Missouri CMHC Healthcare Homes Annual Report 2019

Missouri Department of MENTAL HEALTH

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Missouri Institute of Mental Health

MISSOURI COALITION FOR COMMUNITY BEHAVIORAL HEALTHCARE

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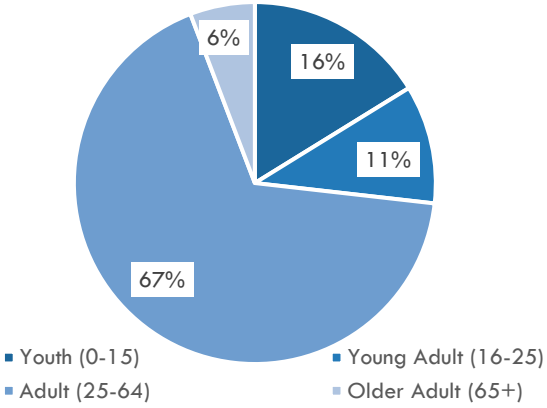
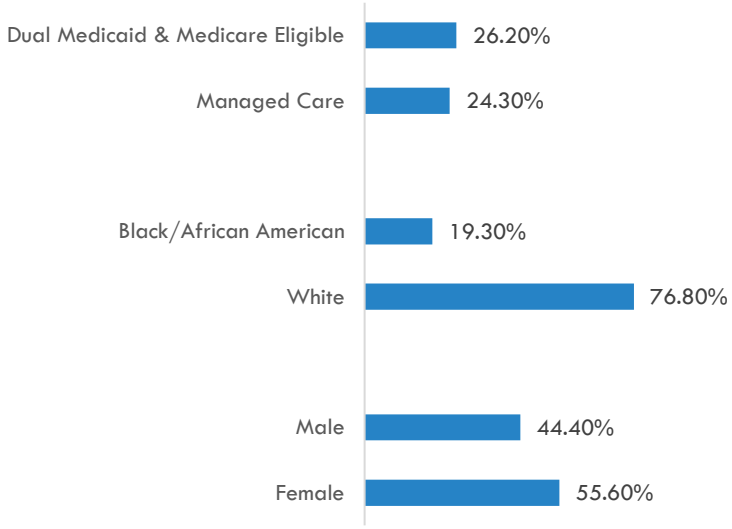
Executive Summary

As of December 2019, The Community Mental Health Center Healthcare Homes (HCH) have engaged in eight years of HCH system-wide change. Services provided by HCHs include comprehensive care, comprehensive transitional care, care coordination and health promotion, patient and family support, referral to community and social support services, and linking services through information technology.

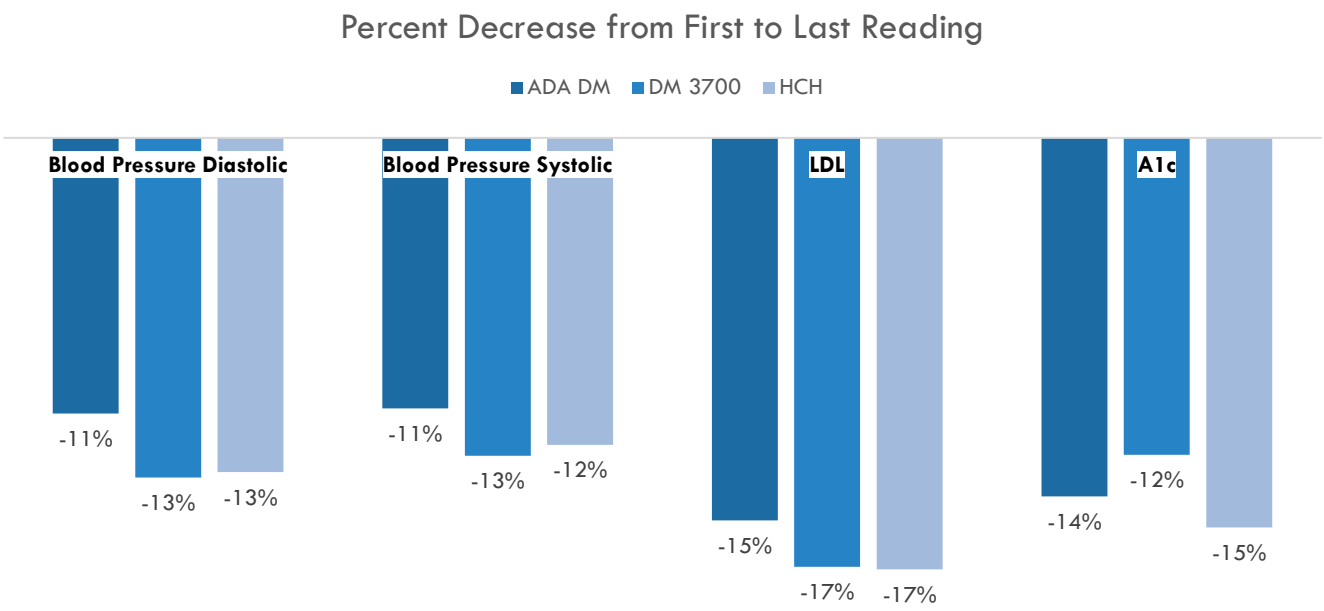
Twenty-six HCHs served 32,789 individuals. Twenty-three percent of enrollees in 2019 were new to HCH and 28% had been enrolled five or more years.



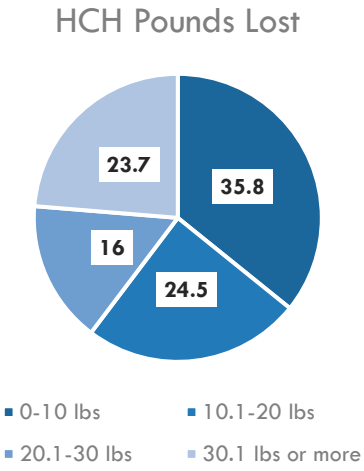


Overall, the most common diagnoses for enrollees in 2019 were depression and anxiety. Seventy five percent of HCH enrollees had between one and three mental health conditions. Twenty one percent of HCH enrollees had a substance use disorder and at least two chronic conditions.

The goals of the HCH are to improve health outcomes, reduce the use of high-cost medical services such as emergency department visits and hospitalizations and reduce the cost of healthcare for the HCH population through HCH services. The following results demonstrate the continued success of the HCH to achieve the goals of the program.



31% lost some weight



	Goal	Average Adults	Average Child/Youth
Asthma Medication Adherence	**70%**	*97%*	*97%*
Blood Pressure Control for Diabetes	**65%**	*67%*	
Hemoglobin HbA1c Control for Diabetes	**60%**	*60%*	*38%*
Blood Pressure Control for Hypertension	**60%**	*63%*	
LDL Control for Cardiovascular Disease	**70%**	*64%*	
LDL Control for Diabetes	**36%**	*65%*	
Metabolic Screening Complete	**80%**	*91%*	*90%*
Tobacco Use Control	**56%**	*41%*	*89%*
Obesity Weight Loss		*31%*	
Extreme Obesity Weight Loss		*39%*	

Enrollment and Population Characteristics

Enrollment

Population Size

Eligibility criteria for enrollment in the HCH program has remained static since the beginning of Missouri Health Homes. The number of HCHs has remained static as well with 26 operating in Missouri in 2019. It should be noted, in previous years two agencies were broken out by service area and reported separately. In January 2018, the service areas were combined and reported together within the health information technology tool which is consistent with the rest of the HCHs. Enrollees from two agencies account for approximately 37% of the HCH population. Populations of those agencies were 7,973 and 4,058. The smallest agency's population was 290 enrollees. The total number served in 2019 (32,789) increased from 2018 (32,241). Enrollment is based on total number of enrollees who had at least one attestation in 2019 at that agency. Attestations are completed each month for each client served confirming HCH services were provided.

Demographics

Adults and children are eligible for the HCH program; although, four HCHs do not serve children/youth (under 18 years of age). As shown in Figure 1, the age breakdown is as follows:

- Youth (0-15): 16%
- Youth Adult (16-25): 11%
- Adult (25-64): 67%
- Older Adult (65+): 6%

The largest group are those between the ages of 25-64 (67%) with those 15 years old and younger being the second largest population (16%) followed by those aged 16-25 and lastly those aged 65 and older. The average age of adult enrollees (18 and older) was 47 years and the average age of the children/youth population (under 18 years old) was 12 years.

The demographic breakdown is included in Figure 2. Females (56%) represent the majority of HCH enrollees. Enrollees identified as Caucasian are the largest population at 77% followed by those identified as African American making up 19%. Individuals who are dual eligible for Medicaid and Medicare may also be enrolled in a HCH; these dual enrollees accounted for 26% of the HCH adult population. Managed Care made up 24% of the population.

Overall, there was little to no variance in demographics to this year from the prior year.

