

2013

Progress Report

Missouri CMHC Healthcare Homes

Department of Mental Health and MO HealthNet

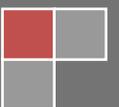


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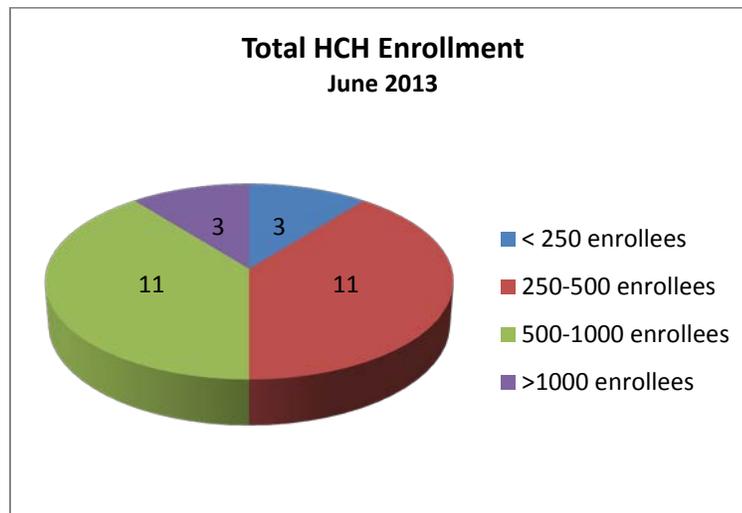
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Executive Summary

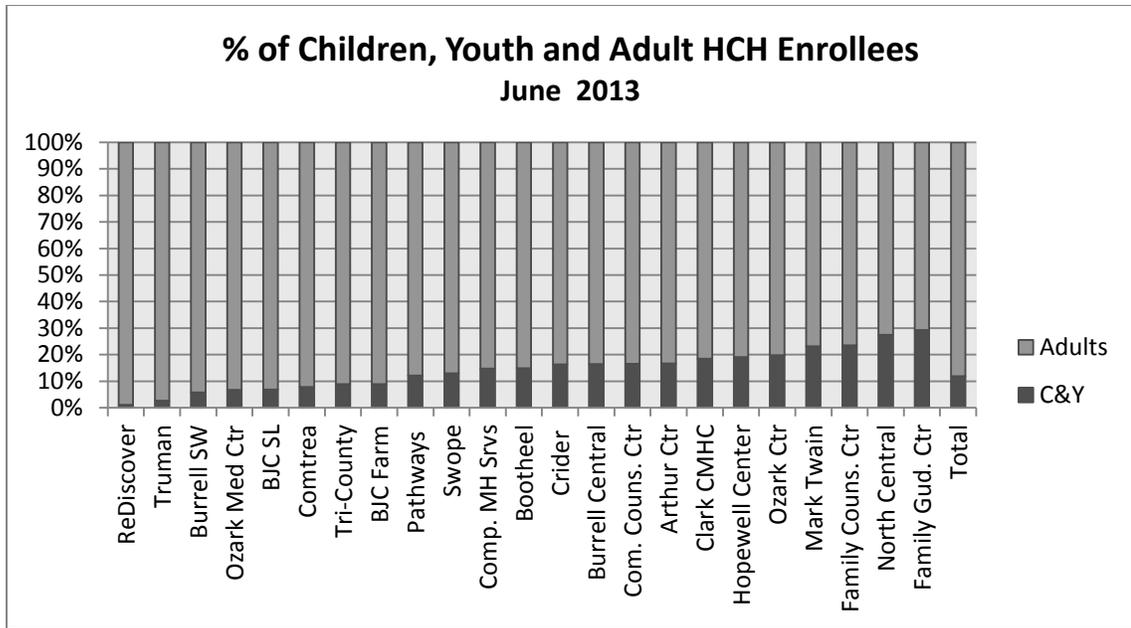
Missouri's Medicaid State Plan Amendment (SPA) authorizing the establishment of CMHC Healthcare Homes was approved in October 2011, and twenty-eight CMHCs began preparing to operate as Healthcare Homes. In November, 17,882 individuals who met the eligibility requirements for enrollment, who accounted for at least \$10,000 in Medicaid expenditures in the previous year, and who had received services from the twenty-eight CMHCs sometime in the previous year were identified for auto-enrollment in the Healthcare Homes beginning on January 1, 2012. Each CMHC began contacting the individuals that had been auto-assigned to their Health Home. Because these individuals had been identified based on data from the previous year, some were no longer receiving services from the assigned CMHC. Therefore the number of individuals actually enrolled in CMHC Healthcare Homes as of February 2012, when CMHCs had completed their efforts to contact all auto-enrollees, was actually 15,815 or 12% less than the number of individuals that had been auto-enrolled. By June 2013, the statewide enrollment in CMHC Healthcare Homes had grown to 18,408, a 16% increase over the February 2012 enrollment.

