Missouri Primary Care Health Homes

Progress Report

January 2014 – December 2017

MoHealthNet

UMSL | MIMH

MPCA
Missouri Primary Care Association

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EXECUTIVE SUMMARY

Primary Care Health Homes began in January of 2012 as part of an ongoing effort in Missouri to improve health outcomes for individuals with complex, chronic, manageable disease through enhanced care management and coordination and integration of behavioral health and primary care services. The effort extends concepts developed in the Chronic Care Improvement Program (CCIP) that began in 2006, with the goals to improve health, minimize disease complications, and reduce Medicaid costs for individuals with chronic, yet manageable, disease. Primary Care Health Homes (PCHH) also incorporate prior work supported by the Missouri Department of Mental Health (DMH), the Missouri Primary Care Association (MPCA), and the Missouri Coalition of Community Mental Health Centers (MOCMHC).

The overarching goals of the PCHH include:

- Reduce avoidable participant hospitalization, readmissions and inappropriate emergency room visits
- Improve coordination and transitions of care
- Improve clinical indicators (e.g. A1C, LDL, blood pressure)
- Implement and evaluate the Health Home model as a way to achieve accessible, high quality primary health care and behavioral health care
- Demonstrate cost-effectiveness in order to justify and support the sustainability and spread of the model
- Support primary care and behavioral health care organization sites by increasing available resources and improving care coordination to result in improved quality of clinician work life and participant outcomes

The first state plan amendment defined specific conditions for enrollment in the PCHH and individuals had to have at least two of the following conditions based on MO HealthNet claims data:

- Asthma/Chronic obstructive pulmonary disease
- Diabetes (stand-alone qualifying criteria because it is both a chronic condition and a risk factor for additional chronic conditions)
- Developmental disability
- Heart disease
- Obesity
- Tobacco Use

For auto-enrollment in January 2012, additional qualifying criteria were required as follows:

- Active, comprehensive Medicaid coverage
- MO HealthNet claims greater than or equal to $2,600 in previous 12 months

Changes highlighted from 2012 to 2017 include:

- Growth from 24 PCHH agencies in 2014 to 36 agencies in 2017
- Consistent increase in enrollment, from 20, 239 auto-enrolled in January 2012 to 23,921 enrollees by the end of 2017

This report summarizes the population served, and outcomes for disease management, healthcare utilization, and cost savings of Missouri's PCHH during the period from January 2014 thru December 2017.

Enrollment and Population Characteristics 2014-2017

In January 2014, there were 24 PCHH agencies, which grew to 36 agencies by 12/2017. There were two application periods (in 2014 and in 2016) for primary care providers to apply to become PCHH agencies.

An update to the State Plan Amendment (SPA) was written and took effect in 2016 to include:

- Pediatric asthma as a stand-alone qualifying criterion
- Separation of overweight (BMI 25-29) and obesity (BMI ≥ 30) for adults, youth--overweight>85th percentile, obese >95th percentile for age and gender
- Obesity as a stand-alone qualifying criterion
- Depression and anxiety as qualifying conditions
- Substance use disorder as a qualifying condition (if the PCHH organization has at least one clinician certified to provide Medication-Assisted Treatment [MAT])

The addition of pediatric asthma as a stand-alone condition affected an increase in the percentage of youth under the age of 18 in the PCHH from 4% in 2014 to 15% in 2017.

Sixty-two percent of PCHH enrollees are between the ages of 18-64 and 13.3% of enrollees have received more than 48 months of health home services. Forty percent of enrollees received fewer than 11 months of PCHH services.

The most prevalent conditions for PCHH adults are diabetes, anxiety, and obesity. For children, the most common conditions are asthma and attention deficit disorder (ADD) or attention deficit hyperactivity disorder (ADHD). Forty-one percent of enrollees were identified as having more than 3 qualifying conditions at the time of enrollment.

Staffing

There have been no changes in the staffing ratios since the beginning of the initiative, although agencies may have shifted the roles and responsibilities of the PCHH to best meet the needs of their enrollees. Ongoing training, technical assistance, and support have been continually provided to PCHH staff and agencies by MO HealthNet, Missouri Primary Care Association (MPCA), St. Louis Behavioral Medicine Institute (SLBMI), and Missouri Institute of Mental Health (MIMH).

Outcomes

Continued improvement has been achieved across many of the measures. The large number of individuals who do not receive a full 12 months of health home services presents a challenge to meet and exceed the benchmark goals that requires ongoing Quality Improvement (QI) processes and technical assistance including practice coaching. There are a number of measures that are approaching the statewide goals. These include:

- Appropriate medications for asthma
- Hypertension control for all PCHH enrollees
- Hypertension, LDL, and blood sugar control (A1C) for enrollees with diabetes
- Hospital/emergency department (ED) follow-up and medication reconciliation

There are no specific goals with regard to utilization of ED and avoidable hospitalizations; however, individuals who have been identified as having high ED use, or frequent hospitalizations are tracked and are a focus for the PCHHs. There have been decreases in both ED visits and hospitalizations for this group.

For the PCHH overall, there have been reductions in ED visits and hospitalizations across multiple years.

In summary, the PCHH organizations have increased in both number of agencies and the persons they serve from 2014 through 2017. Agencies have continued to work to improve their systems and teams to better serve Health Home enrollees. Ongoing support, training, and technical assistance have been critical in the continued improvement of data collection, reports, and measurement improvement. Future support and training will focus on measures and outcomes where improvement is needed.

I: ENROLLMENT AND POPULATION CHARACTERISTICS

Since the inception of the PCHH program in January 2012, MO HealthNet has offered two additional open application periods for new organizations to become PCHH providers. As part of this process, new individuals were identified for enrollment, and the growth of new agencies has been the primary driver of the growth of PCHH services. MO HealthNet currently provides PCHH organizations with a monthly list of people potentially eligible for PCHH. In addition, PCHH providers query their electronic health record (EHR) systems for this purpose. In the fall of 2016, MO HealthNet added a minimum cost/utilization equivalent to the cost of one year's per-member-per-month payment to the enrollment criteria. Table 1 provides the breakdown of agency size and growth from 2014-2017. It is important to note that individuals are reported with the agency for whom they were last enrolled. Some individuals have transferred from a behavioral Healthcare Home (CMHC HCH) or transferred from one PCHH agency to another. As such, individuals who were enrolled with one agency in a given year are counted with the agency with whom they were enrolled as of their last enrollment date.

PCHH Enrollment from 2014-2017

Agency Name	2014	2015	2016	2017	% change
Access Family Care	529	620	763	758	43.29%
Affinia Health Care	858	788	1229	1299	51.40%
Bates County Memorial Hospital*	82	125	213	154	87.80%
Betty Jean Kerr Peoples Health Centers	1010	890	866	868	-14.06%
Cardinal Glennon Childrens Hospital**			541	440	
Central Ozaraks Medical Center**			63	117	
Childrens Mercy Hospital**			998	536	
Citizens Memorial Healthcare	1128	1181	1447	1601	41.93%
Clarity Health**				10	
Community Health Center of Central MO	167	162	153	163	-2.40%
Compass Health	62	81	72	49	-20.97%
Comtrea**			181	204	
Cox Health±	863	908	963	976	13.09%
Family Care Health Centers	293	290	290	273	-6.83%
Family Health Center	483	469	727	703	45.55%
Ferguson Medical Group*	479	514	1317	1819	253.89%
Fordland Clinic	94	80	43	43	-54.26%
John Fitzgibbon Hospital	126	135	149	114	-9.52%
Jordan Valley Community Health Center	776	821	979	1075	38.53%
Kansas City Care Clinic**				45	
Katy Trail Community Health	285	239	235	217	-23.86%
Missouri Delta Medical Center		539	1290	1011	87.57%
Missouri Ozarks Community Health*	193	200	426	402	101.00%
MO Highlands Health Care	221	448	495	495	123.98%
Myrtle H Davis Comp Health Center	1161	1173	1050	1076	-7.32%
Northeast Missouri Health Council	93	99	109	113	21.51%
Northwest Health Services	1184	1184	1251	1220	3.04%
Ozarks Community Health Center*	94	143	135	122	-14.69%
Ozarks Community Health System*	211	1131	2041	2021	78.69%
Priority Care Pediatrics LLC	139	242	388	713	194.63%
Samuel U Rodgers Health Center	279	301	270	244	-12.54%
Southeast MO Health Network	553	480	633	580	4.88%
Southern Community Health Center	259	240	250	242	-6.56%
Swope Health Services PC	418	723	654	722	72.73%
Truman Medical Center	2355	2347	2435	2506	6.41%
University of MO Health Care	814	883	844	908	11.55%
Statewide Total	**15209**	**17436**	**23500**	**23839**	56.74%

***Organization started effective 10/2014 ** Organizations started effective 8/2016 or later**

±Reflects the merger of Cox Health-Springfield and Cox Medical Center-Branson into one health home

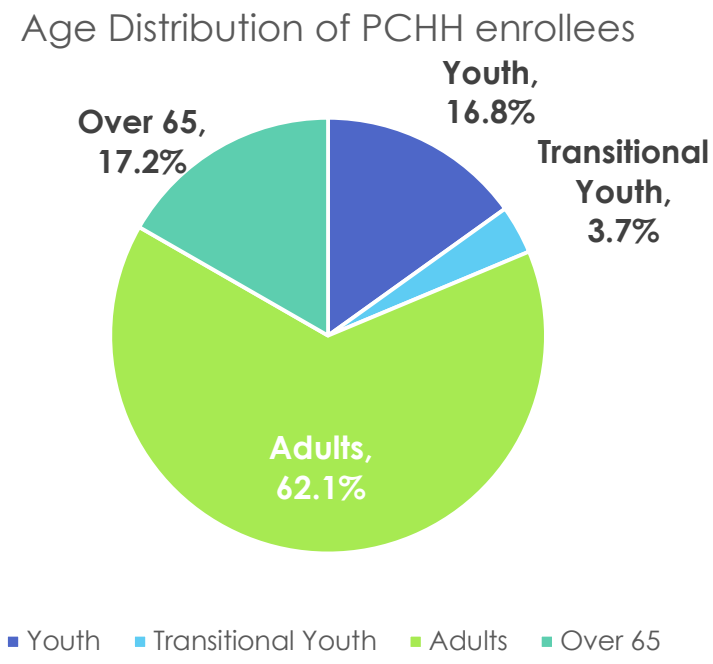
Change percentages reflect change from 2014-2017 or the organization's first full year of PCHH services-2017.

DEMOGRAPHICS

As demonstrated in Figure 1 below, 62.1% of PCHH enrollees are between the ages of 18-64. The average age of all enrolled is 48 years. Females represent 61% of the enrollees. Slightly different than the Missouri statewide racial demographics, 65% of all PCHH enrollees identify as Caucasian, 33% identify as African American, with the remaining 5.7% of individuals identifying as Asian (0.2%), Native American (0.5%), or do not claim a specific racial or ethnic group (5%). Only 2% of PCHH enrollees identify as Hispanic. Individuals who are also eligible for Medicare may be enrolled; these dual enrollees account for 40% of the PCHH adult population. In 2017, managed care coverage extended to all counties in Missouri. As of 2016, only 4.6% of PCHH enrollees were covered by a Medicaid managed care plan. This percentage increased to 26.3% after May 2017 when Medicaid managed care was extended to cover the entire state. Transitional youth are individuals between the ages of 18 and 25, and represent a small (3.7%) percentage of the overall population, but may have unique needs.

Older adults (aged over 65 years) currently represent 17.2% of the PCHH population. Within this age group, individuals are more likely to have additional chronic health conditions that might not be managed through PCHH services.

Youth represent 16.8% of the PCHH population. The majority (57%) of the youth are male and Caucasian (62%). Thirty-four percent are African American, and the remaining 4% are Asian (0.2%), Native American (0.8%), or are not identified with a particular racial or ethnic group (3%). The addition of agencies serving youth has increased the percentage of children within the PCHH, as well as the addition of pediatric asthma and obesity as stand-alone qualifying conditions for enrollment in 2016. Prior to the addition of pediatric agencies as PCHH organizations and pediatric asthma as a stand-alone condition, youth under the age of 18 only represented 4.3% of the PCHH population.



