>53.3%</td>
</tr>
<tr>
<td>One or Two</td>
<td>31.6%</td>
</tr>
<tr>
<td>Three or More</td>
<td>16.7%</td>
</tr>
</tbody>
</table>
Distribution of patients by charges: 10% of Managed Care patients account for 60% of hospital spending; 10% of Fee For Service patients account for 63% of hospital spending. Prevalence of chronic disease significantly higher in Fee For Service population.
Timing of Medicaid treat-and-release ED visits: Majority of visits occur after hours (5 pm to 7:59 am). Highest-volume hours between 5 and 8 pm.
Profile of Medicaid after hours treat-and-release ED visits by demographics and prevalence of chronic conditions.

<table>
<thead>
<tr>
<th></th>
<th>Managed Care</th>
<th>Fee For Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Visits</td>
<td>94,437</td>
<td>120,507</td>
</tr>
<tr>
<td>Average Age</td>
<td>12.5</td>
<td>25.6</td>
</tr>
<tr>
<td>Percent White</td>
<td>60.5%</td>
<td>81.3%</td>
</tr>
<tr>
<td>Percent Non-White</td>
<td>39.5%</td>
<td>18.7%</td>
</tr>
<tr>
<td>Percent Male</td>
<td>40.8%</td>
<td>39.1%</td>
</tr>
</tbody>
</table>

FY 2015 Medicaid After Hours Treat and Release ED Visits: Percent with Chronic Disease Diagnoses
Profile of Medicaid Managed Care after hours treat-and-release ED visits—ten most common primary diagnoses by average age of patient.

FY 2015 Top Ten Primary Diagnoses by Age for Medicaid Managed Care After Hours Treat and Release ED Visits

- Acute URI NOS
- Otitis media NOS
- Acute pharyngitis
- Viral infection NOS
- Noninf gastroenterit NEC
- Urin tract infection NOS
- Flu w resp manifest NEC
- Strep sore throat
- Abdmnal pain unspec site
- Asthma NOS w/ac exac

Visits  Average Age
Profile of Medicaid Managed Care after hours treat-and-release ED visits—urgency of visits.

FY 2015 NYU ED Classification Algorithm Results for Medicaid Managed Care After Hours Treat and Release ED Visits

- Injury: 24.0%
- Emergent: 7.9%
- Potentially Avoidable: [VALUE]
- Non-Emergent: 29.5%
- Primary Care Treatable: 28.6%
- Substance Abuse: 0.5%
- Mental Health: 1.6%
- Preventable: 7.9%
Medicaid Managed Care Hospital Superutilizers in Missouri

FY 2015 Distribution of Hospital Inpatient and ED Visits for Medicaid Managed Care Patients in Missouri

- 3,891 patients with 10 or more visits: 2.8% of patients, 15.1% of visits
- 40 patients with 52 or more visits (averaging at least once per week): 2,985 combined visits, $12.75 million in combined charges
FY 2015 Profile of Extreme Medicaid Managed Care Superutilizers

40 Medicaid MC Beneficiaries with 52 or more visits in 2015

- Total Charges: $12,750,663
  - Average $318,767
- 2,985 Total Visits (90% ED)
  - Average 75 per patient
  - Range 52-139
- Average Age 34.8
  - 57.5% female
  - 65% white
  - 35% African American
- 100% Have Chronic Conditions
  - Average 4 diagnoses per patient
- 93% Have Behavioral Risk Factors
  - Average 2.6 per patient
- 43% Hospitalized for Opioid Overuse

FY 2015 Distribution of Visits for all Medicaid MC Hospital Inpatient and ED Patients
FY 2015 Profile of Extreme Medicaid Managed Care Superutilizers: Prevalence of Chronic Disease

FY 2015 Prevalence of Chronic Conditions: Extreme Medicaid Managed Care Superutilizers Compared to all Medicaid Managed Care Patients

- Heart Disease: 80% (Extreme Superutilizers), 8% (All Medicaid Managed Care)
- Hypertension: 68% (Extreme Superutilizers), 6% (All Medicaid Managed Care)
- Joint Disorder: 68% (Extreme Superutilizers), 5% (All Medicaid Managed Care)
- Asthma: 48% (Extreme Superutilizers), 14% (All Medicaid Managed Care)
- Diabetes: 40% (Extreme Superutilizers), 3% (All Medicaid Managed Care)
- COPD: 30% (Extreme Superutilizers), 3% (All Medicaid Managed Care)
- Cancer: 25% (Extreme Superutilizers), 1% (All Medicaid Managed Care)
- Liver Disease: 25% (Extreme Superutilizers), 1% (All Medicaid Managed Care)
- Stroke: 13% (Extreme Superutilizers), 0% (All Medicaid Managed Care)
- Atherosclerosis: 5% (Extreme Superutilizers), 0% (All Medicaid Managed Care)
FY 2015 Profile of Extreme Medicaid Managed Care Superutilizers: Prevalence of Behavioral Risk Factors