This report summarizes the characteristics of the population served by the CMHC Healthcare Homes, as well as the clinical outcomes and system impact achieved during the first 18 months of the CMHC Healthcare Home initiative (January 2012 through June 2013), with particular attention to individuals who were continuously enrolled for one year and for the entire 18 month period.

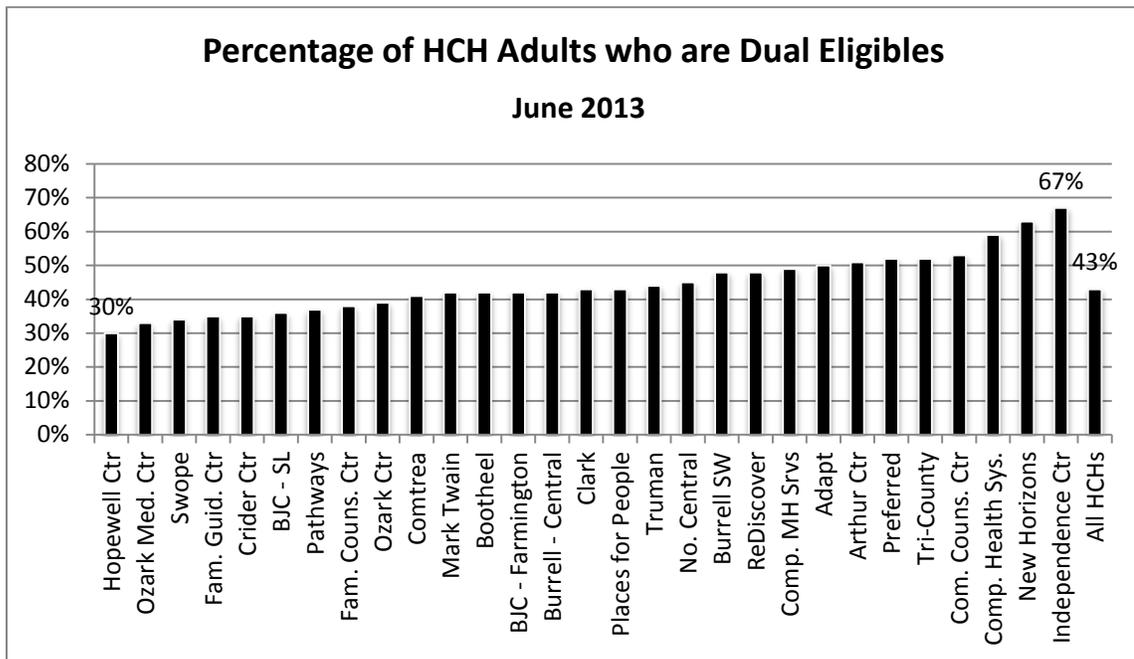
CMHC Healthcare Homes vary in size with three CMHC Healthcare Homes having fewer than 250 enrollees and three having more than 1000 enrollees.



Six CMHC Healthcare Homes serve adults exclusively, and children and youth account for only 12% of all enrollees statewide.