Highlights- PCHH

Average Age: 48 years

61% Female

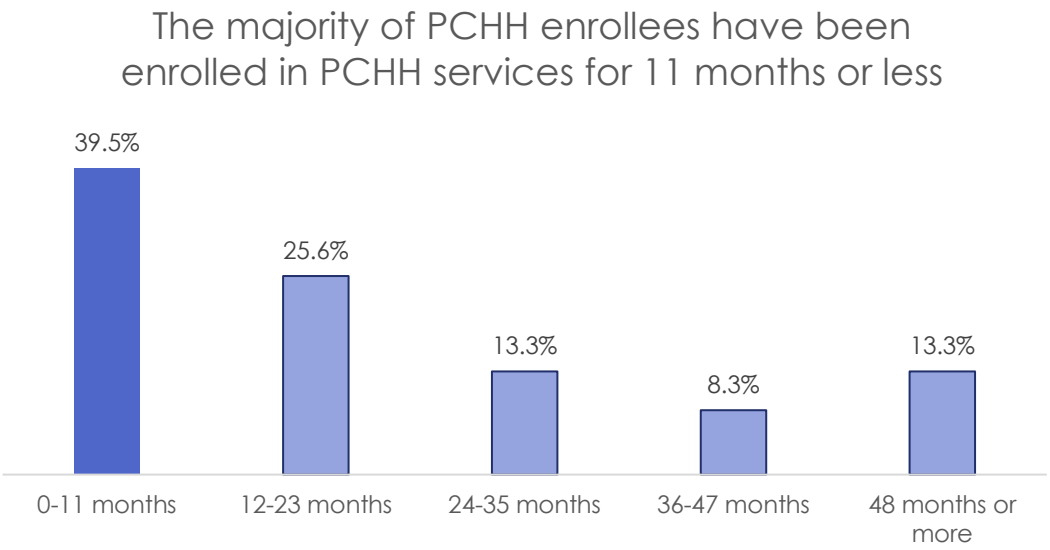
65% Caucasian

33% Black

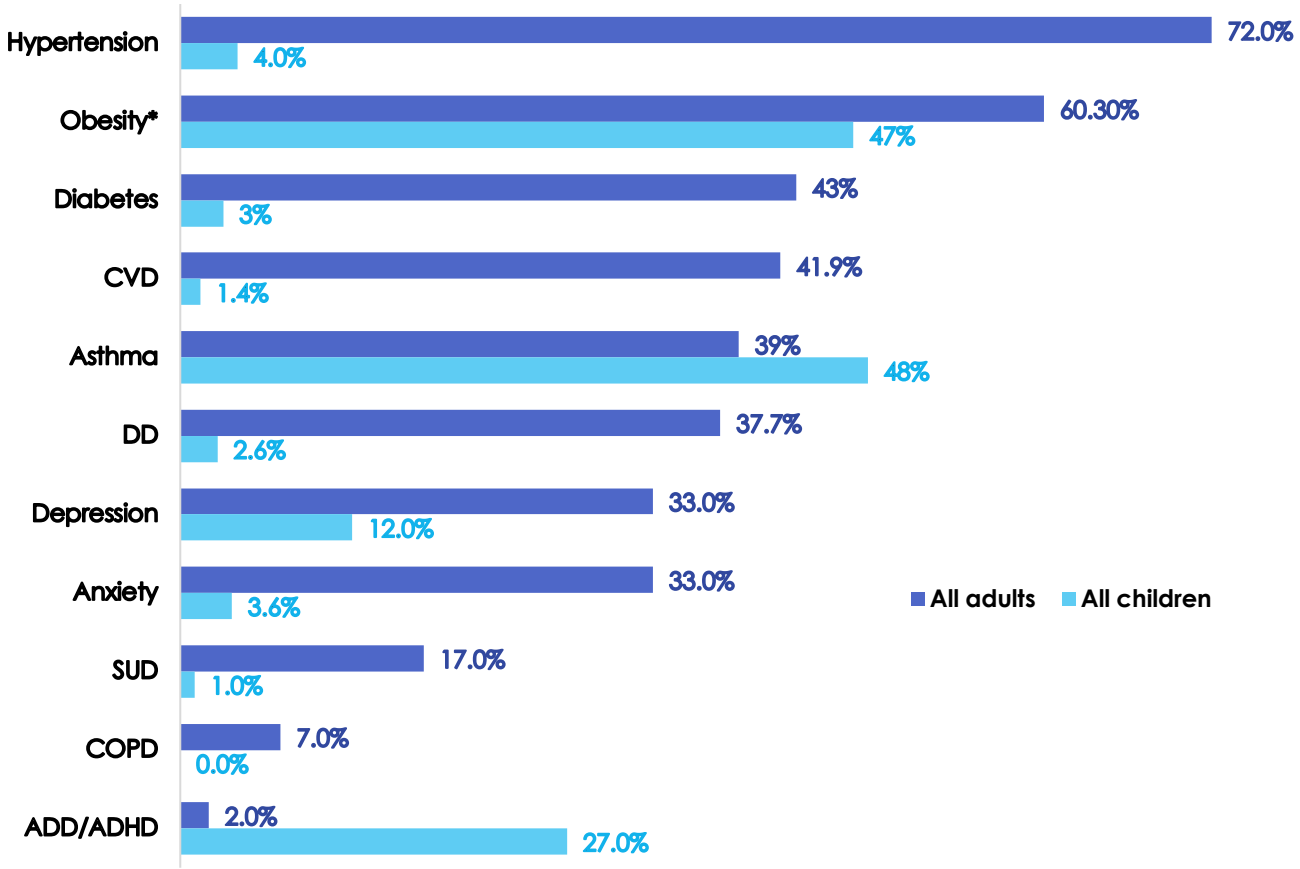
57% of Youth are Male

TIME IN PCHH

As the chart indicates, 48% have been enrolled from 0-11 months with 45% of those having 11 months or fewer attestations. These are cumulative number of months since 2012 and do not indicate the number of months continuously enrolled.



PREVALENCE: CHRONIC DISEASE AND MENTAL HEALTH CONDITIONS

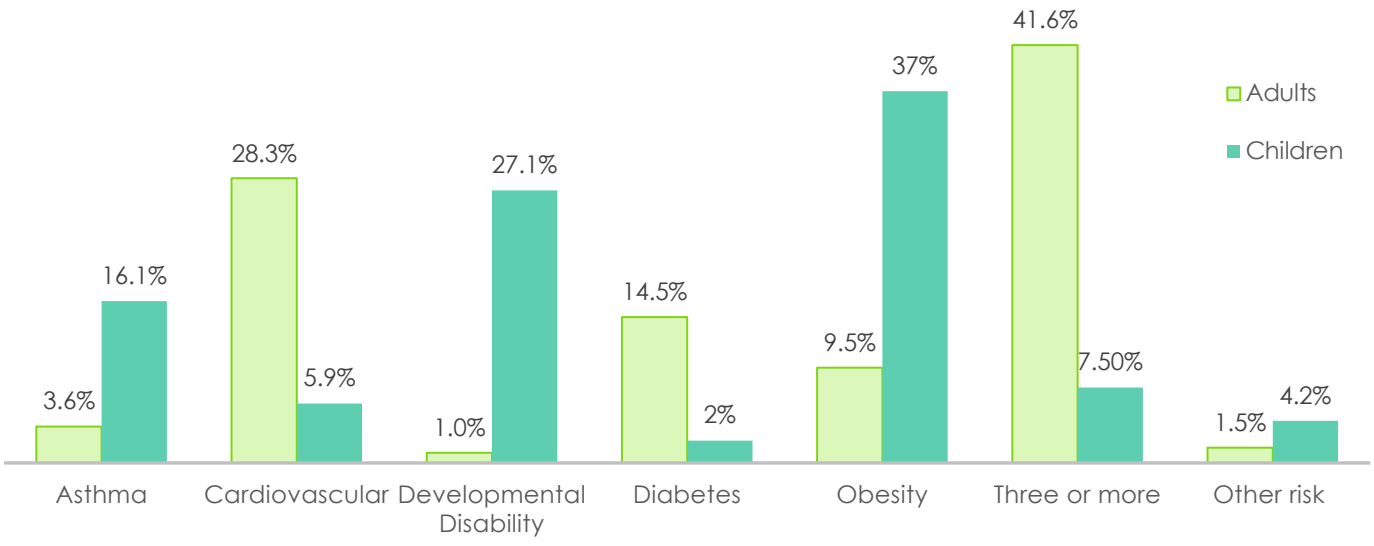


CVD= Cardiovascular Disease, DD=Developmental Disorder, SUD= Substance Use Disorder, COPD=Chronic Obstructive Pulmonary Disease ADD/ADHD=Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder. *Obesity data comes from electronic health record data, not claims data.

Identification of the various conditions listed below was accomplished using MO HealthNet claims data for claims occurring in the 12 month period prior to an individual enrolling in the PCHH. Percentages are based on individuals enrolled as of 12/31/2017. Asthma is much more prevalent in the youth population, compared to the adults. This is no surprise, given the addition of pediatric asthma as a stand-alone condition for PCHH eligibility. Diabetes is a stand-alone condition for adults and children, and depression and anxiety were added as eligible conditions in 2016, as was substance use disorder (SUD). In order to increase the number of providers offering Medication Assisted Treatment (MAT), agencies who enroll individuals with SUD must also have a physician on staff who is certified to prescribe MAT. As of 12/31/2016, only one agency had an in-house MAT waivered physician and indicated they planned on maintaining this requirement to enroll individuals with SUD as a primary qualifying diagnosis. As of December 2017, the number of agencies with an in-house MAT waivered physician has grown to 5 agencies with a total of 6 MAT waivered physicians available. Still, given that the rate of SUD in the population stands at 17%, agencies have been encouraged to continue to consider increasing the number of certified providers for greater ability to serve this population, especially given the current public health opioid epidemic, and specifically be able to address SUD with their clients.

Approximately 5% of PCHH enrollees are new to MO HealthNet coverage and did not have any Health Home qualifying claims prior to enrollment. Additionally, claims are not used by providers to determine whether a person would qualify and benefit for PCHH enrollment. Individuals are often identified based on known history of diagnoses as recorded in an EHR. Furthermore, risk factors that would qualify an individual for PCHH are rarely recorded in claims. As such, the chart below shows prevalence of conditions identified by agencies to enroll persons in the PCHH. Most children are identified on the basis of having asthma, a developmental disability, or obesity. Adults are most commonly identified on the basis of cardiovascular conditions or the presence of three or more diagnoses, or risk factors; however, when this option is chosen on the enrollment form, the actual diagnoses are not identified.

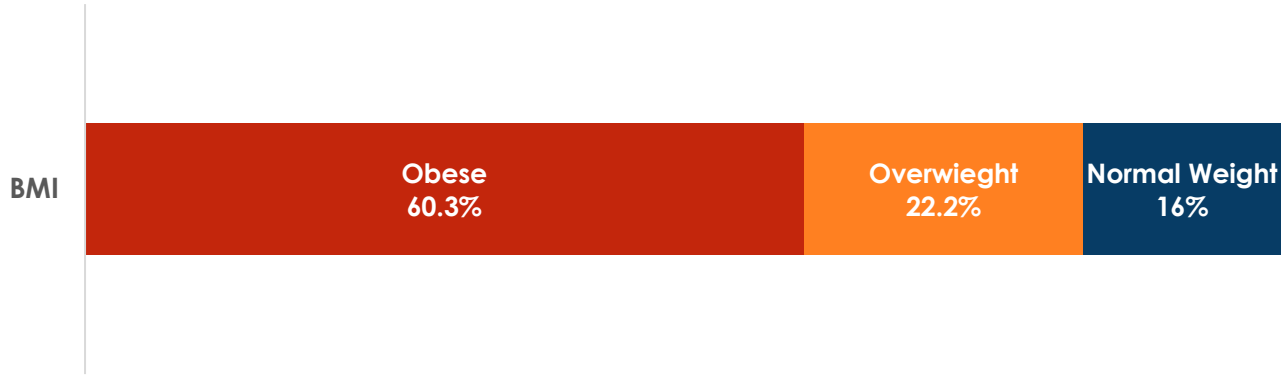
Most PCHH enrollees have three or more chronic health conditions or risk factors identified by their agency prior to enrollment.



OBESITY

Adults considered overweight (body mass index (BMI) equal to or greater than 25 and less than 30) account for 23.2% of enrollees and 60.3% of PCHH adults have a BMI of 30 or higher, which is considered obese. In October 2016, obesity became a stand-alone condition for PCHH eligibility.

For children, guidelines for obesity are not the same. Rather than BMI, childhood obesity is determined by the child's height/weight percentile. As of this report, this data is not available for children. However, we hope to include this in future reports as our data reporting has been adjusted to follow these guidelines.