Figure 1

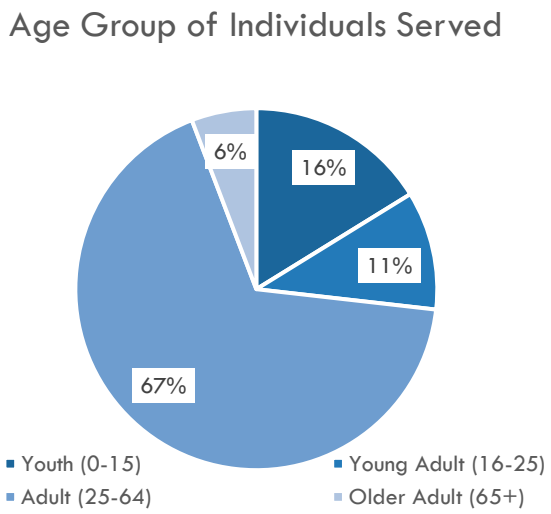
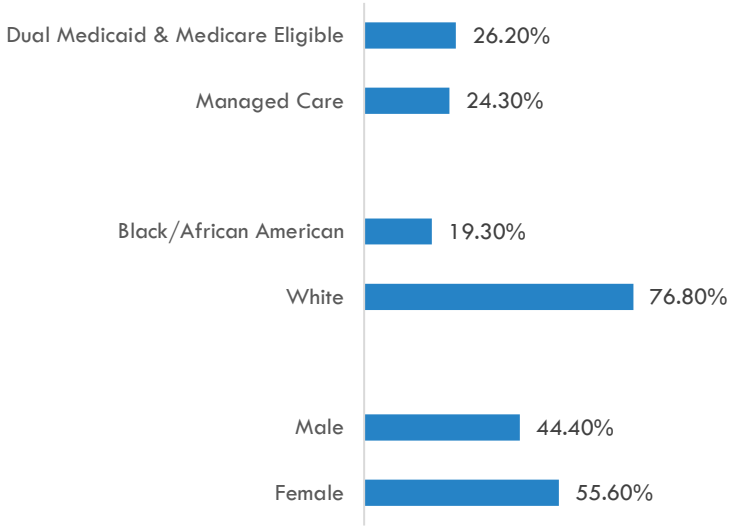


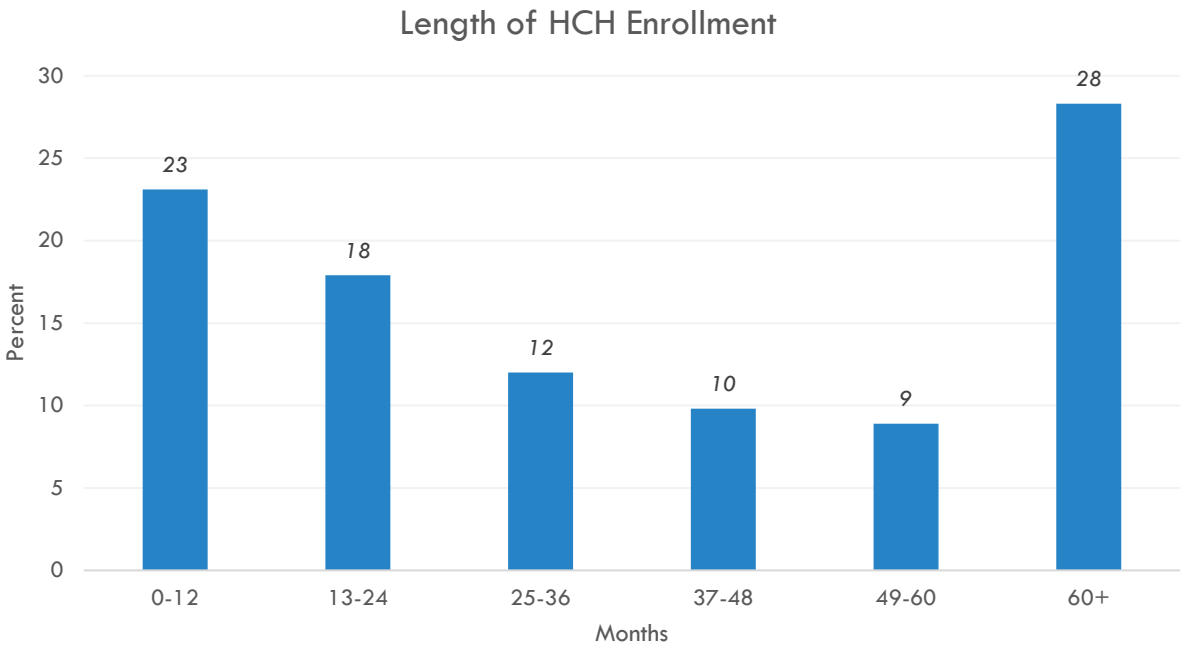
Figure 2



Length of Enrollment

For 2019, the largest percentage of people were those enrolled five years (60 months) or longer (Figure 3). The second largest percentage of people were those enrolled 12 months or less. This order switched from last year in that in 2018 the largest population were those enrolled 12 months or less and the second was those enrolled five years or more.

Figure 3



Disease Management Programs and Outreach

Disease management programs are considered an outreach arm for the HCH program. DM 3700 is a disease management program targeting individuals with serious mental illness (SMI) and high medical costs. The SUD DM program targets individuals with a substance use disorder (SUD) who also have high medical costs. Both disease management programs have a goal of engaging individuals into care and improving health outcomes and reducing related medical costs. Both programs target adults; therefore, no children in HCH are from either of the two disease management programs. Most enrollees, also part of the disease management programs, were between the ages of 25 and 64. Table 1 provides the breakdown of the DM population in relation to the total HCH population.

Table 1

	Number	HCH%	SUD DM%	DM3700%
Youth (0-15)	5325	16.2	-	-
Young Adult (16-25)	3461	10.6	4.8	4.40
Adult (25-64)	22096	67.4	93.9	90.80
Older Adult (65+)	1907	5.8	1.3	4.80
Total	32789	100	N=560	N=3476

The breakdown by gender for each program is displayed in Figure 4. The DM individuals are also included with HCH.

Figure 4

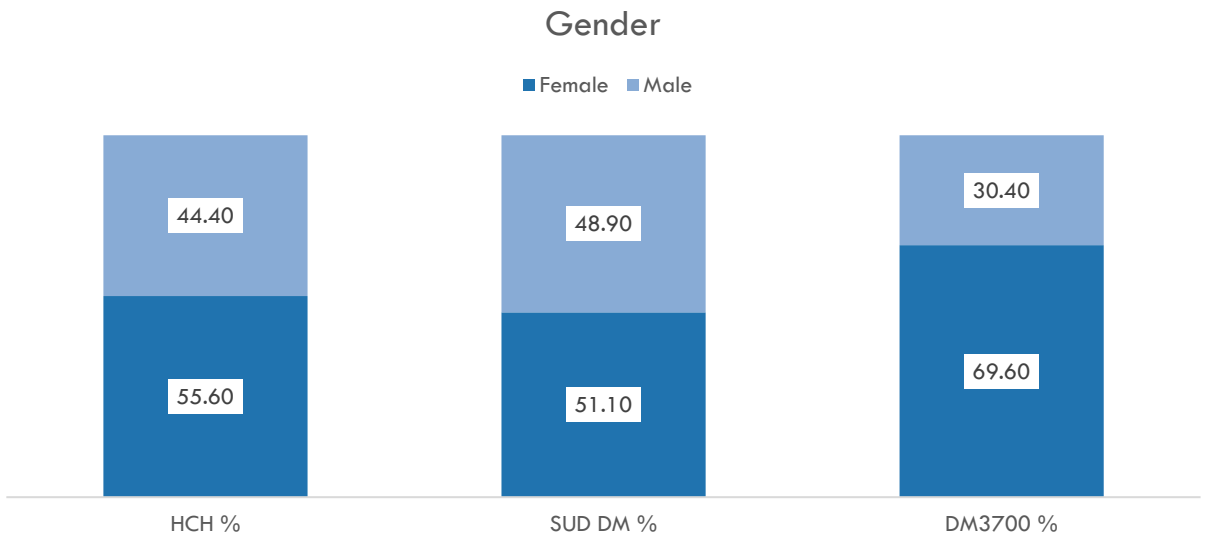


Table 2 provides the breakdown by race for each program. The DM individuals are also included in the HCH numbers. The percentage of managed care and dual eligibility by program is listed in Table 3.

Table 2

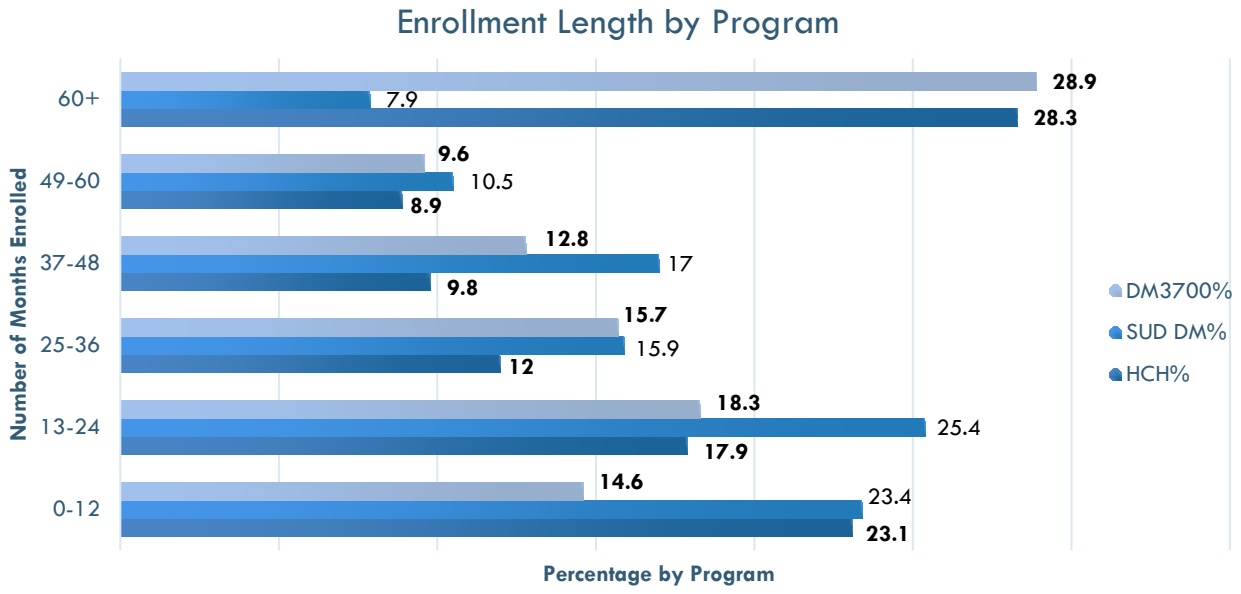
	N=	%HCH	%SUD DM	%DM 3700
White	25187	76.8%	81.5%	81.9%
Black/African American	6323	19.3%	18.3%	17.7%
American Indian/Alaskan Native	84	0.3%		
Asian	72	0.2%		0.1%
Native Hawaiian/Pacific Islander	15	0%		0.2%
Multi-racial	256	0.8%	0.2%	0.1%
Unknown	852	2.6%	3.2%	3.0%
Total	32789			