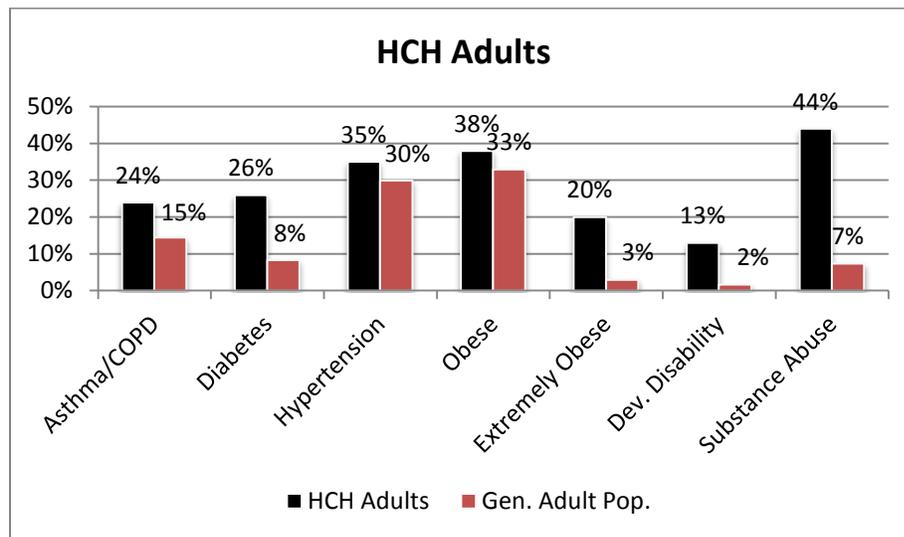


CMHC Healthcare Homes are designed for the Medicaid population, and CMHCs only receive a PMPM reimbursement for individuals whose Medicaid eligibility is current. More than 40% of all adults enrolled are eligible for both Medicare and Medicaid reimbursement (dual eligibles).



This is important because while CMHC Healthcare Homes receive extensive information about the individuals they serve based on Medicaid paid claims, they do not have access to similar data for services and supports reimbursed by Medicare. Consequently, their ability to track clinical outcomes and the system impact of health home services are significantly restricted.

All adults enrolled in a CMHC Healthcare Home have a serious mental illness, and all children and youth have a serious emotional disorder. But in addition, significant percentages of them also have, or exhibit factors that put them at risk for developing, other chronic conditions. As the following graph illustrates, the percentage of adults who are enrolled in a CMHC Healthcare home and who have Asthma, COPD, Diabetes, and Hypertension is significantly higher than the prevalence of these chronic disorders in the general adult population. A much higher percentage of the adult CMHC Healthcare Home enrollees are obese or extremely obese, and a greater percentage of these adults also have a substance abuse disorder or evidence of a developmental disability than the general adult population.



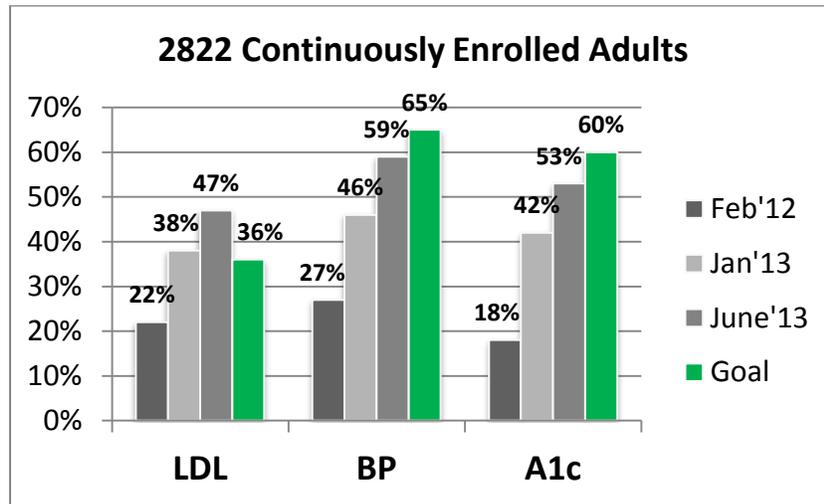
A significantly higher percentage of children and youth enrollees have asthma than the general child and adolescent population (23% compared to 10%). Many also struggle with obesity, and 25% have a history of receiving services from the Division of Developmental Disabilities.

OUTCOMES

Despite the challenges of recruiting and training new staff, learning to collect and organize new types of data, learning how to use new data reports, revising existing processes and developing new ones for managing care and providing services, developing a working understanding of the nature and treatment of chronic diseases that were previously not being given attention, and integrating a whole new approach to care management into existing teams and systems, CMHC Healthcare Homes have made remarkable progress in improving clinical outcomes and impacting the service delivery system.

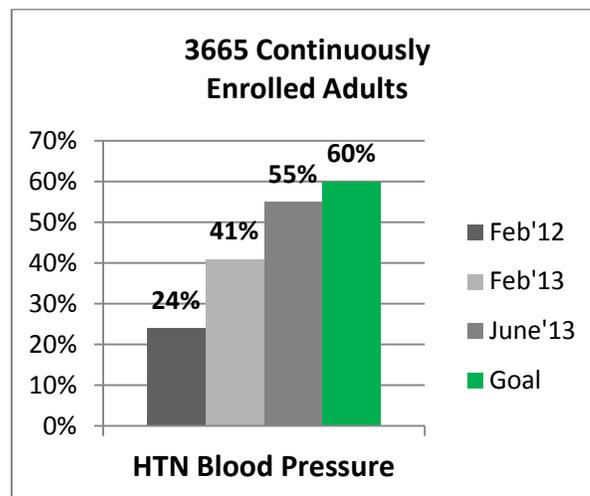
At the outset of the CMHC Healthcare Home initiative, the Department of Mental Health in collaboration with MO HealthNet established benchmark goals consistent with HEDIS measures for improving the health status of individuals with diabetes, cardiovascular disease, and hypertension. The following graphs illustrate the significant progress that has been made (from initial enrollment in February 2012 to June 2013) in improving the percentage of HCH enrollees

with diabetes that we can assure have LDL, blood pressure (BP), and A1c levels that are in control.