II: STAFFING

The PCHH State Plan Amendment requires the following staffing levels:

Position	Ratio of Staff to Participants
Health Home Director	1:2500
Nurse Care Manager	1:250
Behavioral Health Consultant	1:750
Care Coordinator	1:750

The PCHH staff are responsible for the coordination of preventive and health promotion services, chronic disease management, access to family support services, access to mental health and substance use disorder services, care between providers, and transitional care across settings (i.e. hospital discharge planning, pediatric to adult services). These activities are to be done in a person-centered manner that involves the individual in determining their care needs and goals for clinical and non-clinical health care related needs. The team is also responsible for monitoring the quality metrics to evaluate areas of focus in their population and improve quality of care across the organization. Each organization has the ability to use the staff to meet these goals, and the needs of their population in a way that makes sense for their organization. Support and suggestions for optimal use of the staffing positions are provided by the MO HealthNet PCHH program manager, as well as the practice coaches at MPCA; however, there is no prescriptive way of managing the health home across organizations. Some of the common division of responsibilities for each position are described below.

ADMINISTRATION (HEALTH HOME DIRECTOR AND CARE COORDINATOR)

The Health Home director and care coordinator are the PCHH team members tasked with ensuring the day-to-day operations of the Health Home are completed. However, agencies may define these roles differently to best suit the needs of their agency and population. The director in smaller agencies may also share a portion of their time as a nurse care manager (NCM), or as a care coordinator since the ratio for a director is 1 to 2500 enrollees. In larger agencies, the director may also have other duties within the organization, and are often members of the middle to upper management staff of the organization. The care coordinator often helps prepare forms and resources for the NCM, when clients are coming in for a face-to-face appointment. They may complete attestation records and, most importantly, perform true care coordination activities to ensure participant needs are addressed, and the members of their care team within the organization, as well as other specialists and providers of care outside of the organization, have the information they need to treat the whole person.

NURSE CARE MANAGERS

Nurse care managers have the most intensive role in the PCHH team. They are the primary point of contact for a participant, and develop the closest relationships with participants. In their role, they provide education and support to enrollees and family members, develop care plans and facilitate self-management goal setting with participants, and are responsible for hospitalization and emergency department visit discharge planning, follow-up and medication reconciliation. They also assess and refer participants to other resources that may assist them in the management of their chronic conditions. NCMs may also have a larger role within the agencies for whom they work, and are advocates of the PCHH model for their organization.

BEHAVIORAL HEALTH CONSULTANTS

The role of the behavioral health consultant (BHC) is to facilitate integrated care for managing the behavioral changes needed to manage chronic health conditions. The clinical provider, nurse care manager or other team member identifies participants who could benefit from a consultation with a BHC and ideally facilitates a warm hand-off during a clinic visit. BHCs also make contact with participants via phone calls and, in some cases, via telehealth or other electronic mechanism. They support the PCHH team and provide education about behavioral health needs of the participant. The BHCs participate in the PCHH team "huddles"--pre-visit planning for routine appointments--and can help the NCM with strategies to improve participants' health. BHCs are used for brief, focused interventions when needed to address participants' behavioral barriers/challenges to effectively managing their chronic physical conditions. BHCs are also often used in the management of participants identified as high utilizers (due to frequent emergency department visits and/or hospitalizations). They may also have a larger role within the agencies, and may divide their time between their role as a counselor/therapist and a BHC depending on the size and needs of the agency.

PHYSICIAN CHAMPIONS

Physician champions support the PCHH program, and a portion of the PMPM supports that role, though there is no specific FTE requirement. These are physicians within an organization that facilitate population health management. They also promote the health home model among providers within the organization. The physician champions review the performance measures within the agency and use these to guide clinical and process improvement interventions. They may also participate in participant staffing and guide protocols and help with orders needed.

STAFF TURNOVER

The health home model is a relatively new, and unique way of delivering critical services to clients with complex medical issues. In the beginning of the PCHH, there was a good deal of turnover in NCM and BHC positions in particular, as these roles are slightly different than traditional participant care. Since the beginning of the program, there has been a steady reduction in the turnover of all PCHH positions as this new model of care management has become more widepsread. However, challenges with staffing remain. There is a fair amount of training required and frequent turnover results in training costs. Additionally, the health home model of care management is in demand, so staff often leave to pursue new opportunities. In some cases, turnover is the result of a NCM or BHC moving from one agency to another. Organizations in rural areas face additional challenges when turnover occurs, as there is a limited pool of registered nurses and licensed social workers or clinical psychologists to fill nurse care manager and behavioral health consultant roles. In the case of the Health Home director, as mentioned above, these individuals are often in other administrative or management positions within their agency, and the agency may shift persons within those roles.

PCHH staffing is tracked via forms submitted by PCHH organizations to MO HealthNet. Organizations who do not maintain staffing levels over the course of a year (a very infrequent occurrence) are subject to a corrective action plan.

III: DISEASE MANAGEMENT AND CLINICAL OUTCOMES

Disease management outcomes are tracked by the Missouri Primary Care Association (MPCA) and reported to agencies on a monthly basis. The outcomes are based on NQF measures and other metrics as outlined in the state plan. Benchmark goals have been set by MHD and its partners for each of the measures, with interim goals set for the agencies to strive towards improvement and reaching benchmark goals. MHD and its partners continue to re-evaluate the goal benchmarks for their feasibility and alignment with national benchmarks. MHD and its partners are also focusing practice coaching resources on practice transformation and performance improvement efforts to help practices move measures towards established goals. In summary:

Chronic Disease Management- based on National Quality Forum (NQF) metrics

HYPERTENSION CONTROL- As of 12/2017, a stable population of 62.6% of individuals with hypertension had controlled hypertension.

DIABETES CONTROL-A1C As of 12/2017, a stable population of 60.5% of individuals with diabetes had controlled A1C levels.

DIABETES CONTROL-A1C is measured by looking at the % of PCHH enrollees with diabetes who have an A1C reading over 9.0% or have not had a reading in a defined period. As of 12/2017, 29.3% of enrollees with diabetes had a reading greater than 9.0% or did not have a reading within the period.

DIABETES CONTROL-BLOOD PRESSURE- individuals with diabetes are at risk for cardiovascular disease and it is imperative to monitor their blood pressure. The % of PCHH enrollees with controlled hypertension in participants with diabetes is stable. As of 12/2017, 65.3% of diabetic participants have controlled blood pressure less than or equal to 140/90.

DIABETES- LDL MANAGEMENT- Control of LDL in diabetes participants is also important as higher levels increase the risk of cardiovascular events. As of 12/2017, 39.9% of diabetes participants had an LDL reading <100. This metric has been removed from the NCQA measures set, and as of 2018, a new metric for statin prescribing will replace this measure. Clinical outcomes for LDL will continue to be reported.

ASTHMA CONTROL- for adults and children. Asthma can be managed through the use of appropriate medications. There has been an increasing trend for improvement in the percentage of participants prescribed appropriate asthma medications. The statewide goal is 75% of asthma participants who have appropriate prescriptions. This trend has varied, but as of 12/2017, was just above the statewide goal at 79.4% in children aged 5-11, and 68.8% in children aged 12-18. For adults, the statewide goal was exceeded with 76.8% of 19-50 y.o. adults having appropriate asthma medications and 77.9% of adults aged 51-64.

PREVENTIVE HEALTH

ADULT LDL<100 MG/DL is a measure used to prevent the development of cardiovascular disease in the population. The measure was adopted as part of the preventive measures of the PCHH. As of 12/2016, only 28.4% of PCHH enrollees had a recorded LDL below 100 mg/dL. It is anticipated that this measure will change parameters beginning in 2018, possibly to the percentage of individuals using a statin drug, similar to diabetes.

BMI, NUTRITIONAL COUNSELING AND PHYSICAL ACTIVITY COUNSELING For children, there is additional focus on providing nutritional counseling and physical activity counseling if their BMI is >95th percentile for their age. For adults, the measure is screening and follow-up. In children, as of 12/2017, 72.5% had recorded height, weight, and BMI percentile documented within the time parameter of the children who had a visit. Thirty-nine percent of the children who met criteria had documented nutritional counseling and 27.4% had documented physical activitiy counseling.

BMI SCREENING AND FOLLOW-UP For adults aged 18-64, 62.9% had documented BMI and follow-up that occurred when BMI was above 25 (overweight). This measure has consistently improved since 2014. Similarly, for adults over 65 years, 69.8% received follow-up if their BMI was below or equal to 22 or above 30. These ranges are different than adults 19-64, as BMI has been shown to affect this group (over 65) differently than younger adults.

The PCHH also measures clinical improvement of enrollees using metrics that target the larger PCHH population, and not as specific as the NQF metrics. In the following pages, we have provided detail about clinical change based on the length of time an individual has been tracked and treated by PCHH staff.

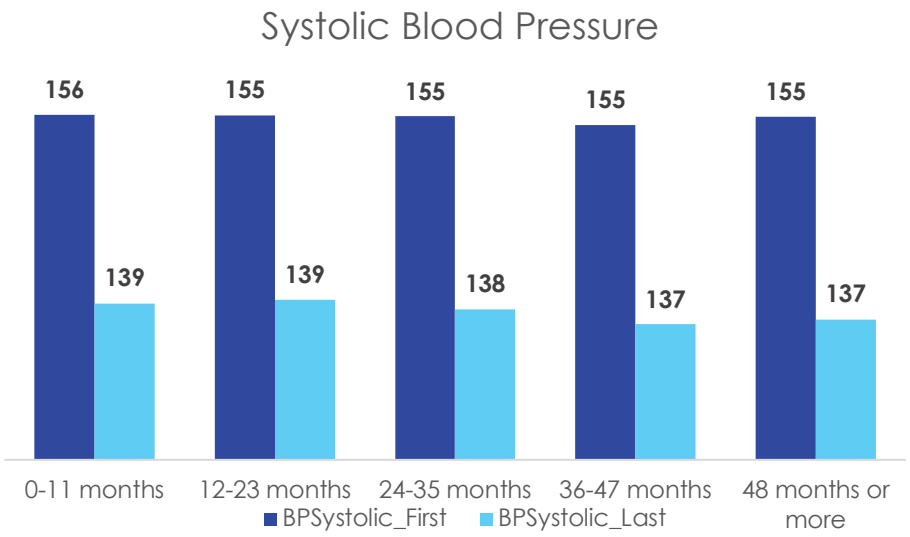
CLINICAL OUTCOMES

A number of enrollees had an initial recording of elevated blood pressure, cholesteroal, or A1c, regardless of their prior diagnosed conditions. For those individuals, we have tracked the change from their initial high reading, to the last reading on record. Small changes in elevated levels for these clinical markers can have a substantial effect on reducing risk for stroke, microvascular complications, cardiovascular disease, and diabetes related deaths. Results have been stratified by the length of time individuals have spent in the PCHH program.

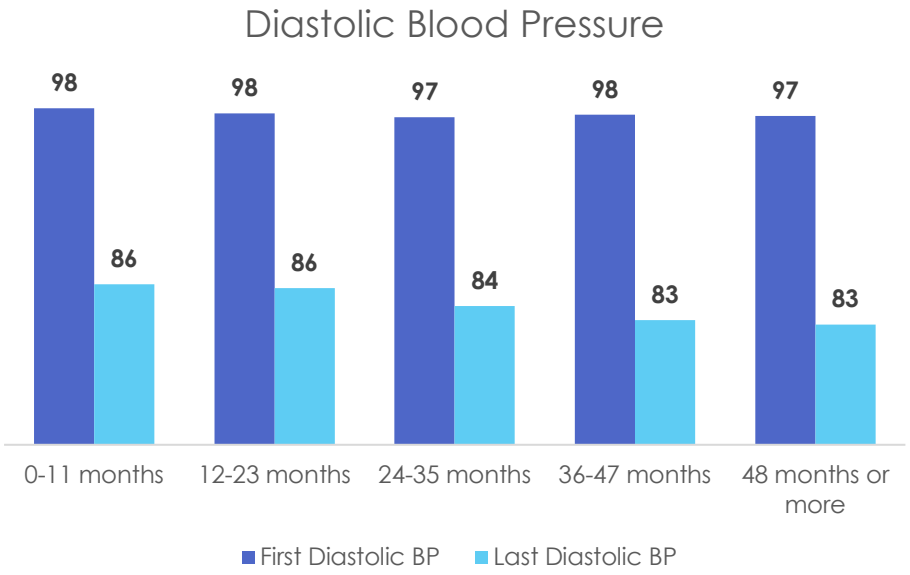
Blood Pressure

Reductions in blood pressure for individuals who are first screened and have a higher than normal reading (>140/90) are reduced even for individuals who are only in the program for a maximum of 11 months. Effective treatment with medication can generally decrease elevated levels quickly. More importantly, individuals who have been in the program several years are maintaining levels within the goal of systolic blood pressure less than 140. Research has indicated that a 6mm/Hg drop in blood pressure can reduce the risk of cardiovascular disease by 16%, and the risk of stroke by 42%. The PCHH has been successfully at reducing the blood pressure levels of the PCHH enrollees who came into the program with high readings, and have achieved clinically meaningful reductions in blood pressure. Values, on average, are within normal parameters.