Table 3

	N=	%HCH	%ADADM	%DM3700
Managed Care	7974	24.30%	10%	4.90%
Dual Eligible	8595	26.20%	8.50%	12.60%

An overview of the length of the enrollment for each program is detailed in Figure 5. As noted above, individuals in the DM programs are also included in the overall totals of the HCH program. Overall, the HCH population were mostly enrolled five years or more or a year or less. When drilling down into the subgroups of the DM population, DM 3700 was consistent with the overall HCH population in that their largest group was enrolled five years or more but more evenly distributed in the other ranges. However, the smallest group for the SUD DM population was those enrolled five or more years and their largest groups were enrolled two years or less.

Figure 5

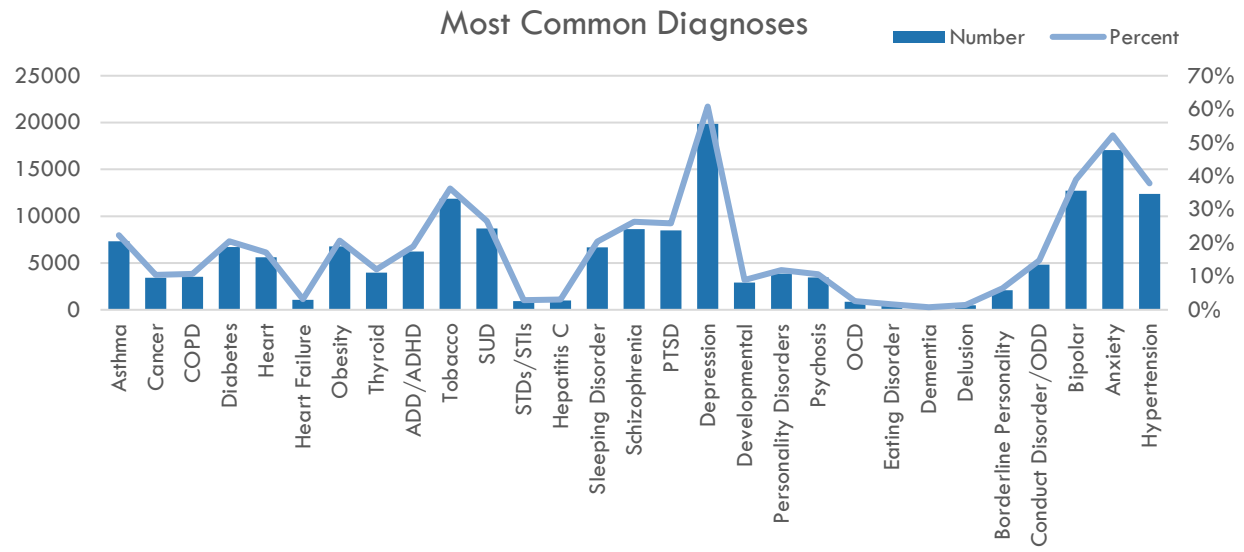


Chronic Disease Prevalence

Most Common Diagnoses Overall

The highest prevalence within the youth population (0-15) was the diagnosis of ADD/ADHD (66%) and conduct disorder or oppositional defiant disorder (50%). Depression and anxiety were among the highest prevalence for those 16-25 years of age and those 25-64 years of age. Older adults (65+) had the highest rates of hypertension (72%) followed by depression (63%). To count as "having the condition," the individual must have had to meet one of three conditions: 1) one emergency department (ED) or hospital visit with the diagnosis listed; 2) two outpatient visits with the diagnosis indicated; or 3) one outpatient visit in addition to medication indicated for the condition (e.g., corticosteroid inhaler for asthma, antipsychotic medication for schizophrenia, insulin/metformin for diabetes). The overall findings are in Figure 6.

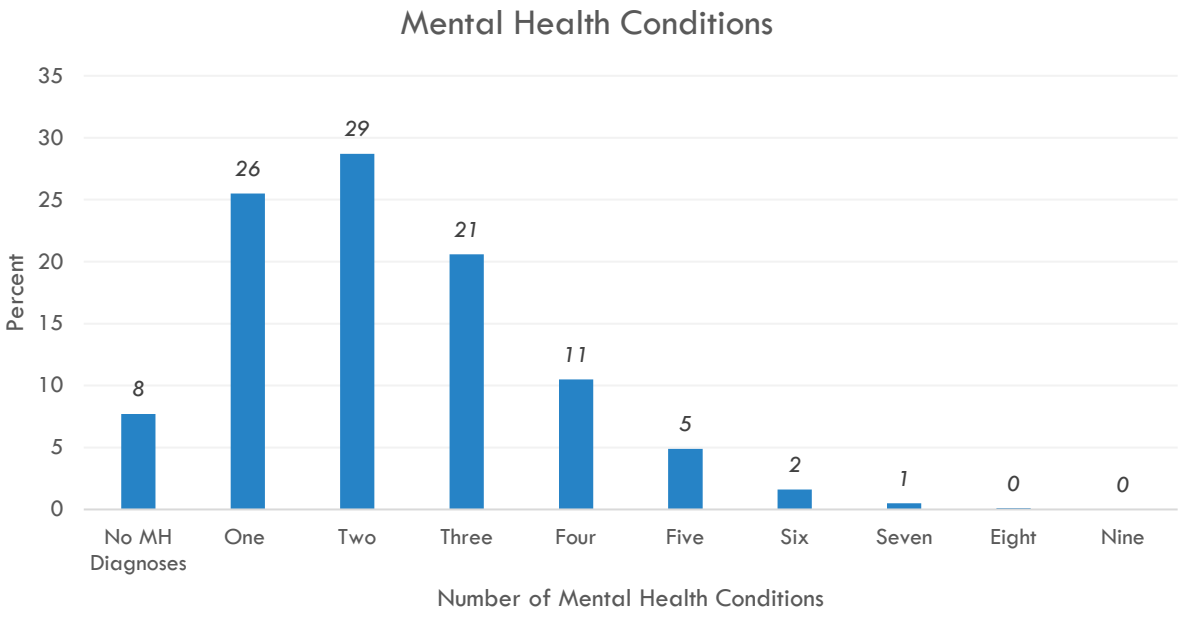
Figure 6



Behavioral Health Conditions

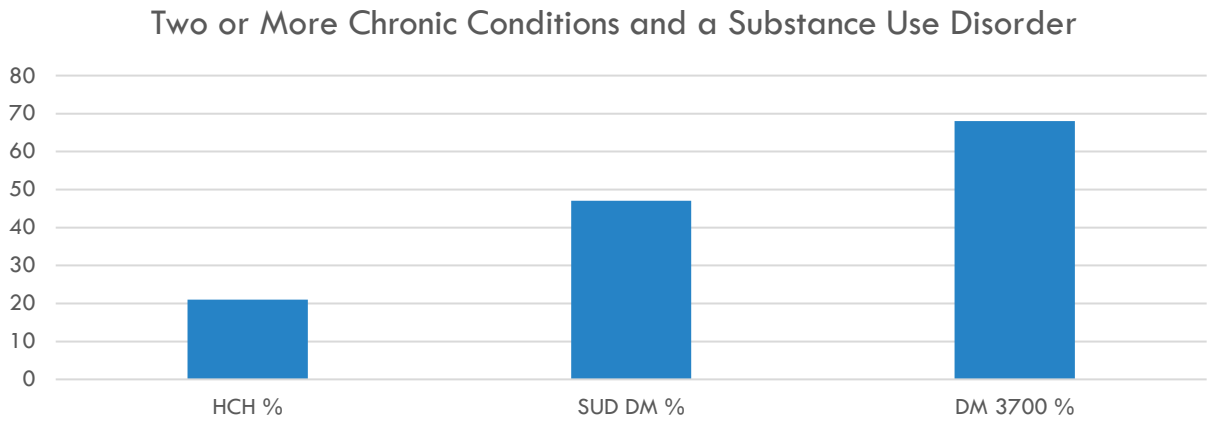
Seventy-five percent of HCH enrollees had between one and three mental health conditions. Eighteen percent had four or more mental health conditions and eight percent did not have a mental health condition as defined in this analysis (Figure 7). When you drill down into the DM population, the percent aligns with the overall breakdown shown in Figure 7. Mental health conditions include anxiety, depression, borderline personality disorder, delusional disorder, psychosis not otherwise specified (NOS), obsessive compulsive disorder (OCD), post-traumatic stress disorder (PTSD), and schizophrenia.