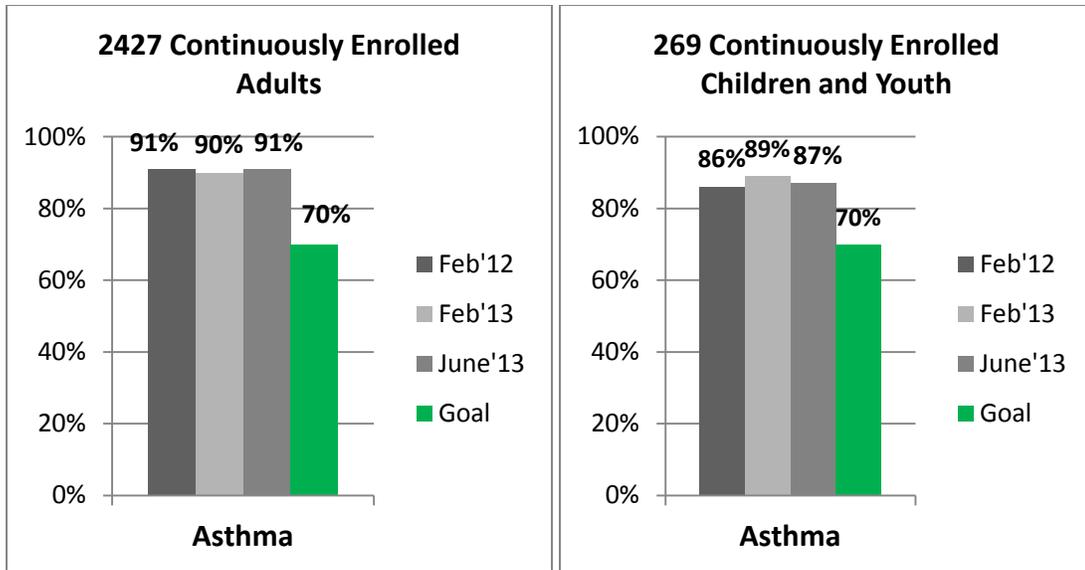


In each case, the percentage of individuals with diabetes that have LDL, blood pressure, and A1c levels that are in control, and who had been enrolled for 18 months, exceeded or was approaching the benchmark goals as of June 2013.

The percentage of individuals with hypertension with blood pressure levels in control also improved significantly and approached the benchmark goal.

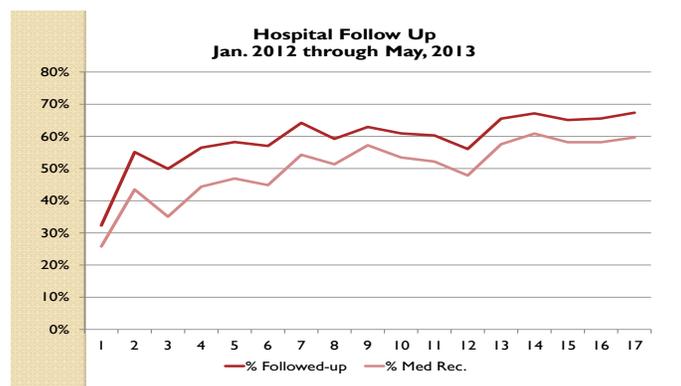


As the following graphs illustrate, from the beginning, CMHC Healthcare Homes have been successful in meeting and exceeding the benchmark goal of assuring that at least 70% of the individuals with Asthma or COPD have been prescribed a corticosteroid.



Unnecessary hospital readmissions can often be avoided when good aftercare is provided. Therefore, CMHC Healthcare Homes are responsible for following up on all hospitalizations of enrolled individuals and for completing a medication reconciliation following discharge. In February 2012, CMHC Healthcare Homes began receiving a daily e-mail notifying them when Medicaid has approved a request for payment for a hospital admission for one of their enrollees. Because this only applies to hospitalizations being billed to Medicaid, and because this information is not always timely, it is possible for Healthcare Home staff to be unaware of an admission or learn of it only after the individual has actually been discharged. Furthermore, participating in discharge planning and follow up is complicated by the fact that many CMHC Healthcare Homes must work with several hospitals. For example, one large CMHC Healthcare Home had 78 unique hospital episodes involving 38 separate hospitals in one month.