On average, systolic blood pressure has dropped 17 mmHg across all groups, significantly reducing the risk of cardiovascular disease and stroke.



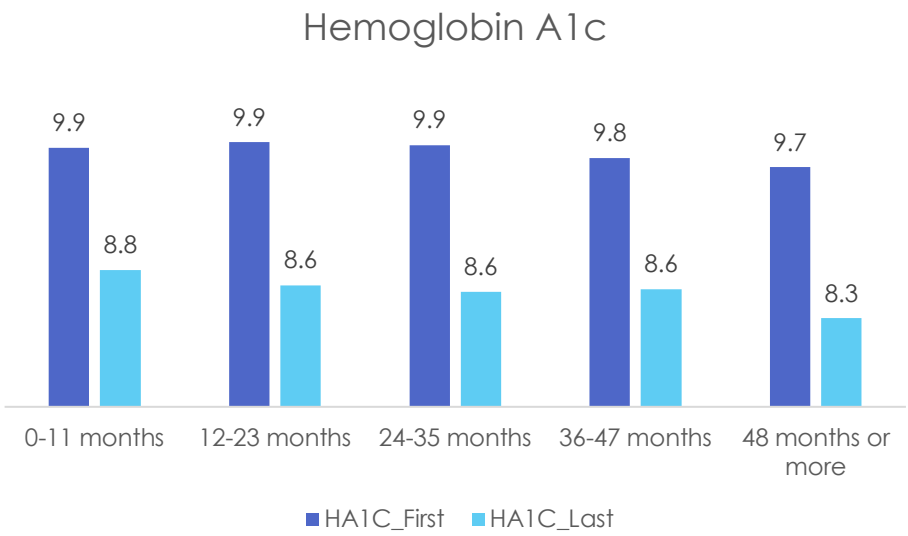
On average, diastolic blood pressure has dropped 14 mmHg across all groups, significantly reducing risk of cardiovascular disease and stroke.



Hemoglobin A1c

Blood sugar is often measured using a glucose test; however, A1c provides a better understanding of how much variability there might be in a person's blood glucose levels over a period of time. If blood sugar remains fairly stable, the A1c value will be lower. With more highs and lows, A1c values start to increase, reflecting poor management of blood sugar. Research has indicated that a 1% decrease in A1c levels translates to a 21% decrease in the risk of diabetes related death, a 14% decrease in heart attacks, and a 37% decrease in microvascular complications. The greatest reduction (1.4%) can be observed in persons who have been enrolled in the PCHH more than 48 months.

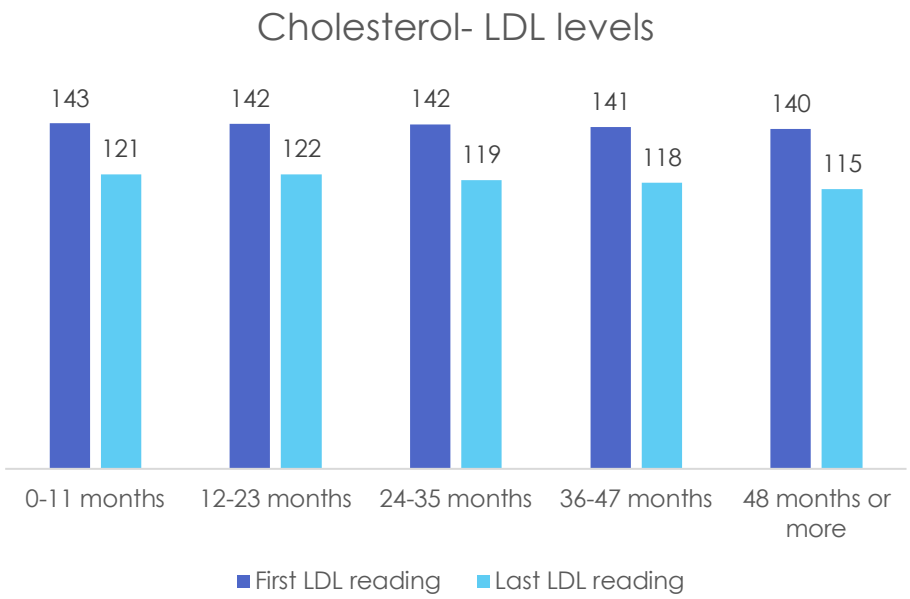
Hemoglobin A1c levels have decreased by more than 1% across all groups, significantly reducing the risk of diabetes related death, heart attack, and microvascular complications.



Cholesterol Levels

Cholesterol is a fatty protein that is essential for making certain hormones, and important functions of the cells in the body. However, one type of cholesterol, LDL (low density lipoprotein) can easily become damaged and form plaques inside of veins and arteries. For this reason, persons who are at risk, or have cardiovascular conditions, should regularly check to make sure their LDL levels are not too high. Additionally, LDL cholesterol levels can be increased by other disease conditions, such as diabetes. Values below show the change in LDL values for individuals who had an initially high reading of LDL cholesterol (>100 mg/dL). Research indicates that a 10% reduction in LDL values can reduce the risk of cardiovascular disease by 20%.

LDL levels for the PCHH enrollees who had initially high values have decreased 14%, reducing the risk of developing cardiovascular disease by more than 20%.



IV. QUARTERLY AND SEMI-ANNUAL QUALITATIVE REPORTS

Starting in 2015, MO HealthNet and MIMH worked to revise and send out quarterly site-specific reports and semi-annual agency-wide reports to track quality and other measures associated with providing participant-centered care. The reports were largely based on NCQA measures that agencies must maintain in order to receive recognition as a PCMH by NCQA. In order to become a PCHH, agencies must work to achieve this recognition within 18 months of their PCHH start date. Responses have been tracked and reported back to agencies, particularly in regard to questions that indicate the services provided to PCHH enrollees. Below, we show a table of some of the key measures tracked in the semi-annual survey followed by a table of key measures tracked in the site-specific quarterly survey from 2015 through 2017.

Questions from semi-annual agency survey	**2015**	**2016**	**2017**
Your organization refers PCHH participants to social and community resources for assistance as needed (examples include legal services, housing, disability benefits).	86%	89%	90%
Your organization offers its PCHH participants health education programs specific to their chronic conditions that include specific action(s) regarding the management of those conditions.	90%	78%	75%
For your PCHH participants with developmental disabilities, your organization coordinates with DD case managers (e.g. related to habilitation, care management, etc.).	55%	48%	55%
Your organization follows-up on positive SBIRT screening results by referring to appropriate substance abuse prevention and/or treatment services.	86%	82%	70%
Care plans (including self-management goals) are documented in structured data fields in the EMR (e.g. using check boxes, radio buttons, drop down menus).	86%	70%	90%
Care plans developed by PCHH staff are viewed and acted upon by other members of the participant's total care team (e.g. clinicians, ancillary services, etc.).	62%	59%	60%
Your PCHH team uses the daily (or as received) hospitalization authorization and ED visit notification reports provided by MO HealthNet as a trigger for follow-up within 72 hours.	97%	93%	100%
Your organization provides continuing education opportunities for PCHH staff on topics related to evidence-based care approaches?	72%	81%	75%
Your PCHH provider champion participates in PCHH team meetings:	38%	52%	55%

At the agency level, responses have indicated improvement across time for most of the key targets, such as increasing PCHH provider champions' involvement in PCHH team activities, daily hospital follow-up report activities, structured data fields for care planning, coordination with other providers and community. One area showing a reduction in practice was the use of SBIRT screening, despite screening rates increasing over time. Substance use disorders have become a focus of energy across the state, in response to the national opioid crisis, and it is possible this attention has brought agencies to better understand their activities around SUD screening, using SBIRT, and it has become apparent that they were not doing as well as previously believed. It is also important to remember that responses to our agency reports around agency activities are not always responded to by the same person, and it is not clear how respondents objectively quantified and responded to the questions. This has led to a change in the questions and methods used to collect information around practice transformation and objective recording of data to respond to transformation processes.

SITE-SPECIFIC SURVEY

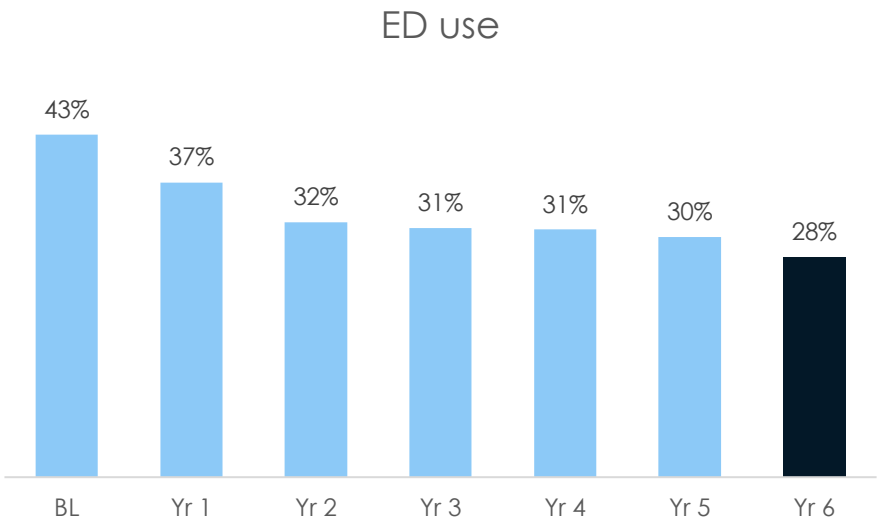
Example questions from quarterly site-specific survey	2015 Q1	2015 Q4	2016 Q1	2016 Q4	2017 Q1	2017 Q4
% of sites answering "All of the time" or "Most of the time"						
How frequently are participant barriers to self-management goal achievement routinely assessed and addressed?	77%	94%	93%	87%	84%	91%
During the past quarter, did your clinic site routinely have daily (or prior to each clinic session if you don't see participants daily) huddles to discuss the days (or next days) PCHH participants coming in for appointments?	65%	67%	74%	77%	81%	81%
As of the end of the last quarter, what percentage of your sites PCHH participants had individual treatment/care plans?	78%	80%	84%	95%	94%	91%
The following questions were based on a chart review. Data reflects % of sites responding "greater than 50% of charts reviewed						
During the past quarter, what percentage of these treatment/care plans contained participant self-management goals?	84%	86%	90%	83%	92%	93%
During the past quarter, what percentage of these treatment/care plans contained optimal clinical outcomes?	65%	67%	84%	63%	76%	77%
During the past quarter, what percentage of your sites PCHH participants met face-to-face with relevant PCHH team members for the development and/or revision of their individual treatment plans and goals?	57%	67%	70%	54%	68%	78%
During the past quarter, what percentage of your sites care plans and/or self-management goals were updated at least annually?	80%	82%	88%	86%	95%	90%

In general, responses to surveys by each of the sites indicates an improvement in practices geared toward a fully implemented health home model at each of the sites. However, some of the questions can be improved upon, to better understand the overall operations and relationship between practice transformation and outcomes. As such, a new survey and method of collecting data around practice transformation has been a focus of change for continuous quality improvement for PCHH.