Figure 7



Twenty-one percent of HCH enrollees had a substance use disorder and at least two chronic conditions. These percentages increase when drilling down into the DM subgroups. SUD DM had 47% and DM 3700 had 68% of enrollees with a substance use disorder and at least two chronic conditions. Figure 8 provides that comparison between HCH as a whole and the DM subpopulations.

Figure 8



Physical Health Conditions

Forty-two percent of HCH enrollees had one or two chronic physical health conditions and 15% percent had between three and six chronic physical health conditions. Forty-three percent did not have a chronic physical health condition as defined in this analysis. For this analysis, chronic health conditions included asthma, chronic obstructive pulmonary disease (COPD), diabetes, cardiovascular conditions including heart failure and hypertension, and hepatitis C. The percentage detail of having multiple conditions can be found in Figure 9.

Figure 9

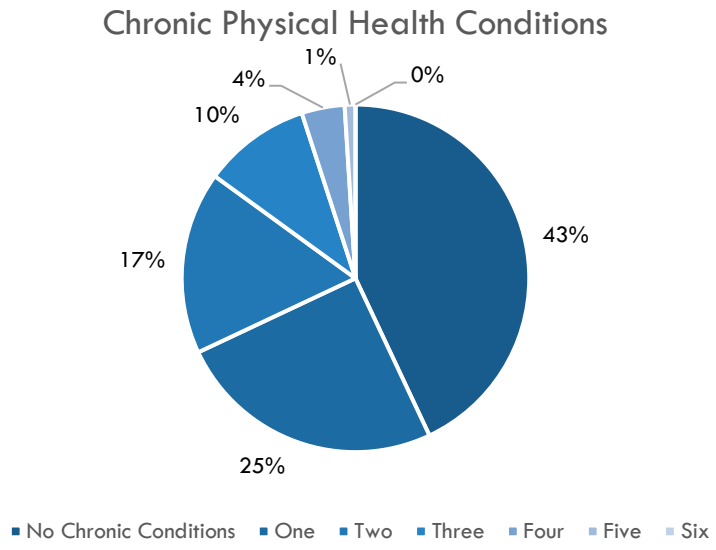
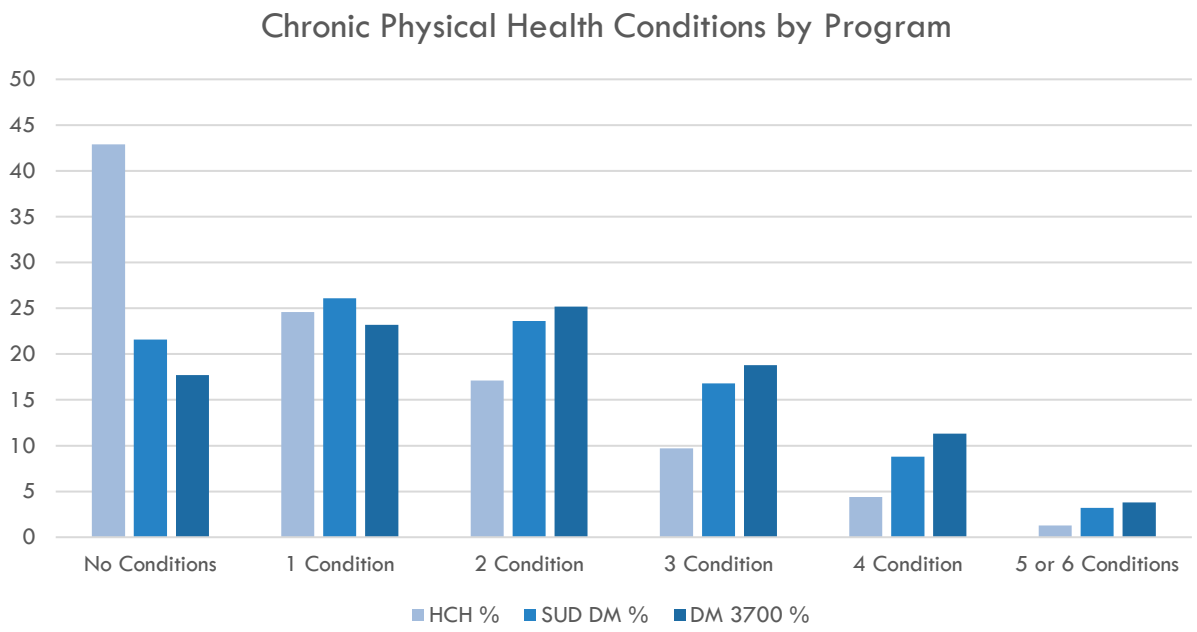


Figure 10 allows you to compare the DM subgroup in relation to the overall HCH population which has a similar alignment seen in Figure 9.

Figure 10



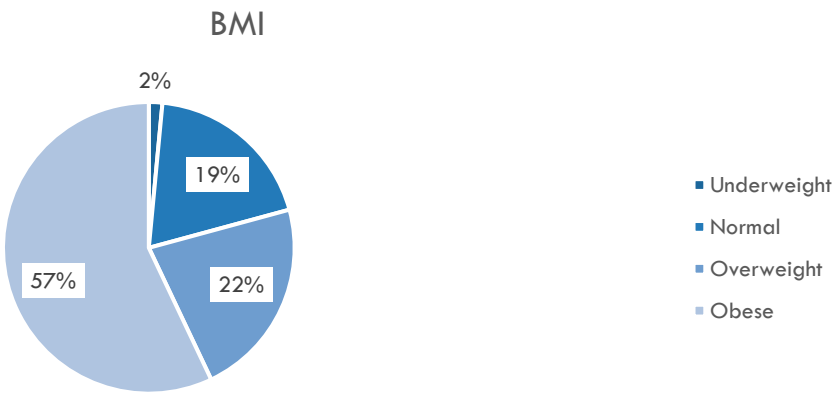
Clinical Outcomes

Data Runs

BMI and Weight Loss

Of enrollees 16 years and older, 81% had a BMI outside normal range (Figure 11). Eighteen percent of enrollees did not have data to analyze.

Figure 11



Of enrollees 16 years of age and older 31% lost some weight. To be considered in this analysis, the individual must have had at least two readings. The percent lost is fairly distributed among the categories (Figure 12). In comparison to the full HCH population, a higher proportion lost some weight with 46% of the SUD DM and 52% of the DM 3700 enrollees losing some weight. The breakdown of weight loss across the programs are included in Figure 13.

Figure 12

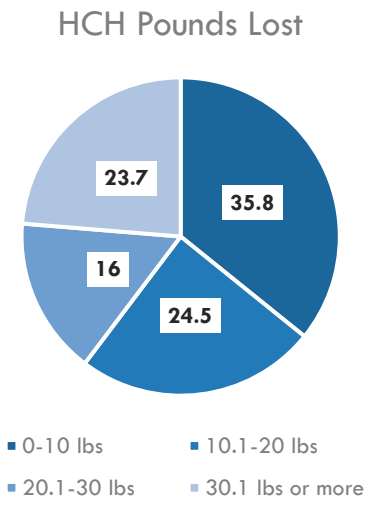
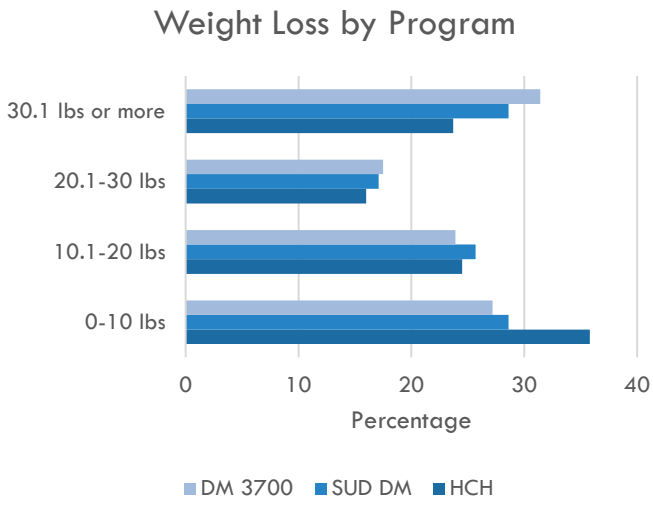


Figure 13



Blood Pressure, LDL, A1c

Of HCH enrollees with "high values" for their first recorded value, there was an average decrease in diastolic blood pressure by 13%, systolic blood pressure by 12%, 17% for LDLs, and 15% for Hemoglobin HbA1c (A1c). Figure 14 reflects the first and last averages. Figure 15 shows the difference between the first and the most recent reading and includes the DM subpopulation for comparison in relation to the full HCH population.