The following graph illustrates that despite these challenges, there has been a steady improvement in the percentage of HCH enrollees that CMHC Healthcare Homes have followed up with, and completed a Medication Reconciliation for, following discharge from a Medicaid authorized hospital admission.



It should be noted that each month, some CMHC Healthcare Homes are able to follow up and complete medication reconciliations on all of the hospital admissions.

IMPACT

Improvements in health status and successfully following up on hospital discharges in a timely manner are impacting the overall cost of care of the individuals enrolled in CMHC Healthcare Homes.

MO HealthNet analyzed Medicaid expenditures for hospitalization and emergency room services for CMHC Healthcare Home enrollees for the year prior to enrollment and the year following enrollment. They found that there was a 12.8% reduction in hospital admissions per 1000, and an 8.2% reduction in emergency room use per 1000 for individuals enrolled in CMHC Healthcare Homes.

Based on average costs for hospital stays and emergency room services, and adjusting for inflation, together these reductions resulted in a \$127.55 PMPM reduction in hospital and emergency room costs. CMHC Healthcare Homes receive a \$78.74 PMPM for each enrollee, so that the net savings resulting from the reduction in hospital and emergency room use was $\$127.55 - \$78.74 = \$48.81$ PMPM, or an overall cost savings of approximately \$2.9 million.

An alternative approach to assessing the cost of care is to compare the total cost to Medicaid of all care for the year prior to enrollment with the total cost to Medicaid of all care for the year following enrollment in a CMHC Healthcare Home. MO HealthNet and DMH analyzed total Medicaid cost for the 12,105 individuals who were enrolled for at least nine months during 2012. Almost one-half (5,949) of these were dually eligible for Medicare and Medicaid. These dually eligible enrollees showed a substantial cost savings to Medicaid. But since we do not have access to Medicare cost data, we are unable to determine the overall cost of care for these individuals. Medicaid was the sole payer for the remaining 6,156 individuals. These individuals accounted for a net savings of \$32.98 PMPM, over and above the \$78.74 PMPM cost of the CMHC Healthcare Home; or a total savings to Medicaid of more than \$2.4 million compared to the cost of their care in the year prior to enrollment in a CMHC Healthcare Home.

CONCLUSIONS

CMHC Healthcare Homes have been effective in both improving the health status of enrollees and reducing the cost of care.

Creating the data collection and reporting systems to enable CMHC Healthcare Homes to have accurate and timely data on which to assess, and measure progress toward improving, health status and system impact has been among the greatest challenges of the nearly first two years of the health home initiative, demanding a significant amount of time and attention by clinical and administrative staff alike. The inability to have access to Medicare data significantly hampers

the ability of CMHC Healthcare Homes to have a complete picture of the services and supports individuals are receiving. Nevertheless, the data collection and reporting systems have now improved to a level where attention can be directed away from assuring the data is accurate and timely, and that reports are meaningful, to using reports to better guide interventions aimed at improving health status and reducing or eliminating inappropriate or unnecessary service utilization.

The following report provides information on additional outcomes of the CMHC Healthcare Home initiative; documents that the CMHC Healthcare Homes have made appropriate progress in continuing to develop health home functionality; describes some of the challenges faced by CMHCs in implementing this major system change; and also suggests some of the ways in which the CMHC Healthcare Home initiative may need to be revised in order to achieve even better outcomes and a greater impact on the cost of care.

SECTION 1: ENROLLMENT

In October 2011, using Medicaid paid claims data, DMH identified 17,882 individuals to be initially auto-enrolled in the CMHC Healthcare Homes. Each of these individuals had a serious mental illness or serious emotional disorder, had cost Medicaid at least \$10,000 for the period of July 2010 through August 2011, and had been engaged in service with a CMHC during that period.¹