FY 2015 Prevalence of Behavioral Risk Factors: Extreme Medicaid Managed Care Superutilizers Compared to all Medicaid Managed Care Patients

- Smoke: 88% (Extreme Superutilizers), 22% (All Medicaid Managed Care)
- Alcohol: 65% (Extreme Superutilizers), 2% (All Medicaid Managed Care)
- Obese: 43% (Extreme Superutilizers), 5% (All Medicaid Managed Care)
- Opioid Overuse: 43% (Extreme Superutilizers), 1% (All Medicaid Managed Care)
- Psychiatric: 23% (Extreme Superutilizers), 3% (All Medicaid Managed Care)
FY 2015 Medicaid Managed Care Hospital Inpatient and ED Utilization Hot Spots: County-Level Visits per 1,000 Population

Highest Utilization Counties:
- St. Louis city
- Washington
- St. Francois
- Jackson (T)
- Randolph (T)
- Laclede

Lowest Utilization Counties:
- Ralls
- Cedar
- Ste. Genevieve
- Osage
- Maries
FY 2015 Medicaid Managed Care Hospital Inpatient and ED Utilization Hot Spots: ZIP-Level Visits per 1,000 Population

Three Hottest Spots:

- 64147 Kansas City
  - 721 per 1,000
- 63106 St. Louis Place
  - 403 per 1,000
- 63653 Leadwood
  - 379 per 1,000
FY 2015 Medicaid Managed Care Hospital Inpatient and ED Utilization Hot Spots: ZIP-Level Visits per 1,000 Population

Three Hottest Spots:
- 64147 Kansas City
  - 721 per 1,000
- 63106 St. Louis Place
  - 403 per 1,000
- 63653 Leadwood
  - 379 per 1,000
FY 2015 Medicaid Managed Care Profile of Hospital Inpatient and ED Visits From 64147: South Kansas City

Patient Age and Gender

Top Five Primary Diagnoses

Prevalence of Chronic Conditions

Hospital Setting

Patient Race

Monthly Occurrence

Hourly Occurrence (ED)

DATA UNAVAILABLE
FY 2015 Medicaid Managed Care Profile of Hospital Inpatient and ED Visits From 63106: St. Louis Place

- **Patient Age and Gender**: A bar chart showing the distribution of patients by age group and gender. The age groups are Under 10, 10 to 18, 19 to 29, 30 to 39, and 40 and Over, with gender split showing percentages of Male and Female.

- **Patient Race**: A pie chart showing the race distribution of patients. The categories are Black, 96%, White, 1%, and Other, 3%.

- **Top Five Primary Diagnoses**: A horizontal bar chart ranking the top five primary diagnoses: Stomach Ache, Viral Inf., Childbirth, Ear Ache, and Upper Resp Inf., with bars indicating the number of occurrences.

- **Prevalence of Chronic Conditions**: A bar chart showing the prevalence of chronic conditions among patients. The conditions include Asthma, Heart Disease, Hypertension, Joint Disorder, Diabetes, Psychiatric, COPD, Liver Disease, Kidney Disease, Cancer, Stroke, and Atherosclerosis.

- **Monthly Occurrence**: A line graph showing the monthly occurrence of visits from October 2014 to September 2015.

- **Hospital Setting**: A pie chart showing the distribution of hospital visits by setting. The categories are IP Only (32%) and ED (68%), with a note indicating 11% during business hours and 89% after hours.

- **Hourly Occurrence (ED)**: A pie chart showing the distribution of ED visits by hour, with 68% of visits occurring during business hours and 32% after hours.
FY 2015 Medicaid Managed Care Profile of Hospital Inpatient and ED Visits From 63653: Leadwood, MO

Patient Age and Gender

- Under 10: 50
- 10 to 18: 30
- 19 to 29: 40
- 30 to 39: 15
- 40 and Over: 20

- Female
- Male

Patient Race

- Black, 0%
- Other, 3%
- White, 97%

Top Five Primary Diagnoses

- Bronchitis
- Influenza
- Ear Ache
- Sore Throat
- Upper Resp Inf.

Prevalence of Chronic Conditions

- Asthma
- Heart Disease
- Hypertension
- Joint Disorder
- Diabetes
- Psychiatric
- COPD
- Liver Disease
- Cancer
- Kidney Disease
- Stroke
- Atherosclerosis

Monthly Occurrence

- October 2014: 25
- November 2014: 40
- December 2014: 30
- January 2015: 20
- February 2015: 15
- March 2015: 10
- April 2015: 5
- May 2015: 0
- June 2015: 5
- July 2015: 10
- August 2015: 15
- September 2015: 20

Hospital Setting

- IP Only: 91%
- ED: 9%

Hourly Occurrence (ED)

- During Business Hours: 51%
- After Hours: 49%