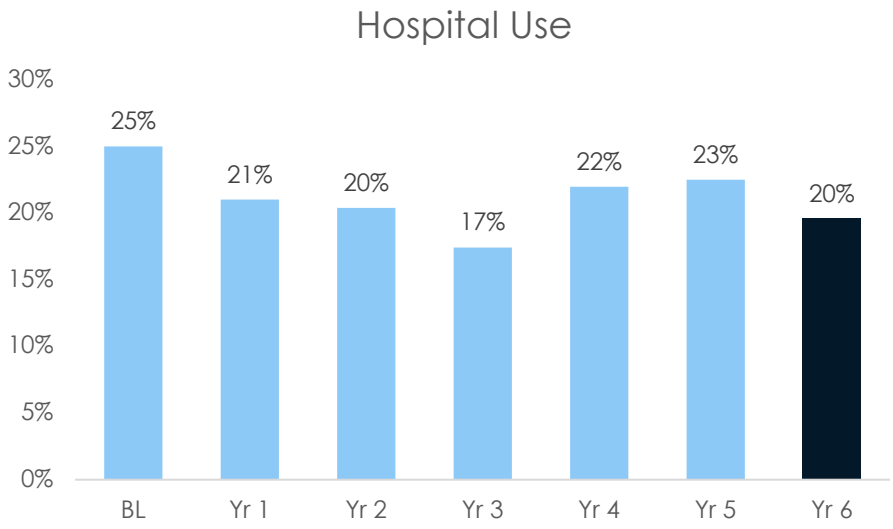
V. SERVICE UTILIZATION, CARE COORDINATION AND COST SAVINGS

HOSPITAL AND EMERGENCY DEPARMENT USE

From a population health standpoint, the number of ED visits and hospitalizations can be an important indicator of overall population health. Below are figures showing the percentage of all PCHH enrollees who had an ED visit or hospitalization in each year they were enrolled in the PCHH at least 9 months and had 12 months of Medicaid eligibility.

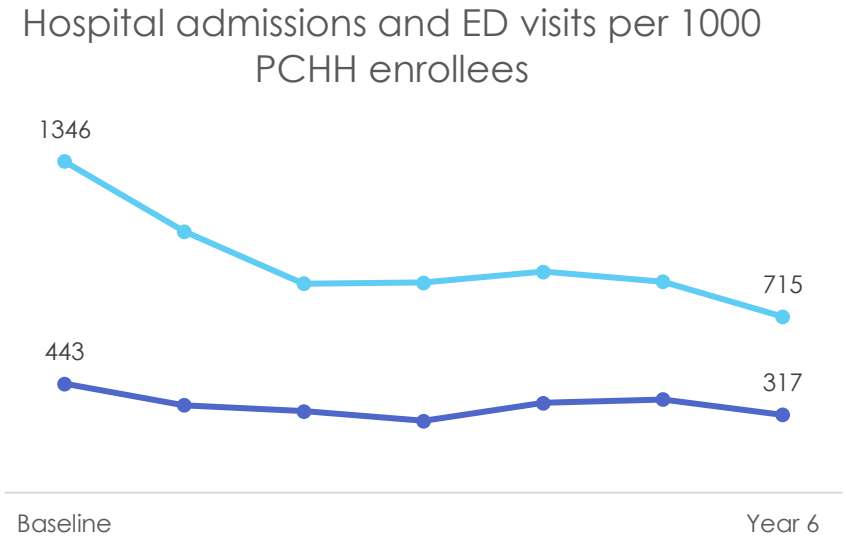


There has been a 35% decrease in ED use for all PCHH enrollees from baseline, through year 6 of the PCHH program



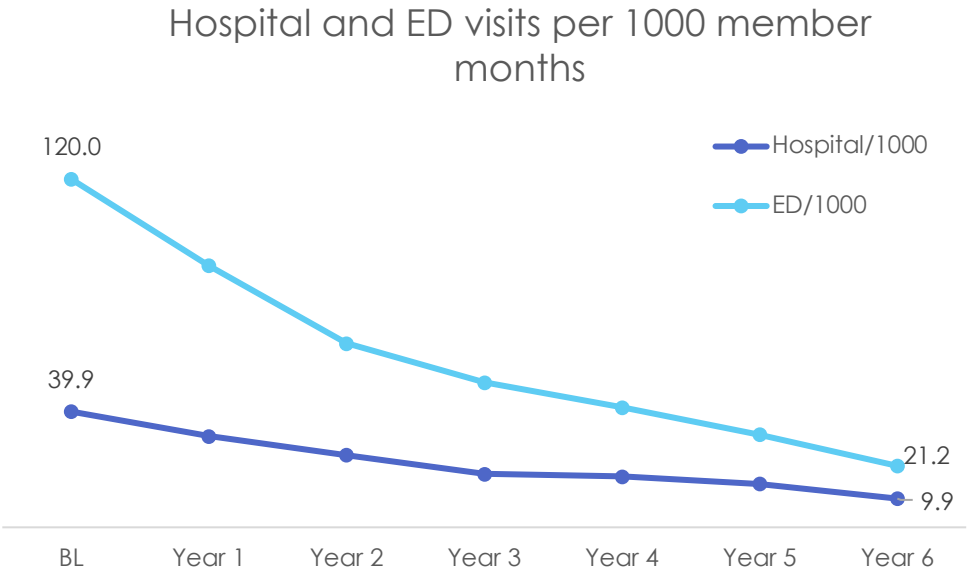
There has been a 20% decrease in hospital use from the baseline, through year six of the program.

In addition to fewer PCHH enrollees having fewer hospital admissions and ED visits, there has been a reduction in the overall average number of visits across all programs years as evident in the chart below. From baseline, or the 12 months prior to an individuals first PCHH enrollment, there was a 38.6% decrease in ED visits, and a 25% reduction in hospital admissions by year 2.



For individuals who stayed enrolled in the PCHH through the sixth year of the program, the decrease in ED visits for that group is 46.8% from baseline and a decrease in number of hospital visits of 28.4%.

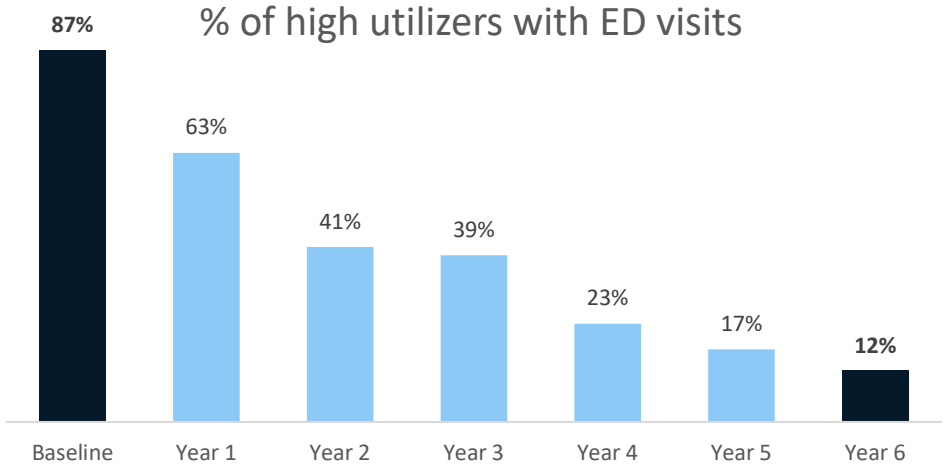
We also show the average number of ED visits and hospitalization for PCHH enrollees, and the number of ED visits and hospitalizations per 1000 Medicaid member months. This is a commonly used population health metric that takes into consideration the "opportunity" a population has to use these services based on the total number of enrollment months in Medicaid over a 12-month period.



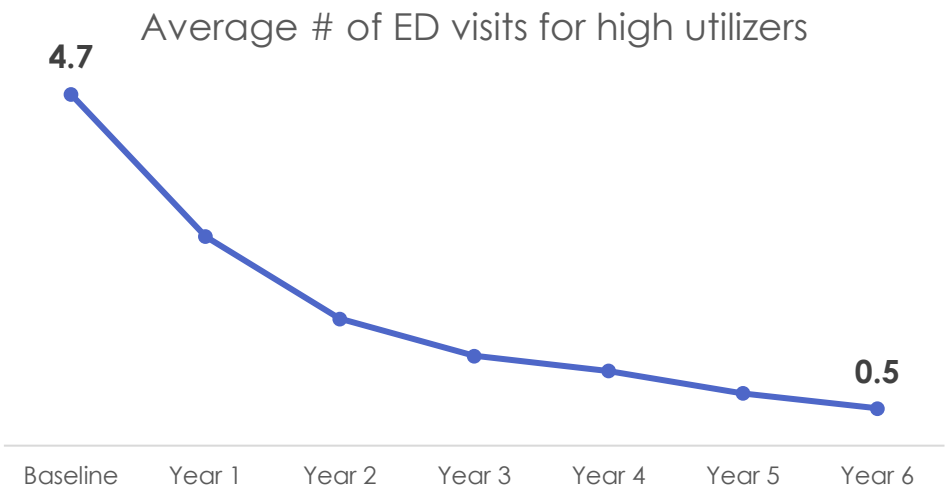
Regardless of how much time was spent in PCHH services, from the baseline year of enrollment (12 months prior to enrollment) through year six there has been a 75% reduction in hospitalizations and an 82% reduction in ED visits.

CARE COORDINATION- HIGH UTILIZER ED USE

The PCHH has identified a population of focus commonly termed “high utilizers.” High utilizers refers to MO HealthNet participants who have had three or more ED visits or two or more inpatient stays during a 12-month period. These MO HealthNet participants are identified and lists are provided to the PCHH agencies for those participants who have received care at the agency during the previous 12 months. PCHH staff at the agencies outreach these individuals, and ideally, enroll them in the health home. There is no specific statewide goal (e.g. a 50% reduction in ED visits and hospitalizations) to achieve reductions in service utilization for this population.



There has been an 86% decrease in ED visits for individuals who are considered to have high ED or hospital utilization.



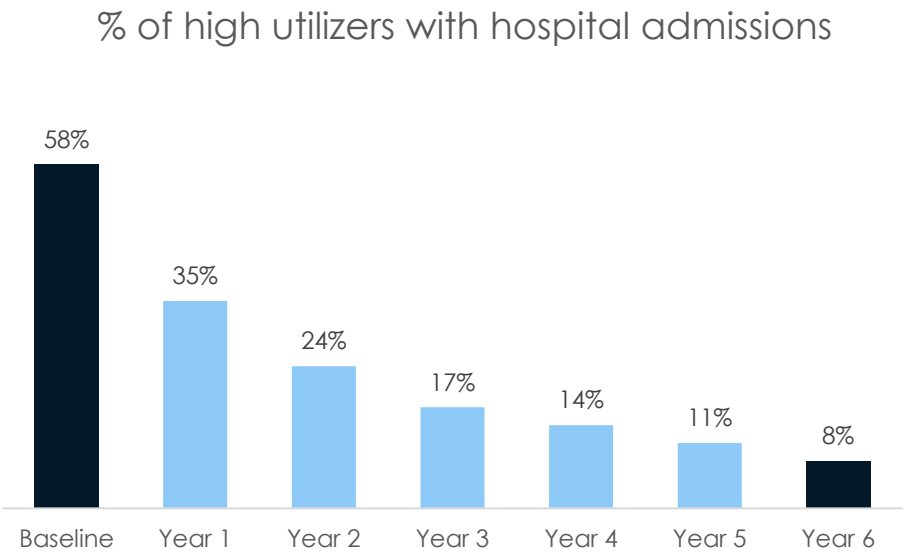
The average number of ED visits decreased from 4.7 visits per person to less than one visit/ person by year six, an 89% decrease.

Use of the emergency department is one of the more costly services that can often be avoided by routine care, or visits with a primary care provider. One of the overarching goals of the PCHH is to reduce ED use by providing necessary, routine care for participants with chronic health conditions. This is done through the care management provided by the PCHH staff.

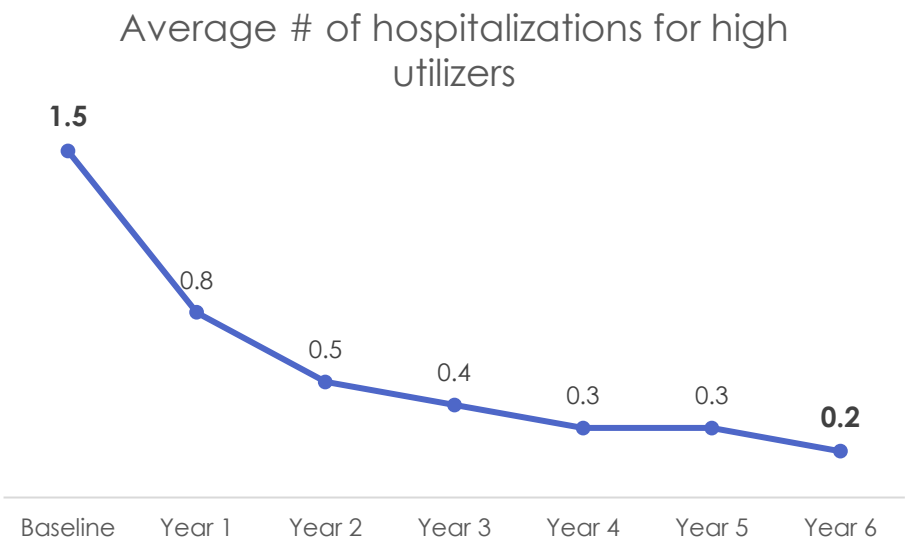
Improvement strategies to reduce ED use have been ongoing since the beginning of the PCHH program. Notifications provided by MO HealthNet to practices about ED visits provide PCHH teams with the opportunity to reach out to their participants and reconcile medications, address any needs, care gaps, or barriers to care that might be leading to ED visits. Additionally, community health workers have been integrated into a number of clinics to help address other basic needs, or social determinants of health that might need to be addressed to support the overall health of the participants.