A. Healthcare Home Enrollees

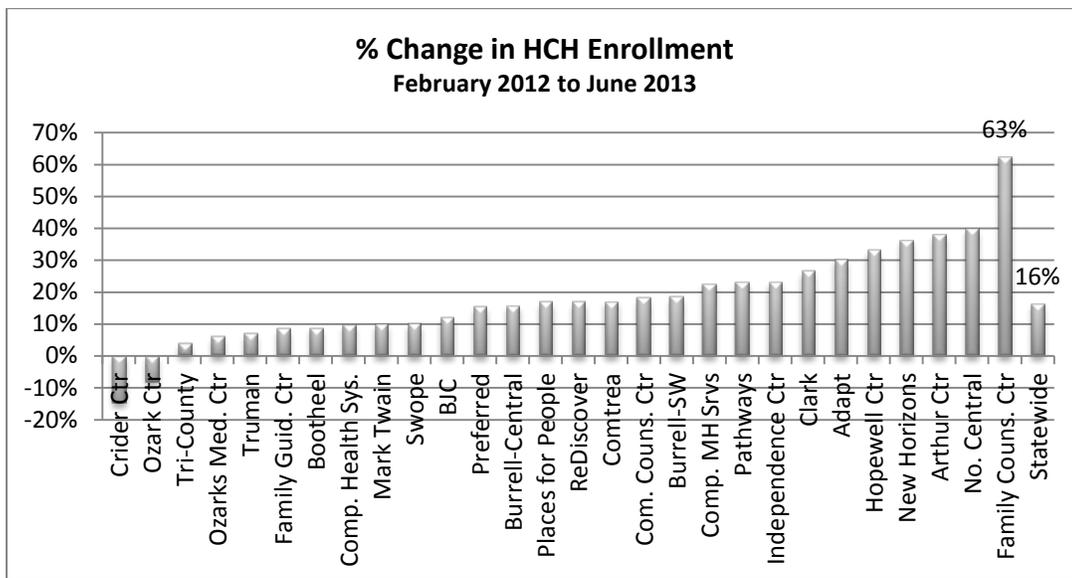
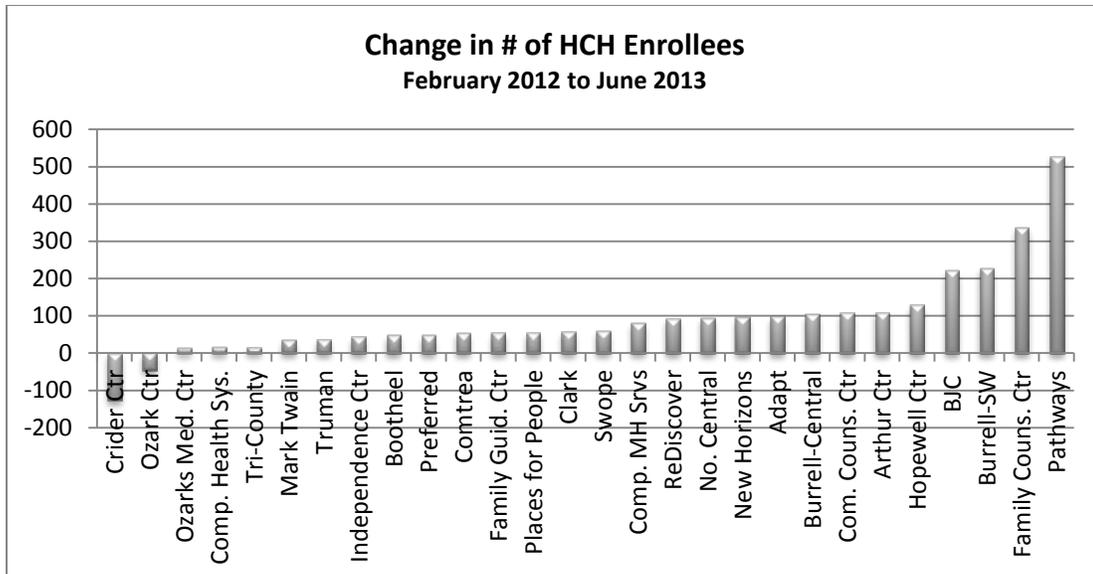
Since the auto-enrollees had been identified based on Medicaid paid claims from the year prior to August 2011, by January 2012 when the CMHCs first began serving HCH enrollees, some individuals were no longer in service with the CMHC, either having moved or discontinued service; others were now deceased; and still others were no longer Medicaid eligible or were in a Medicaid status that prevented them from being eligible for a CMHC Healthcare Home PMPM payment. In addition, a few individuals, or their guardians, chose to opt out of the HCH program. Consequently, by February 2012, CMHCs were only able to engage 15,815, or 88%, of the auto-enrollees in HCH services, more than 2,000 fewer individuals than had been anticipated.²

Although CMHC Healthcare Homes could enroll additional individuals who met the health home diagnostic criteria, during the first several months of 2012, as CMHC Healthcare Homes continued to engage with the individuals who had been auto-enrolled, the number of individuals that CMHC Healthcare Homes attested to serving remained relatively constant, increasing by 4% to 16,439 enrollees in June 2012. By year's end, CMHC Healthcare Homes were attesting to providing health home services to 18,067 total enrollees, an increase of 14% over the course of 2012; and as of June 2013, CMHC Healthcare Home attested to providing health home services to 18,408 for an overall increase of 16% since the inception of the program.