Figure 14

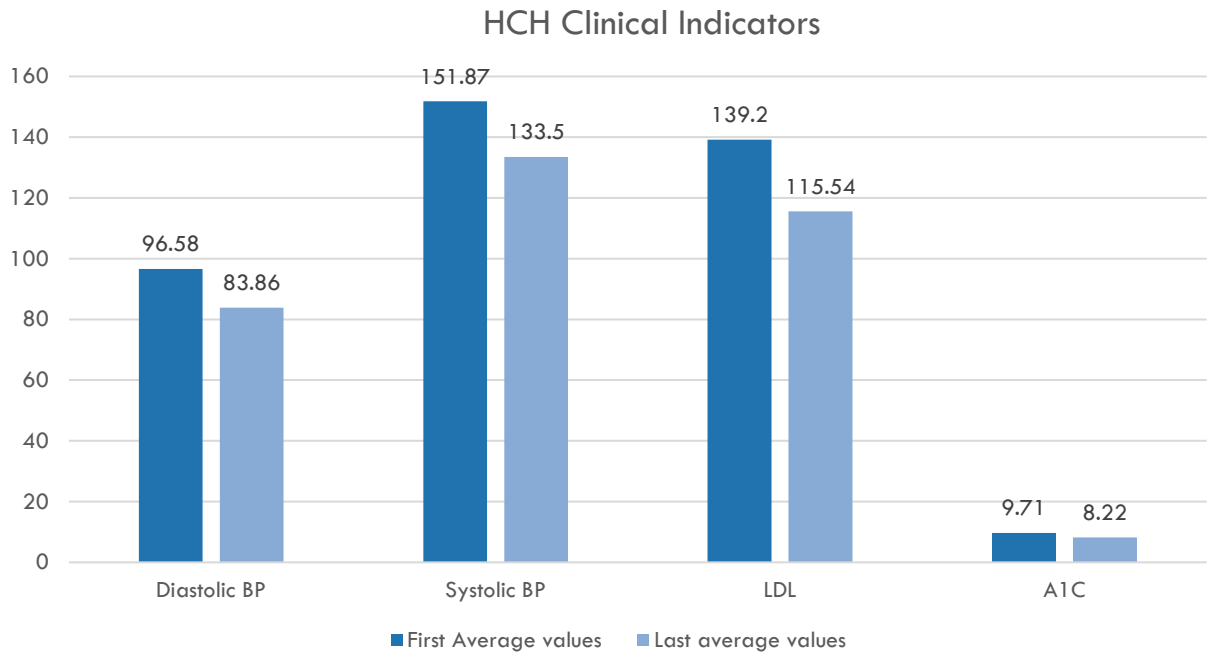
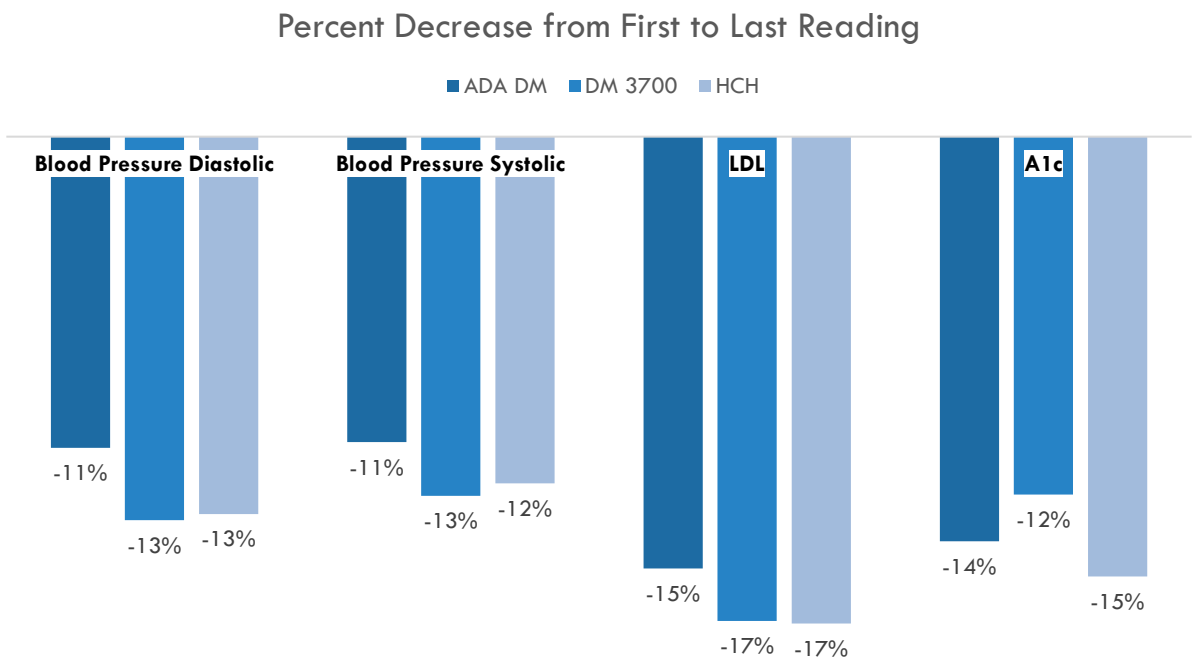


Figure 15



Snapshot of Performance Measures

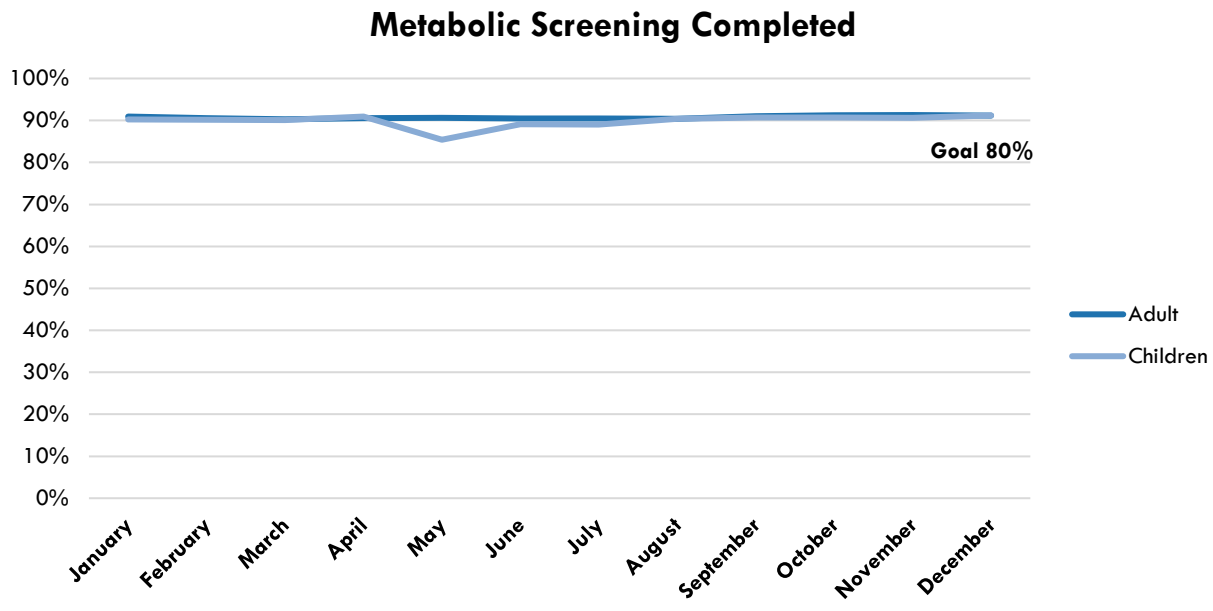
HCHs perform population health management and track performance on numerous HCH measures within the statewide health information technology tool. The measures use Medicaid claims and/or the metabolic screening data. All measures allow drill down into the client details of those considered "managed" or needing an "intervention." All measures are separated by adult defined

as 18 and older and youth which is defined as below 18 years of age. The data reported below is considered a snapshot because the performance data is pulled at a point in time. If data is added or modified after the "pull," it would not be reflected in these numbers. It should also be noted, there has been intermittent data feed issue with Medicaid claims, particularly in the first few months included in this report. To clarify, the impact would only pertain to those measures using Medicaid claims. Furthermore, the measures are only using claims to identify HCH enrollees with particular diagnoses (asthma, hypertension, diabetes, cardiovascular disease). The HCHs report the metabolic data that are used in the measures.

Metabolic Screening

Metabolic screening measures assess cardiovascular and metabolic health. They are recommended to identify changes and risks associated with cardiovascular disease and diabetes. Regular screening is important for identifying approaches to prevent cardiovascular and metabolic disease progression. Because most performance measures are based on the metabolic screenings completed on enrollees, this is a primary focus. All agencies met the benchmark goal (80%) for collecting metabolic screenings on HCH enrollees with the twelve-month statewide average at 91% for adults and 90% for youth. The monthly snapshot looked similar in which the statewide average for adults never fell below 90% for adults and only fell below 90% for children/youth on three occasions and never below 85% (Figure 16).