CARE COORDINATION-HIGH UTILIZER HOSPITAL USE

By definition, individuals included in this measure had three or more ED visits or two or more hospitalizations in the 12 months prior to their first PCHH enrollment (baseline year). In the years following the baseline, there has been a substantial decrease in the percentage of individuals identified as high utilizers who have any hospital visits.



In total, the percentage of high utilizers who are admitted to the hospital has been reduced by 86%.



The average number of hospitalizations has decreased by 87 % from baseline to year six.

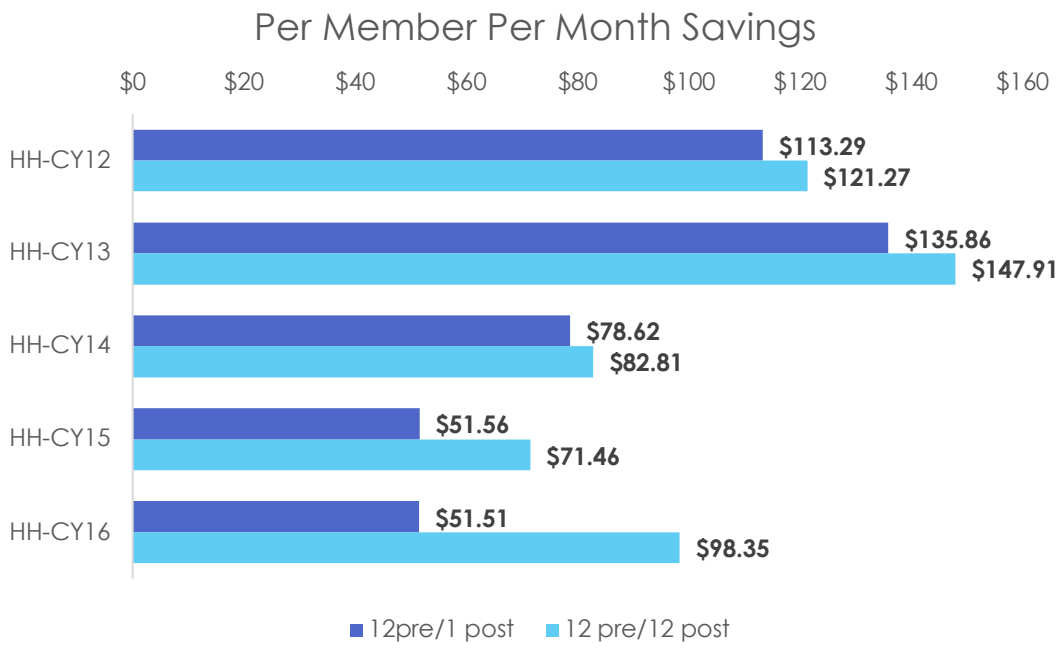
Hospital care is one of the more costly services and often indicates that health conditions are not adequately managed. Routine care with a primary care physican can help, but often participants need additional help with managing their conditions. One of the overarching goals of the PCHH is to reduce hospital use by providing necessary, routine care for participants with chronic health conditions. This is done through the care management provided by the PCHH staff.

Notifications provided by MO HealthNet to practices about hospital pre-authorizations provide PCHH teams with the opportunity to reach out to their participants and reconcile medications, address any needs, care gaps, or barriers to care that might be leading to hospitalization visits. Additionally, community health workers have been integrated into a number of clinics to help address basic needs, or social determinants of health that might need to be addressed to support the overall health of the participants, and provide them the necessary help to manage their chronic conditions and avoid behing hospitalized.

Hospital follow-up and medication reconciliation within 72 hours of hospital discharge or emergency department visit are addtional measures of care coordination to help reduce rehospitalizations. Rehospitalizations are defined as a hospital admission that occurs within 30 days of discharge from a previous hospitalization. The statewide goal is for 80% of all hospitalizations to have a follow-up call or face-to-face visit between the PCHH enrollee and nurse care manager. This measure has continued to improve every quarter and as of 12/2017, 71.3% of follow-ups with a medication reconciliation were performed within the 72 hour period. Of note, Missouri has set the bar high for hospital and ED follow-up. The 72-hour timeframe for follow-up is a goal that exceeds the standard 7-day period recommended in a number of other settings.

COST SAVINGS

Cost Savings have been calculated for each year of the PCHH program. Savings are reported to Centers for Medicare and Medicaid and are based on spending the calendar year prior to enrollment in the PCHH, compared to spending in the reported calendar year. In order to be included in the savings calculation, enrollees must have had a full 12 months of enrollment in Medicaid in the calendar year prior to enrollment. Additionally, the chart below shows comparisons for cost savings for persons who had at least 1 month of enrollment in the PCHH in the calendar year, to individuals who had 12 months enrollment in the PCHH in the calendar year. Individuals whose cost savings were greater than three standard deviations below the average cost savings were not included in the values presented below.



VI: TRAINING AND TECHNICAL ASSISTANCE

MO HealthNet, in collaboration with the Missouri Primary Care Association, has provided training opportunities to assist the Primary Care Health Home providers in understanding and becoming health homes, and to assure that PCHH staff have the ongoing knowledge and skills to perform health home functions and to meet health home standards. A summary of various training efforts is below, and a table showing trainings offered are detailed below, and can also be found in appendix 1.

PCHH INTRODUCTION AND ORIENTATION

MO HealthNet offered Webinars and conference calls for new providers during each of the three periods when new providers have joined the PCHH initiative (2012, 2014, 2016). These include a pre-application Webinar to provide more details about the program and the application, and several post-approval Webinars/conference calls focusing on various topics including participant enrollment; PCHH staffing (ratios, requirements, training; forms); data requirements and reporting; performance measures; reports from MO HealthNet; and the attestation process. Face to face PCHH staff orientations were also offered regionally in 2014 and 2016, and a recorded version of an orientation Webinar is available for staff to view.

HEALTH HOME ADMINISTRATION AND STAFF

MO HealthNet hosts regular PCHH provider conference calls or webinars designed to inform PCHH staff of new and revised policies and procedures that have been developed as experience with program implementation shaped the understanding of, and vision for, how best to meet health home goals. These events also provide an opportunity to discuss and clarify issues, discuss teaching points, share best practices, and answer questions as organizations work though implementing the initiative. Some have had a specific focus (e.g. status of clinical measures, data reporting or attestation), while others have provided updates on several topics.

The PCHH program manager also sends a weekly email update to PCHH staff (and the organizations' administration) with reminders and other information that they need. The weekly updates also provide information about trainings and opportunities related to Health Home services and needs. In addition, the weekly updates can be used to promote successes of organizations with regard to implementation, practice transformation, and overcoming challenges.

DATA AND CARE MANAGEMENT REPORTS

Data for tracking and reporting on outcomes is stored and managed by Azara Healthcare through close collaboration with the MPCA quality coaches. The reports/scorecards are provided monthly to organizations, and the coaches work with agencies to improve outcome measures for the PCHH. MO HealthNet also sends several monthly data reports to all PCHH organizations that help them monitor various aspects of their PCHH. These include a list of everyone enrolled or discharged the previous month, CyberAccess (MO HealthNet's electronic medical record) use data, a list of people whose per-member-per-month payments were rejected for various reasons, a reconciliation of health home staffing and costs, a list of patients potentially eligible for PCHH, a list of health home participants who are enrolled in one of the Medicaid Managed Care plans, and a list of high utilizers.

BEHAVIORAL HEALTH CONSULTANT TRAINING AND SUPPORT

Training about integrated primary and behavioral health care and training for BHCs has been a priority. St. Louis Behavioral Medicine Institute (SLBMI), Missouri Primary Care Association (MPCA), and Missouri Institute of Mental Health (MIMH), have teamed up to offer these trainings. Funding for these efforts comes primarily

from the Department of Mental Health as part of its behavioral health and primary care integration initiative. A list of trainings provided from 2014-2016 can be found in appendix 1.

SITE VISITS

The PCHH program manager and fiscal manager and one or more MPCA practice coaches visit each PCHH organization biannually to assess each organization's compliance with program requirements, provide new information, celebrate program successes, determine any challenges or areas needing improvement, and discuss any identified concerns. A medical records review is also conducted to verify documentation of health home services and generated payments, and to check for the presence of other critical indicators for PCHH (e.g. care plans, self management goals, demonstration of a variety of types of health home services, hospitalization and ED follow-up, etc.). For this reporting period, visits were done between May and November of 2015 and 2017.

VII: SUCCESS STORIES

Although outcome measures are a good indicator of the success of a program, there have been a number of success stories reported directly from the providers and participants that indicate the importance of a coordinated care model in achieving positive health outcomes. A review of the success stories indicates that the participants are working closely with the PCHH teams to access resources that will allow them to function and improve their health. Most of these resources are accessed with help from a NCM, many of whom are going above and beyond to help their clients with their needs.

Some of the challenges affecting care, and poor health include:

- Inability to effectively communicate
- Lack of needed medical equipment to manage conditions
- Lack of accessibility
- Inadequate transportation
- Lack of health literacy
- Lack of needed resources in home environment
- Inadequate housing situation

PCHH staff have had success with addressing these challenges by:

- Building trust and listening to participants' needs
- Working with charities and community organizations to provide assistance with needed resources
- Acting as a point of contact when participants have specific, or urgent needs
- Working to find appropriate specialist care
- Providing health literacy training
- Providing encouragement and using motivational approaches to help participants set goals
- Addressing social determinants of health

The addition of community health workers as part of PCHH teams in some pilot organizations between 2015 and 2017 have provided additional assistance, particularly to individuals with frequent ED use (≥3/year) or hospitalizations (≥2/year), as this population often has unmet needs in their environment that must first be addressed, in order for them to be able to focus on managing health concerns.

Success stories can be found in Appendix 2.

VIII: IMPLICATIONS AND RECOMMENDATIONS

TARGET POPULATIONS

Since the beginning of the initiative, MO HealthNet has worked with CMS and agencies to develop a new State Plan Amendment and expand the target populations able to receive PCHH services. This has come from two growth efforts. The first was the expansion of primary care organizations providing PCHH services, with the second, involving the inclusion of pediatric asthma and obesity as stand-alone conditions, and the addition of depression, anxiety and substance use disorder as additional qualifying conditions. MO HealthNet is currently discussing with CMS the possibility of adding individuals diagnosed with specific diagnoses for chronic pain, and children in foster care. It is felt that these populations could definitely benefit from the wrap-around care provided by PCHH program infrastructure.

BENCHMARKS

Benchmark goals have been revised on an as needed basis since the inception of the PCHH. There are some challenges unique to the population served, as well as challenges due to the continued expansion of the program. The PCHH enrollees are different from their counterpart CMHC- HCH enrollees as they are less likely to have consistent Medicaid coverage. Agency staff have voiced concerns about spend down levels and loss of coverage affecting their ability to provide quality, coordinated care with enough consistency to show an impact. The data support their concerns, as some analyses are showing more improvement in service utilization for individuals who have consistent, long-term (~3 years) of coverage compared to individuals who have fewer Medicaid covered months. Additionally, the results indicate that the majority of outcomes improve with continuous care. The PCHH will work with the Missouri Primary Care Association practice coaches to focus improvement on specific benchmarks through targeted interventions and implementation of activities within the PCHH sites to further improve outcomes in 2018.

It may be beneficial to focus additional effort on helping PCHH enrollees maintain their MO HealthNet eligibility for services, since the perpetual movement in and out of coverage makes it challenging to drive clinically meaningful change through disease management. One way MO HealthNet is planning to address this is through the proposed addition of community health workers as approved MO HealthNet providers and allowing organizations to bill for these services. The primary function of a community health worker is to work with clients to consistently connect them to care, help them to follow care plans, and find resources and supports to help them address social determinants of health, including appropriate Medicaid coverage, that may affect their ablity to optimally manage health.