There is significant variation in the growth experienced by individual CMHC Healthcare Homes. (See below.) Because they were unable to actually engage a significant number of auto-enrollees for the reasons described above, two CMHC Healthcare Homes now have fewer enrollees than were auto-enrolled with them in January 2012. By contrast, six CMHC Healthcare Homes increased their enrollment over the course of the year by 30% or more.

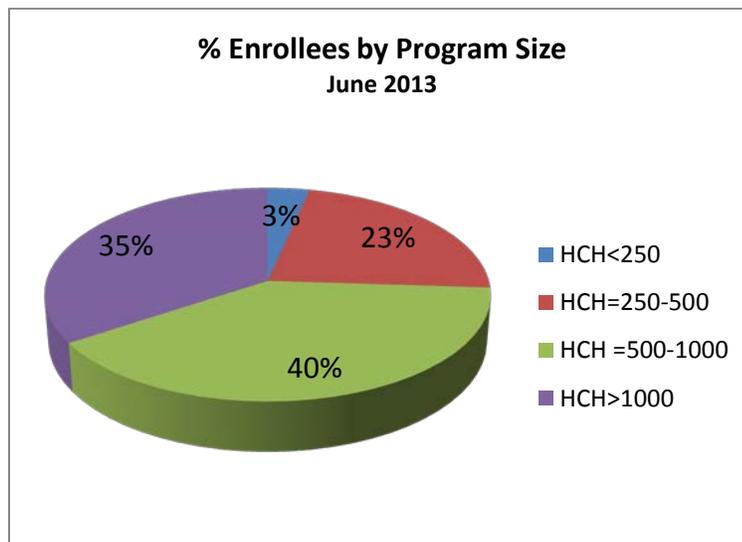
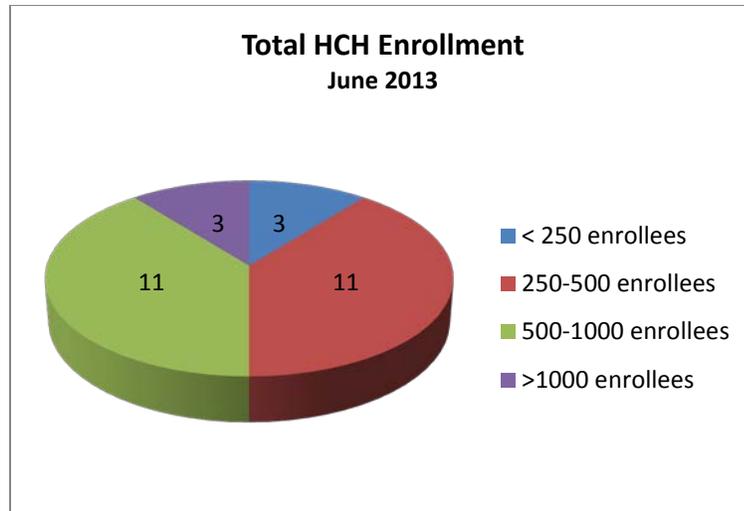
¹ It was assumed that an individual's high Medicaid costs both suggested that they had significant medical needs that might benefit from the health care coordination offered by the HCH, and that care coordination might result in significant cost savings. \$10,000 was the minimum annual cost to Medicaid of these individuals. The actual average annual cost for these individuals was more than \$24,000, and some individuals had cost Medicaid \$100,000 and more.

² Individuals who had been auto-enrolled but who were no longer in service with a CMHC, no longer eligible for Medicaid, in a Medicaid status inconsistent with enrollment in a health home, or who opted out were discharged from the HCH program.



B. CMHC Healthcare Home Program Size

As illustrated by the following charts, CMHC Healthcare Homes vary in size of enrollment with an equal number of CMHC Healthcare Homes having more than and fewer than 500 enrollees. The three largest CMHC Healthcare Homes account for more than one-third of all the HCH enrollees in Missouri.



Comprehensive Health Systems (169 enrollees) and Ozarks Medical Center (226 enrollees) are the two CMHC Healthcare Homes with the fewest enrollees, and BJC Behavioral Health (2,036 enrollees) and Pathways (2,817 enrollees) are the two CMHC Healthcare Homes with the greatest number of enrollees.