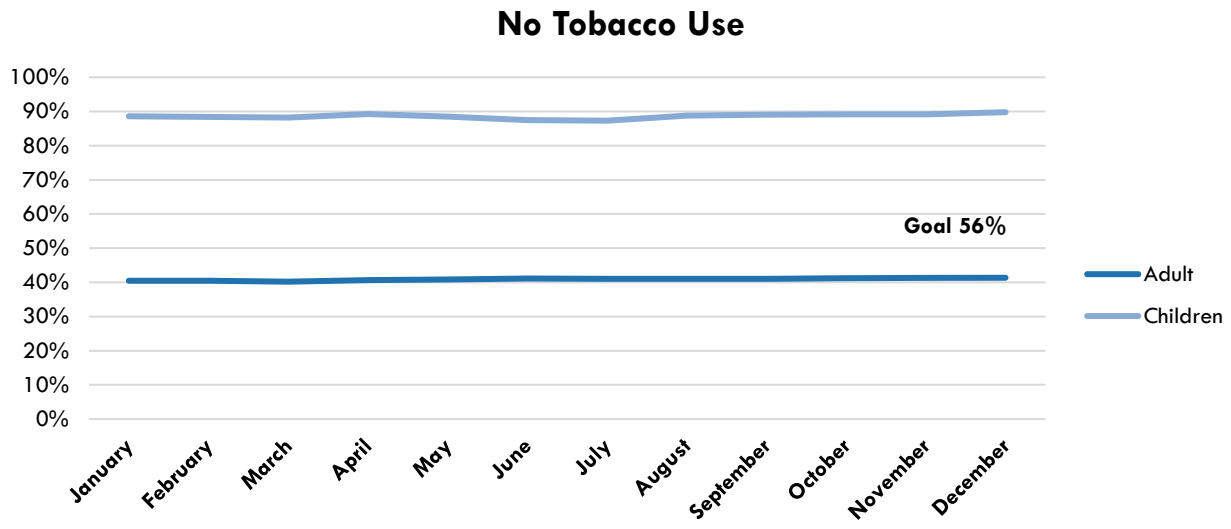
Figure 16



Tobacco Use

Tobacco use is associated with increased risk for developing cancer, respiratory, and cardiovascular disease. For the Tobacco Use Control measure, to be considered "in control" or "managed," the HCH enrollee must have a screening recorded within the previous 12 months that indicated no tobacco use. The benchmark goal for no tobacco use is 56% for adults and youth. The monthly average is provided in Figure 17. The twelve-month statewide average for no tobacco use for adults was 41% and 89% for youth.

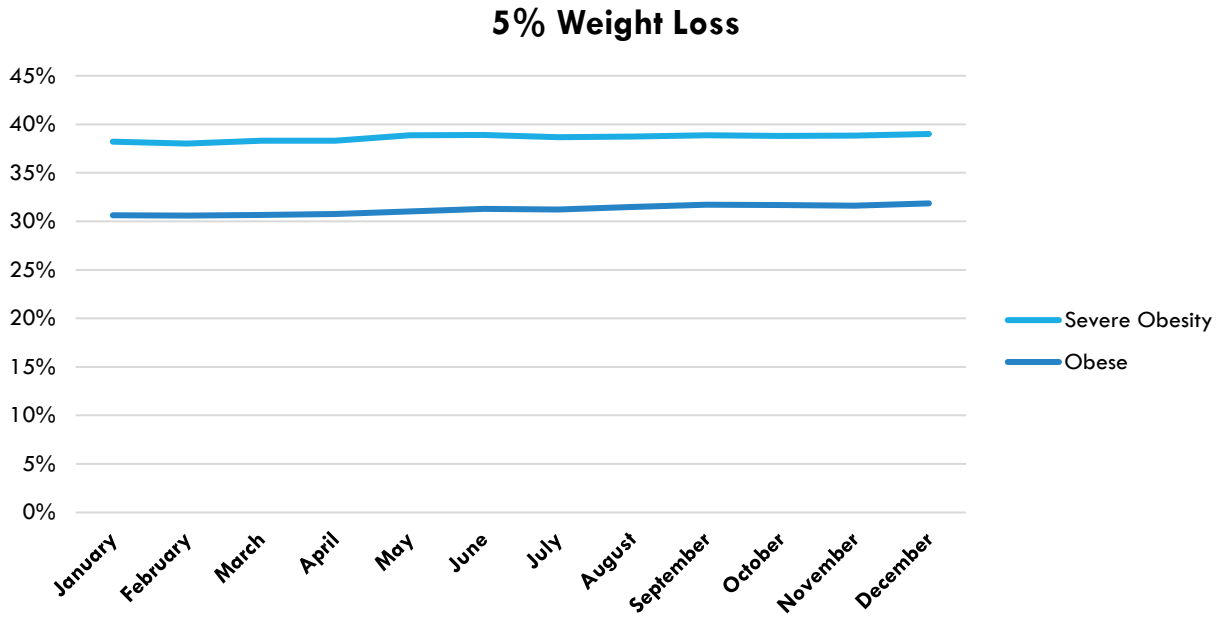
Figure 17



Weight Loss

Weight loss can improve many of the metabolic metrics being monitored in HCHs. Two weight loss measures were added in 2019 to have an additional indicator of progress or success. The two measures only include enrollees 18-75 years of age and those with at least two recorded values for weight with the most recent being reported in 2019. Benchmark goals have not yet been set for these measures. These measures are looking at the percentage of enrollees with an initial BMI in the obese (30-39) or severe obesity (40+) and determining if they lost 5% or more of their body weight since their first recorded weight. The twelve-month statewide average of 5% or more weight loss for those originally in the obesity category was 31% and 39% for those originally in the severe obesity category. The monthly averages for these measures are provided in Figure 16.

Figure 16

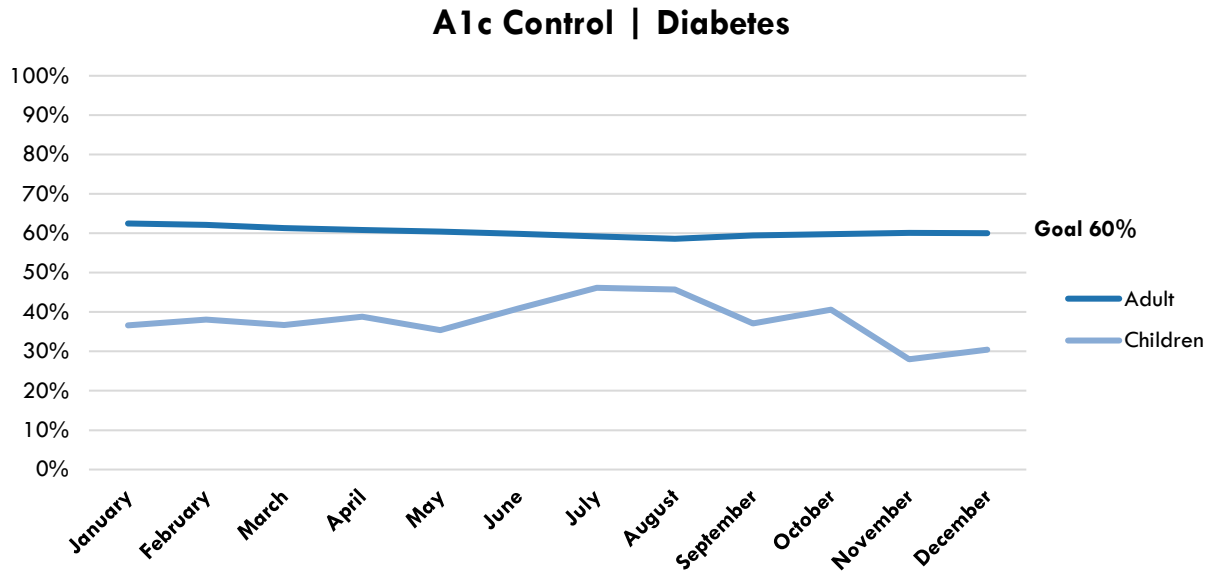


Diabetes

Enrollees were defined as having diabetes for the below measures by one of three ways 1) pharmacy data; 2) two face-to-face encounters in an outpatient or non-acute inpatient setting with a diagnosis of diabetes; or 3) one face-to-face encounter in an acute inpatient or ED setting during the current or prior year with a diagnosis of diabetes. During this measurement year, metformin was excluded from the pharmacy data due to its common use with other conditions.

A1c is an indicator of blood sugar control over time. Individuals with A1c values under 8.0 are less likely to have diabetes related cardiovascular and neurological disease complications. To be considered "in control" or "managed" for the A1c Control for Diabetes measure, enrollees with a diagnosis of diabetes (type 1 or type 2) had to have an A1c of less than 8%. The benchmark goal was 60%. The twelve-month statewide average for adults was 60% and 38% for youth. The monthly average for adults remained steady and close to the benchmark goal, whereas the children/youth remained well below the benchmark goal (Figure 17).

Figure 17



Blood Pressure and LDL

Adequately controlled blood pressure and regulation of LDL levels in individuals with diabetes can prevent or reduce cardiovascular risks and microvascular diabetic complications.

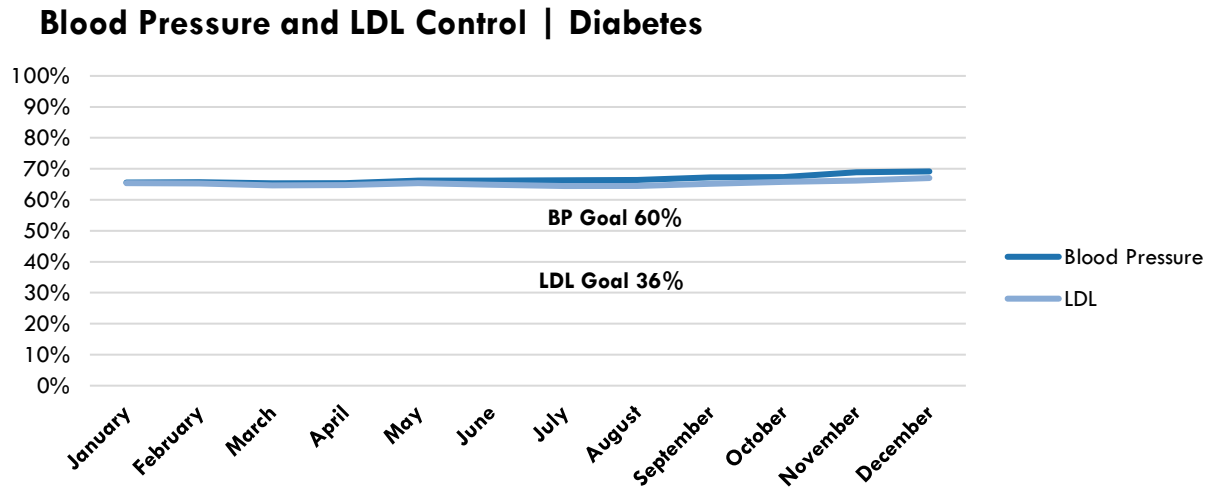
The Blood Pressure Control and LDL Control for Diabetes measures only include enrollees 18-75 years of age.