STAFF AND TRAINING

Staffing of the PCHH has stabilized, as discussed in the staffing section of the report. There is still a need for ongoing training and support necessary to help agencies grow and transform their organizations as well as to address increasingly important issues affecting health in Missouri. Training to support staff in strategies to improve outcomes is ongoing, and in the next year, it is a goal of the program to provide additional communication and learning opportunities for the PCHH staff.

SYSTEM TRANSFORMATION

The PCHH model continues to grow in Missouri, and the effort to transform organizations and care delivery is ongoing. There have been a number of new organizations that have been added to the PCHH program since 2012. One of the PCHH requirements is that all participating organizations must receive recognition as a Patient-Centered Medical Home. The MPCA practice coaches help organizations with the application process, and all current PCHH organizations have successfully achieved that goal.

Each organization has adapted the health home model to work within its existing organization, with differences existing across all sites. The PCHH teams within each organization are providing care to enrollees in similar ways, although the way they interact within their agencies are each unique. As time continues on, agencies have worked to increase the integration of the PCHH team into the larger organization as they have come to understand this is an ongoing initiative and model of care that can benefit their patient population as a whole. Though the PCHH program financing supports a specific staffing structure for a medically complex subpopulation, the benefits of the program bleed over to the rest of the practice. Ongoing training and technical assistance will continue to be essential, particularly with regard to continuing improvement in the quality measures, and familiarizing practices with the benefits of population health management for agencies, individuals, and communities. Lessons learned in the years since the PCHH began can help to more astutely advance population health impacts, especially as the program grows and expands access to PCHH.

Appendix 1. List of PCHH trainings 2014-2017			
Date	**Presenter/Consultant**	**Topic**	**Target Audience**
2014	SLBMI Integrated Care Consulting Team	Advanced BHC Workshop	BHCs
2014	Ron Margolis & Dawn Prentice	BHC consultation, HBAI coding & billing	All PCHH organizations - admin & BHCs
2014	Alec Pollard, Dawn Prentice, Geeta Aatre-Prashar, Steve Byrnes	BHC model/case consultation/training	BHCs
2014	Missouri Primary Care Association	BHC training	Behavioral health consultants in PCHH
2014	Ron Margolis & Dawn Prentice	BHC training/consultation services	New PCHH organizations
2014	Steve Byrnes	Core Competencies in BHCs working in Integrated Care environments	BHCs
2014	Missouri Primary Care Association	Core PCHH measures	Health home staff and IT staff
2014	MO HealthNet PCHH Administration	Current PCHH providers wanting to add new sites	PCHH org admin and health home director
2014	Ron Margolis, Geeta Aatre-Prashar	HBAI Billing	HH directors & BHCs
2014	Ron Margolis	Individual Administrative Consultation for BHC Integration	All Admin Groups
2014	SLBMI Integrated Care Consulting Team	Intro to BHC model	BHCs/new HH sites
2014	Henry Nasrallah, MD	Metabolic Syndrome & Schizophrenia Life Style & Iatrogenic Factors	PCPs and BHCs
2014	SLBMI Integrated Care Consulting Team	Monthly Individual BHC supervision/consultation	BHCs
2014	Ron Margolis	MPCA's MO Quality Improvement meeting - HBAI codes	Community Health Centers
2014	Samar Muzaffar and PCHH admin staff	New PCHH Providers - finance/payment	Admin and PCHH staff at new organizations
2014	Samar Muzaffar and PCHH admin staff	New PCHH Providers - intro	Admin and PCHH staff at new organizations
2014	Kathy Brown	New PCHH Providers-Attestation	Health home staff
2014	Samar Muzaffar and PCHH admin staff	New PCHH Providers-Reports	Health home and admin staff
2014	SLBMI Integrated Care Consulting Team	On site BHC model training/case consultation	BHCs
2014	MPCA Quality Coaches and Azara Healthcare	Ongoing phone, e-mail, webinar consultation with Primary Care Clinics on performance data, flat file submission, and data integrity	Health Home staff and IT

Date	Presenter/Consultant	Topic	Target Audience
2014	MPCA Quality Coaches	Ongoing phone, webinar, e-mail consultation to address NCQA PCMH recognition, organization transformation, PCHH performance data, training of new PCHH staff	Health home staff
2014	Geeta Aatre-Prashar, Steve Byrnes, Dawn Prentice	Patient Simulation/Panel Interview	Tier 2 BHCs
2014	MO HealthNet PCHH Administration	PCHH New Provider Applications	Interested potential PCHH providers
2014	Kathy Brown, Angela Herman-Nestor	PCHH orientation	Health home staff and admin
2014	Samar Mazaffar and PCHH admin staff	PCHH Provider Webinar	Health home and admin staff
2014	Missouri Primary Care Association	Triple AIM, PCMH Sustainability	Health home staff
2015	SLBMI Integrated Care Consulting Team, MPCA, Kathy Brown	BHC/NCM Workshop	BHCs & NCMs
2015	Samar Mazaffar, Kathy Brown, Bill Dent	Community Health Worker/Community Partnership Orientation	Health home and community partnership staff
2015	Kathy Brown, Ashley Wilson, Jayne Zemmer, Dawn Prentice	HBAI and SBIRT Billing and Coding	Health home, admin and billing/coding staff
2015	SLBMI Integrated Care Consulting Team	Intro to BHC model	BHCs/new HH sites
2015	SLBMI Integrated Care Consulting Team	On site BHC model training/case consultation	BHCs
2015	MPCA Quality Coaches	Ongoing phone and e-mail consultation to address NCQA PCMH recognition, organization transformation, PCHH performance data, training new PCHH staff	Health home staff
2015	SLBMI Integrated Care Consulting Team	Ongoing phone consultation to address barriers to PCBH integration	Administration and BHCs
2015	MPCA Quality Coaches and Azara Healthcare	Ongoing phone, e-mail, webinar consultation with Primary Care Clinics on performance data, flat file submission, and data integrity	Health Home staff and IT
2015	Geeta Aatre-Prashar, Ronald Margolis, Dawn Prentice	Patient Simulation/Panel Interview	BHCs
2015	Kathy Brown, Angela Herman-Nestor, Kathy Davenport	PCHH Orientation	Health home and admin staff
2015	Kathy Brown, Angela Herman-Nestor, Kathy Davenport	PCHH Orientation	Health home and admin staff
2015	Samar Mazaffar and PCHH admin staff	PCHH Provider Webinar	Health home and admin staff
2015	Ronald Margolis & David Pole	Team Based Care	Hospital based and private organization PCHHs
2015	Ronald Margolis & David Pole	Team Based Care	PCHH staff

Date	Presenter/Consultant	Topic	Target Audience
2016	MPCA and UMC Asthma Ready Communities	Asthma Educator Training	Nurse Care Managers
2016	Dawn Prentice, Alec Pollard, Geeta Aatre-Prashar	BHC model/case consultation/training	BHCs
2016	Samar Mazaffar and PCHH admin staff	Health homes/managed care follow-up Webinar	Health home and Medicaid managed care staff
2016	SLBMI Integrated Care Consulting Team	Intro to BHC model	BHCs/new HH sites
2016	MIMH staff	Motivational Interviewing for Beginners: What You Need to Know to Get Started.	Nurse Care Managers and Behavioral Health Consultants
2016	MIMH staff	Motivational Interviewing for Use in Integrated Health Care Settings	Nurse Care Managers and Behavioral Health Consultants
2016	John Schneider and Kathy Brown	New PCHH Provider Webinar #1 (staffing and data reporting)	New PCHH Provider Administrators and IT staff
2016	Dawn Prentice (SLBMI) and Matthew Hile (MIMH)	New PCHH Provider Webinar #2 (BHC and SBIRT training)	New PCHH Provider Administrators, BHCs, and other health home staff
2016	SLBMI Integrated Care Consulting Team	On site BHC model training/case consultation	BHCs
2016	MPCA Quality Coaches	Ongoing phone and e-mail consultation to address NCQA PCMH recognition, organizational transformation, PCHH performance data, training new PCHH staff	Health home staff
2016	SLBMI Integrated Care Consulting Team	Ongoing phone consultation to address barriers to PCBH integration	Administration and BHCs
2016	MPCA Quality Coaches and Azara Healthcare	Ongoing phone, e-mail, webinar consultation with Primary Care Clinics on performance data, flat file submission, and data integrity	Health Home staff and IT
2016	Geeta Aatre-Prashar, Dawn Prentice	Patient Simulation/Panel Interview	BHCs
2016	Missouri Primary Care Association, St. Louis Behavioral Medicine Institute, MO HealthNet	PCHH Care Team Forum and Collaborative Workshop	Health home staff
2016	Samar Mazaffar and PCHH admin staff	PCHH New Provider Application Webinar	Prospective new PCHH providers
2016	Samar Mazaffar and PCHH admin staff	PCHH Provider Webinar	Health home and admin staff
2016	MPCA Quality Coaches and Azara Healthcare	Primary Care Clinic training on Direct Access to PCHH scorecard in Data Visualization and Reporting System (DRVS)	Health Home staff and IT
2016	Miggie Greenberg, MD & Alec Pollard, PhD	Psychopharmacological and Behavioral Management of Anxiety and Depression: A Workshop for Non-Prescribing Primary Care Providers	BHCs/NCMs

2016	Miggie Greenberg, MD & Alec Pollard, PhD	Psychopharmacological and Behavioral Management of Anxiety and Depression: A Workshop for Primary Care Physicians, Nurse Practitioners, and Physician Assistants	PCPs
2016	Missouri Primary Care Association and Azara	Updated Primary Care Health Home Technical Data Specifications Guide Overview Webinar	Health home, information technology, and admin staff

Date	Presenter/Consultant	Topic	Target Audience
2017	SLBMI Integrated Care Consulting Team	BHC model/case consultation/training	BHCs
2017	Missouri Primary Care Association and Dr. Richard Lillard	Helping Pain Patients a Care Team Approach	Health home staff
2017	SLBMI Integrated Care Consulting Team	Online (on demand) didactic videos on the BHC model	BHCs/new HH sites
2017	SLBMI Integrated Care Consulting Team	On site BHC model training/case consultation	BHCs
2017	Missouri Primary Care Association Practice Coaches	Ongoing phone and e-mail consultation to address PCHH performance data, orientation of new PCHH staff, NCQA PCMH recognition training, practice transformation	Health home staff
2017	SLBMI Integrated Care Consulting Team	Ongoing phone consultation to address barriers to PCBH integration	Administration and BHCs
2017	Missouri Primary Care Association Practice Coaches and Azara Healthcare	Ongoing phone, e-mail, webinar consultation with Primary Care Clinics on performance data, flat file submission, and data integrity	Health Home staff and IT
2017	Missouri Primary Care Association, SLBMI, MIMH, MO HealthNet	PCHH Care Team Forum and Collaborative Workshop	Health home staff
2017	Dr. Muzaffar, PCHH staff, Missouri Primary Care Association, and MIMH	PCHH Provider Webinars	Health home and admin staff
2017	Missouri Primary Care Association Karl Haake, M.D. and George Oestreich, PharmD, MPA	Safe Opioid Prescribing Part 1: Opioid Prescribing Guidelines and utilization into clinical practice, Opioid prescribing and interaction with other medications, and the value of pharmacy care team integration.	Physician Champion and Prescribing Providers
2017	Missouri Primary Care Association, Kathy Reims, M.D. and Richard Lillard PsyD	Safe Opioid Prescribing Part 2: Get the perspective of a medical director Colorado FQHC on a systematic approach to assess, plan and implement practice changes for opioid prescribing. Also covered: health literacy in pain management, and patient engagement.	Physician Champion and Health Home Staff
2017	Missouri Primary Care Association Practice Coaches	On-site NCQA PCMH recognition training, practice transformation, workflow , and application assistance for initial or renewal applications	Health home staff and QI staff
2017	MO HealthNet and Missouri Primary Care Association Practice Coaches	PCHH Site Visits and Technical Assistance	Health home and admin staff
2017	Missouri Primary Care Association	DRVS Population Health Management Tool training regarding performance improvement, benchmarking, care planning, pre-visit planning, and quality improvement	Health home staff
2017	SLBMI Integrated Care Consulting Team	BHC Regional Meetings for BHCs in Primary Care settings less than 2 years (KC, Jeff City, Springfield)	New BHCs

2017	SLBMI Integrated Care Consulting Team	BHC Teleconference: BHC Handouts: Development & Use in Practice	BHCs
2017	SLBMI Integrated Care Consulting Team	BHC Teleconference: Panic Disorder in Primary Care	BHCs
2017	SLBMI Integrated Care Consulting Team	BHC Teleconference: CBT for Depression and Anxiety in Primary Care	BHCs

Appendix 2: Success Stories

…a 37 year-old that we've been working with since March 2016 is one of our best success stories! She was going to the hospital a lot due to malignant high blood pressure, which was causing headaches and chest pain. At this point she was on multiple medications to control it. The nurse care manager discussed a lot of stress management techniques, medication compliance, and when it was really actually necessary to go to the emergency department for evaluation. The community health workers were also a valuable resource; she was able to give them a call when she needed to schedule a same day appointment and they also helped with transportation for those last minute appointments. This spring she finally got into see specialists in St. Louis who have been very helpful with managing her medications and have also uncovered other issues that may be attributing to her high blood pressure. Overall, this participant has gone from having 40 ED visits (June 2016) to 7 (June 2017)!