To be considered "in control" or "managed" for the Blood Pressure Control for Diabetes measure, enrollees with a diagnosis of diabetes (type 1 or type 2) had to have had a blood pressure reading of less than 140/90 mmHg. The twelve-month statewide average for those "managed" was 67%. The monthly average remained above the benchmark goal through the year.

To be considered "in control" or "managed" for the LDL Control for Diabetes measure, enrollees with a diagnosis of diabetes (type 1 or type 2) had to have had an LDL of less than 100 mg/dL. The twelve-month statewide average for those "managed" was 65%. The benchmark goal was 36% and the monthly average remained well above that goal through the year.

The monthly average for these measures is provided in Figure 18.

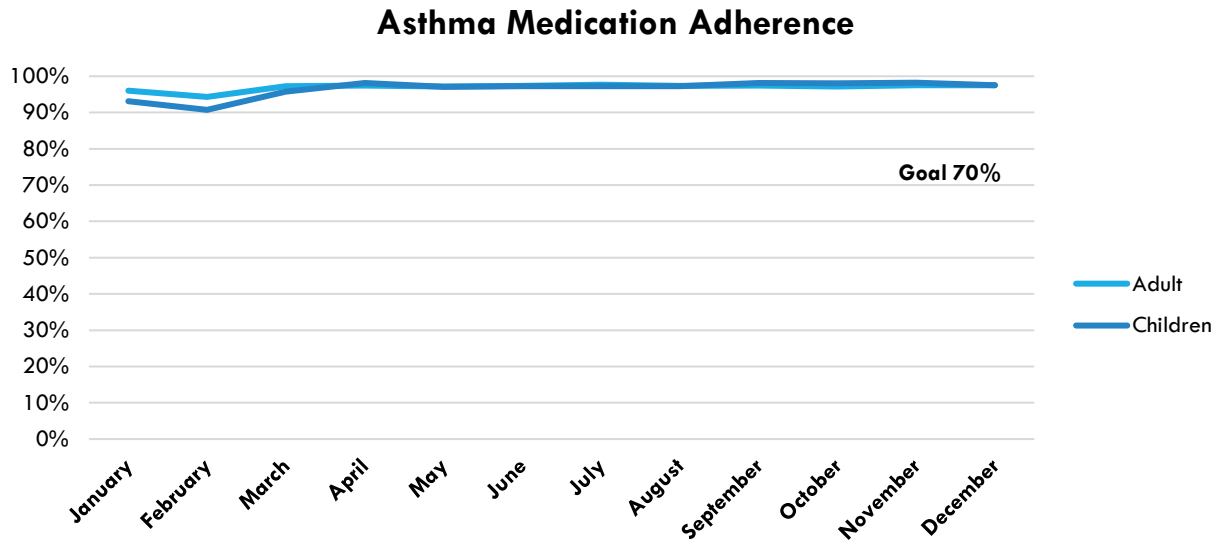
Figure 18



Asthma Medication Adherence

The consistent use of asthma controller medications reduces asthma attacks and flare-ups and can prevent the need to use stronger medications to control asthma. In this measure, asthma is defined as enrollees 1) with at least one ED visit with asthma as the principal diagnosis; 2) at least one acute inpatient encounter with asthma as the principal diagnosis; 3) at least four outpatient asthma visits with an asthma diagnosis and two asthma medication dispensing events; or 4) at least four asthma medication dispensing events. Enrollees with emphysema, COPD, cystic fibrosis, or acute respiratory failure are excluded in this measure. To be considered "managed" for this measure enrollees identified as having persistent asthma must have had an "appropriately prescribed medication." The twelve-month statewide average of those "managed" was 97% for adults and 97% for children/youth. The monthly average remained above the benchmark goal of 70% throughout the year (Figure 19).

Figure 19

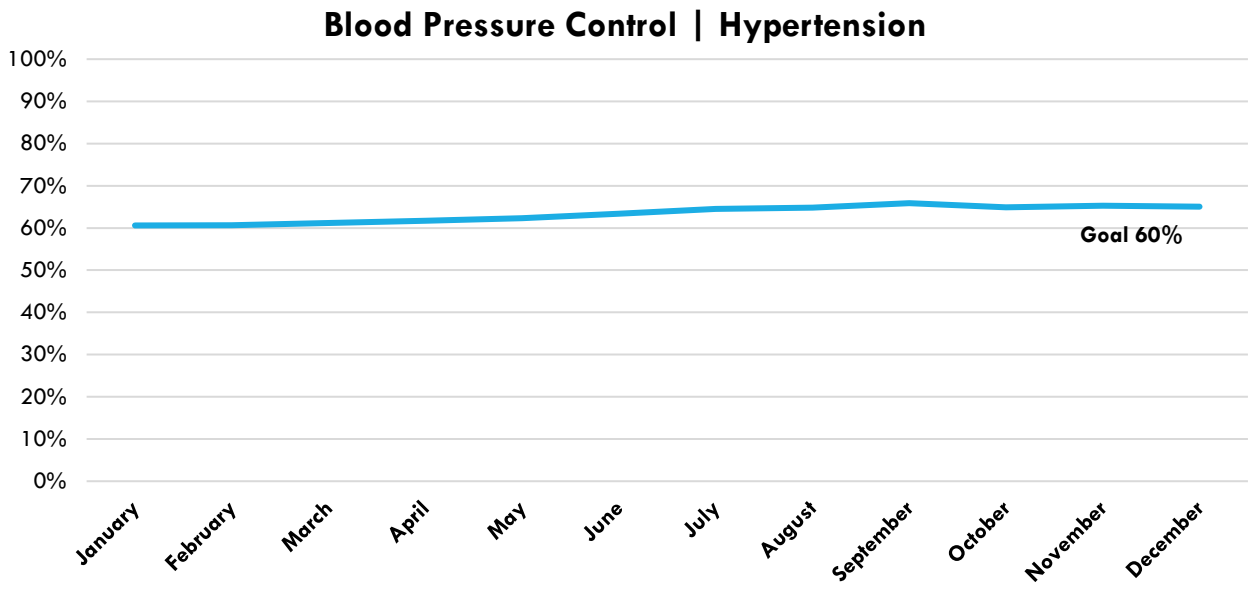


Cardiovascular Disease

Blood Pressure

Adequately controlled blood pressure in individuals reduces cardiovascular risks. The Blood Pressure Control for Hypertension measure requires an individual to have at least one outpatient encounter with a diagnosis of hypertension during the first six months of the current year. Enrollees with end stage renal disease, pregnancy, or admission to a non-acute inpatient setting during the current year are excluded from this measure. To be considered "managed" for this measure, the individual must have had a blood pressure reading of less than 140/90 mmHg during the most recent visit and within the last twelve months. This measure does not include child/youth. The twelve-month statewide average for those "managed" was 63%. The goal was 60% and the monthly average never fell below this goal (Figure 20).

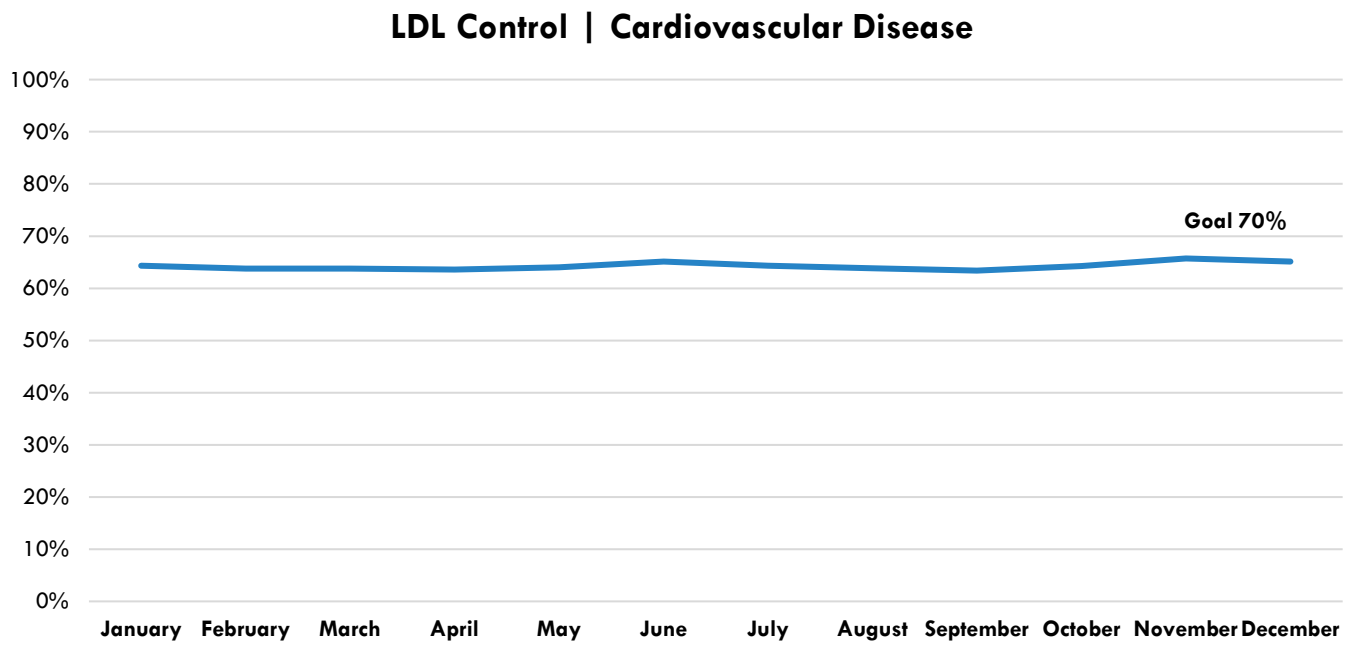
Figure 20



LDL Control

LDL cholesterol levels are indicators of metabolic and cardiovascular health. Changes in LDL cholesterol levels indicate risks for development of cardiovascular disease, diabetes, and metabolic disorder. Regulation of LDL levels can prevent diabetes and cardiovascular complications. The LDL Control for Cardiovascular Disease measure requires an individual to have a Medicaid claim for 1) any one of the following diagnoses: percutaneous coronary intervention, inpatient acute myocardial infarction, or coronary artery bypass graft in the prior year or 2) persons with one in vitro diagnostic device diagnosis with an outpatient or acute inpatient encounter during the current or prior year. To be considered "managed" for this measure their LDL must be less than 100mg/dL during the most recent visit and within the last twelve months. The twelve-month statewide average for those "managed" was 64%. The monthly average did not meet the benchmark goal of 70% (Figure 21).

Figure 21



Service Utilization

Hospital and Emergency Department Utilization

Reductions in ED use, avoidable hospitalizations, and readmission to the hospital within 30 days of discharge can have a dramatic impact on the cost of care for HCH enrollees.

Figure 22 shows the rate of hospitalizations and ED visits per 1,000 member months. Member months count the number of months within a calendar year that a person has MO HealthNet (Medicaid) coverage. Most HCH enrollees have 12 member months in a year. In the charts below, the member months for each person enrolled in HCH for each time period is being counted. As reflected in the charts, the rates of hospital visits and ED visits decrease substantially in the first several years of enrollment. Figure 23 demonstrates the reduction in percent of enrollees who have had an ED visit or hospitalization.

Figure 22

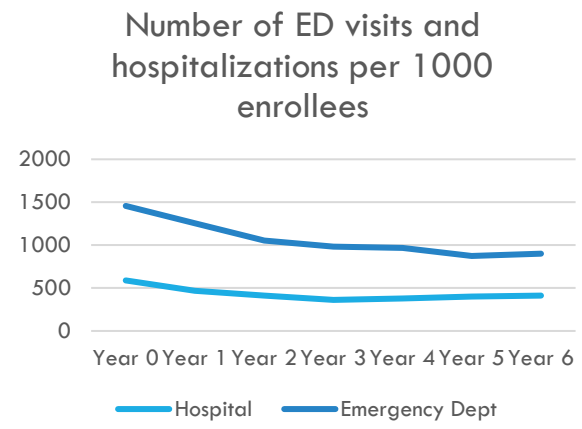
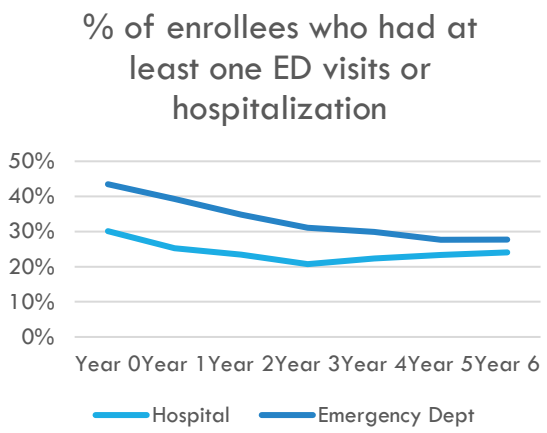


Figure 23



The breakdown of medical versus psychiatric hospitalizations are split closely with 52% psychiatric hospitalizations and 48% medical or other. Medicaid claims were used in this analysis reviewing all 2019 hospitalizations for individuals enrolled in a CMHC at any point in 2019.

As with the HCH total population, both DM programs show a decline in hospitalizations (Figure 24) and ED visits (Figure 25) the longer the individual is enrolled in HCH.

Figure 24

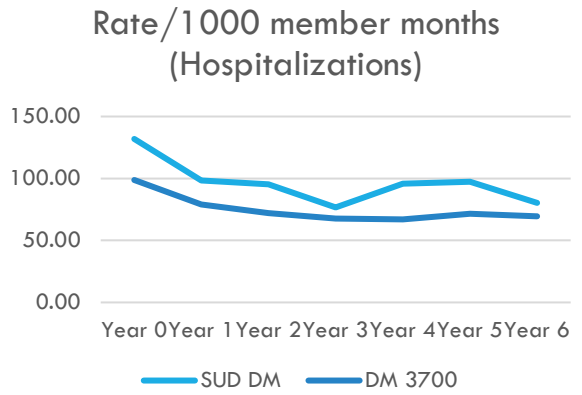
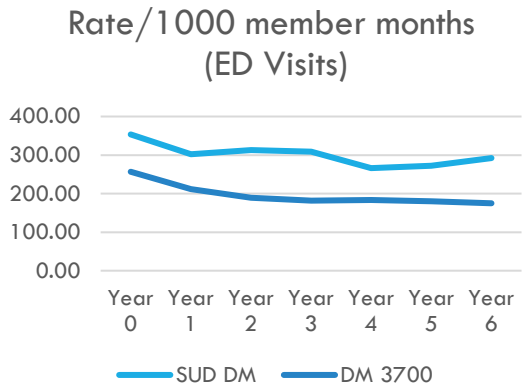


Figure 25



Improvement Steps, System-wide Change, and Future Directions

Certified Community Behavioral Health Organizations

Missouri was chosen as one of the eight states to implement a two-year demonstration project for Certified Community Behavioral Health Organizations (CCBHOs). As mentioned in the previous report, in July of 2017, 15 of the CMHC agencies that serve as HCHs became CCBHOs. The demonstration period was extended beyond this reporting period. The implementation of CCBHO required no direct impact on the way HCH services were delivered, but it is possible there may be an indirect impact on the way services were delivered as well as on the performance measures.

Though the process and population health management provided by the HCH was not to be changed, new programs may serve to either enhance or detract from long-established programs. Understanding how HCH is embedded within the culture of agencies and woven into new programs will help inform other states and agencies that may choose to adopt new practices. Furthermore, it would be beneficial to analyze and compare any differences in performance measures between HCHs that are also CCBHOs and those that are not.

Data Collection, Reporting, and Care Management

CareManager, a care coordination and health management tool, was released to all agencies in January 2018. There has been continuous work to improve the tool itself as well as the data feeds being imported into the system. Improvement to both systems will continue as new efficiencies are found and focus areas emerge.

Future Directions

1. Define best practices: The Missouri CMHC HCH has consistently met and exceeded program goals and improved population health outcomes for enrollees. There is constant process and program development taking place. Every agency has unique characteristics and has implemented the HCH in slightly different ways to best fit their populations, and agencies.

Going forward, it would be beneficial to record the characteristics and processes of the agencies who are the strongest performers across all measures in which HCH is measured. These best practices can inform implementation process measures for all agencies and inform future health home implementations. Additionally, it will be important to define both agency and system-level best practices, such as those managed at the state level.

2. Revaluate goals and update measure logic: Performance on several measures remained static above the benchmark goal throughout the year. It would also be beneficial to explore additional measures for other chronic conditions as well as measures specific to children and youth. Now that there has been time to review the new measures, benchmark goals should be added to those measures (i.e., weight loss measures). To allow for an opportunity for comparison with other state and national entities logic should be updated to match national measures where possible. Alternative or additional measures should be considered to align with changes recommended from the National Qualify Forum.

3. Targeted interventions for distinct populations: Identification of distinct populations and the examination of key interventions that may drive further clinical improvement should be explored. Identification of target populations at the state-level may be most effective for informing interventions at the agency level. Additionally, this examination may help to inform other common illnesses, or diseases that might benefit from HCH intervention.

4. Address cause of death: The average age at death is 55 when analyzing all individuals ever served in HCH. This confirms HCH enrollees have a reduced life expectancy, similar to pre-HCH studies indicating a 20-25 year reduction in life. In prior studies in Missouri, cardiometabolic factors were the top causes of mortality. Given the focus on cardiometabolic factors, it is possible that there has been a shift in mortality, and new studies examining cause of death in the HCH population can inform the effectiveness of the program at mitigating cardiometabolic risk for mortality and inform additional targets of preventative care and care management.

5. New populations: The eligibility criteria for HCH has not changed since the program was implemented in 2012. At present, the Department of Mental Health is working to develop a revision to the state plan amendment (SPA) in order to add additional criteria that would allow new populations (i.e. complex trauma) to be eligible to receive care in the HCH.