[Agency] was successful in assisting an 81 year-old male who lives alone in obtaining hearing aids by coordinating resources with [charities]. He had significant hearing loss and great difficulty in communicating. He can now hear normal conversation and is able to communicate much more effectively his medical conditions and needs thereby increasing the effectiveness of his medical care planning.

[Agency] was able to assist a participant in obtaining dentures which was significant to him. He struggled with depression and lack of self-esteem. By getting the dentures, he was more willing to get out and socialize more. We introduced him to the [store] and their need for volunteers. Now he is an integral part of the staff…and has greatly shown better confidence and self-esteem with "no time for depression."

[Agency] was successful in assisting a woman with securing a nebulizer for her breathing treatments. At first, a loaner machine was supplied through a local group that collects used medical equipment and lends out to individuals that are not able to obtain the needed equipment on a timely basis. [Agency], through the coordination of medical providers and outreach, was able to secure a nebulizer from [Agency]. She is now able to conduct home treatments with nebulizer as needed for breathing improvement.

A woman came to [Agency] searching for help with anxiety. She met with a medical provider and was scheduled for ongoing therapy with behavioral health. Over time, she continued meeting with behavioral health and was prescribed medications. She also met with an outreach specialist to work on coping skills and daily activities for positive change. She was able to secure housing and employment. With assistance, she was also able to network with a local animal shelter and, with training, acquired a therapy dog… became a companion and service for her to cope with anxiety and other day to day issues. Ann continues to meet with staff and reports using and needing less medication.

[Agency] has a participant who continues to be a high utilizer of the emergency department, but her last ED/hospital admission was in April 2017. Since that time, she has followed up appropriately with specialists and has seen her primary care provider for any current/additional needs. A new nurse care manager began April 1, 2017 and has tried to focus in on this participant as the clinic staff felt she needed support and assistance. The participant has begun to take her medications as prescribed; therefore, depression and mental problems have stabilized which has helped the participant to stabilize her physical health. She is now eating healthier and has been losing weight. She has lost a total of 5 pounds since April. She recently attended a high school class reunion and came into the office dressed and groomed nicely. She comes to the clinic to have her blood pressure checked routinely and even called the nurse care manager yesterday asking about a medication she is taking and reported the improved eating habits she is practicing. This participant has stabilized in her health due to the interest/support of PCHH's care management efforts that include

checking with her to ensure she is following physician orders, taking meds as prescribed, and supporting lifestyle changes.

[Agency] has a participant who has lost 22lbs over the past seven months. She is working with her primary care provider, behavioral health consultant, and nurse care manager. She is going to the YMCA several days a week to exercise and is working on her diet. While she still has more weight she would like to lose, she is making consistent progress each month.

Our community health center has a client with an A1C greater than nine. When she came into the office, she was always defiant and belligerent with staff and threatening to fight them. Once enrolled in the PCHH program, she told her nurse care manager how she felt mistreated by the staff and that she would fight them right there in the health center. The nurse told the participant she would like to meet her away from the health center and sit down to discuss ways to better control her blood sugar. She invited the nurse to come visit her at the day care center she attends. The NCM asked if she could bring the social worker (behavioral health consultant) with her and the client agreed. They went to visit her at the day care center and after listening to her many complaints, they gained her trust by listening and encouraging behaviors that were appropriate. Then, through Motivational Interviewing, they found out that she didn't understand how to take her insulin. She had refused the pen, but didn't really understand how to fill syringes. She would just give herself whatever amount she drew up, and she wasn't checking her blood sugars. Our team continues to work with her. She now brings her insulin and her syringes in and her NCM helps her to fill them and checks to make sure the dose is correct. She is now checking her blood sugars as ordered and her A1C is down to 7.2. On another note, through this relationship building she confided in her NCM that she was being abused by her mother, physically and financially. The NCM and BHC worked in tandem to get her removed from her mother's home. She now lives in a group home, and told me recently (when we celebrated her birthday) that she is happier than she has ever been.

One of our clients has a 25 year history of heroin abuse. The nurse care manager and the behavioral health consultant have worked with the client trying to get him into rehab. They have found resources for him over and over and he has eloped from programs, or just left because something didn't go his way. We educated him and tried to meet him at every clinic visit. At a recent clinic visit with his primary care provider, he requested that we call a rehab center for him, which we did. It was a center he had called several times but never showed up for the visit. This time he told me he was ready and I told him the rehab center said he had to call, we could not call for him. He stayed here in the health center and called to make the appointment promising he would keep it. We called him in 5 days to make sure he kept the appointment, however his phone had been disconnected. Two weeks ago, I noticed his name on the schedule for podiatry. I went in to see him and he looked great! He has been in treatment for 5 weeks and is doing well. He told me he is not completely sober but he did stop drinking wine and now his blood sugars are less than 120 every morning (His A1C has not been under 12 and has been over 16). He will follow-up with his PCP next month and we will check his A1C at that time.

One of our participants was having trouble paying her rent because her children had recently returned to live with her after being in a group home. The nurse care manager was able to get late charges waived and buy her some time by contacting the housing authority and explaining the situation.

A nurse care manager was able to assist a participant with obtaining transportation for her appointments and those of her child by contacting Medicaid's non-emergency medical transportation provider. She also arranged medication delivery from a local grocery store to promote compliance with taking medications.

A participant was having issues with her housing. Her home had mold which was causing repeated respiratory symptoms. The nurse care manager provided her with housing resources and also contacted the local health department who followed up with her regarding her home conditions.

A 47 year-old…who lives alone in an apartment is one of our PCHH participants. She receives disability and utilized our local food bank when necessary. She walks to her appointments at our clinic – which is just a few blocks away. The nurse care manager sets up transportation for appointments that are further away. The participant checks in monthly with the nurse care manager since she does not have a phone. During those visits, her NCM sets up appointments and provides a small amount of food supplements from the clinic's pantry. The NCM was also able to help her secure a bed and sofa for her apartment.

One of our participants is a 27 year-old woman who is paraplegic and lives with her daughter and grandmother. She has a home health nurse who has multiple weekly contacts with her PCHH nurse care manager. This care coordination has resulted in helping the participant with resources for smoking cessation, bowel regimen and pressure ulcer control – which are still in process. When her window A/C unit quit, the health home nurse alerted the PCHH nurse care manager, and the PCHH was able to replace it with a donated unit by the end of the same day – which was very helpful since she also suffers from moderate asthma.

A 42 year-old man with COPD is one of our PCHH participants. He was hospitalized in April for COPD exacerbation with pneumonia. He came to see his primary care provider in June with another flare, and he asked for assistance with getting air conditioning in his home. Within a week, the PCHH was able to provide a donated window A/C unit. He has reported that his breathing is much easier with the A/C.

An 82 year-old woman lives alone. She has a home health nurse who maintains frequent contact with the PCHH nurse care manager. This coordination has helped arrange transportation to medical appointments when family members are not available. She suffers from chronic pain and has hearing loss. The PCHH was able to find a resource for an amplified phone for her home, which has facilitated her ability to have phone conversations.

A 60 year-old woman is a PCHH participant. In December 2016, she was seen in the emergency department for vaginal bleeding. During her post-visit communication with the participant, the PCHH nurse care manager arranged an appointment for her with an Ob/Gyn provider. During the period from October 2016 to February 2017, she lost 5 pounds, bringing her weight down to 85 pounds. She was diagnosed with a bladder tumor. The nurse care manager arranged transportation for her to go to a tertiary medical center for tests in January. The NCM then arranged transportation for a return to the medical center for bladder surgery, and also helped arrange home health services upon discharge. The NCM worked to get Ensure donated for this lady since it is not covered by Medicaid. During her convalescence, she went from 85 pounds to 102 pounds in just over three months. The NCM delivered the Ensure and other donated high protein foods bi-weekly during this time.

One of our PCHH participants is a woman who has bilateral above the knee amputations. She was never really able to leave her house because she had no wheelchair or ramp. She crawled around her house on her stumps. The PCHH was able to get her a motorized wheelchair. They also worked with a local store who discounted the price of the lumber, a church who donated money for the lumber, and another church who provided labor to build a ramp for the wheelchair. She is now able to get out of her house for medical appointments and other reasons.

A 66 year-old gentleman who lives alone is one of our PCHH participants. The PCHH and his home health team collaborated to effectively get a non-healing wound on his lower leg resolved. During this time, he received lymphedema therapy at his apartment, as well as IV antibiotics. During this time, he developed

hearing loss and was referred to ENT. His hearing loss was diagnosed as permanent. He was unable to hear his nurse care manager on the phone, which caused tears and frustration. The PCHH was able to resource an amplified phone for him, which has helped improve his communications. His PCHH team, his home health team and the local food pantry have worked together to provide education and encouragement and have helped him reduce from 418 to 386.5 pounds. He has type 2 diabetes and used to smoke 2-1/2 packs of cigarettes daily. He now smokes less than half a pack daily due to education and assistance with smoking cessation. (It also helps that his ambulation is limited and he lives on the 8th floor of a building where he cannot smoke inside.) He relies on his PCHH nurse care manager for all transportation arrangements.

We have a 76 year-old man who is illiterate and who lives by himself in an apartment. He receives disability and Meals on Wheels. In March 2016, he had an A1C of 11.2. He has been educated on diet, activity and medication compliance. He usually sees the diabetic educator when he comes to the clinic to see his primary care provider, and he has his blood glucose values documented during these visits. Since then, with the help of his PCHH team and home health, he has seen his A1C decrease as follows:

9/7/16 – 9.1

12/1/16 – 8.6

2/21/17 – 8.2

6/6/17 – 7.3

He recently broke his dentures and was unable to eat properly. The NCM was able to find a charity that had his dentures repaired.

He also was enrolled in a Medicare plan that required a $21 monthly co-pay for diabetic supplies, and he was unable to afford them. After four months of helping get those supplies donated, the NCM called the local Area Agency on Aging, and they were able to identify an alternative Medicare plan that did not require a co-pay.

He also has chronic back pain and was unable to sleep in a standard bed, so the NCM arranged for a hospital bed, which allows him to sleep in much less pain.

The NCM arranges for his transportation so that he is able to keep appointments.

His visits to the emergency department have greatly decreased.

A 79 year-old woman lives alone and has a son and daughter-in-law who frequently check on her. She was enrolled in the PCHH in May 2017 following a hospitalization for weakness and fatigue. She had been confused and was trying to fast for labs, and was not taking her medications. She has dementia, Parkinson's, hypertension and Type II diabetes.

When the NCM met this woman, she noticed her lips were slightly blue and asked the medical assistant to check her oxygen level, which was 90 at rest. The primary care provider was notified and authorized in-home oxygen, although that is still in process.

The NCM initiated a request for home health, and also began arranging for transportation to medical appointments (she had been driving herself prior to this). Home health began making regular visits and are setting up her medications and checking her vitals. The NCM also suggested to the provider that physical therapy might help strengthen her legs.

The NCM also contacted the Division of Aging to assess her home situation. As a result, the participant has been approved for household assistance. She has also been assessed by the behavioral health consultant.

The NCM has scheduled dental and vision appointments, as well as transportation to get to them.

A housekeeper comes to her home and provides services 2 days per week.

The participant is now doing deep breathing exercises and her O2 saturation levels are in the low 90s. She is writing down her blood gases – in May they were in the 300s, and the most recent was 150 (per home health).

The home health providers say that the participant is compliant with medication. She has also received an increase in the number of Meals on Wheels she receives.