C. Eligibility

Individuals are eligible for enrollment in a CMHC Healthcare Home by virtue of having:

- A serious and persistent mental illness, **or**
- A mental health condition and a substance abuse disorder, **or**
- A mental health condition or a substance abuse disorder, and one of the following chronic conditions or risk factors:
 - Diabetes
 - COPD/Asthma

- Cardiovascular Disease
- Developmental Disability
- BMI>25
- Use tobacco.

D. DM 3700 Enrollees

Prior to development of the CMHC Healthcare Home initiative, the Department of Mental Health collaborated with MO HealthNet to reach out and engage individuals in service who had a psychiatric diagnosis but who had not previously been connected with a CMHC. On average these individuals cost Medicaid more than \$38,000 in the previous year. In addition to their psychiatric diagnosis, about one-third also had a diagnosis of diabetes, one-third had a diagnosis of asthma, one-third had a diagnosis of COPD, and more than 10% were suffering from congestive heart failure. This initiative was dubbed the “DM 3700” project, with “DM” standing for ‘disease management’ and “3700” representing the initial cohort of individuals that were thought to qualify for outreach and engagement.

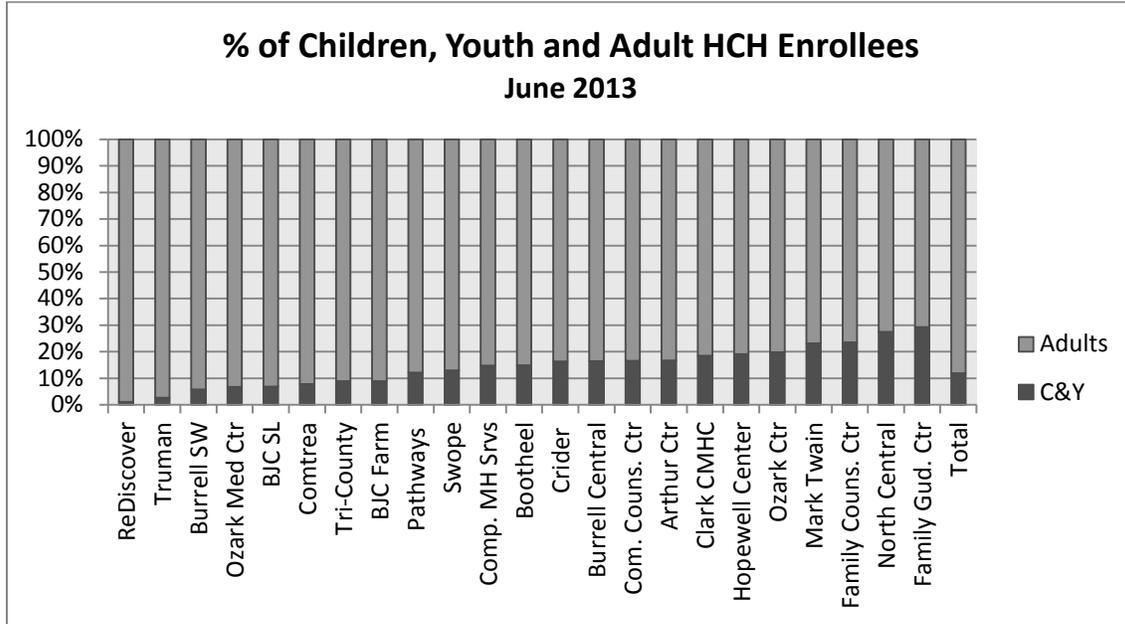
Each quarter, beginning in November 2010, each CMHC was given a list of individuals who met the criteria and who had addresses in its service area. CMHCs then made an effort to locate and engage these individuals in service. Some individuals could not actually be located, and some refused to engage in care. But each quarter, new individuals were enrolled in service.

The DM 3700 project showed immediate and significant improvement in the health status of the individuals that were engaged in service and significant reductions in the cost to Medicaid for their care. In fact, the early success of the DM 3700 was one of the factors contributing to Missouri’s enthusiasm for establishing CMHC Healthcare Homes and much of the work being done with DM 3700 enrollees drove the design of the CMHC Healthcare Homes.

DM 3700 enrollees were among the cohort of individuals auto-enrolled in CMHC Healthcare Homes. CMHCs continue to receive lists of individuals to locate and engage in service on a quarterly basis, and individuals who are engaged are expected to be enrolled in the CMHC Healthcare Home program. In effect, DM 3700 has become the outreach arm of the CMHC Healthcare Home program.

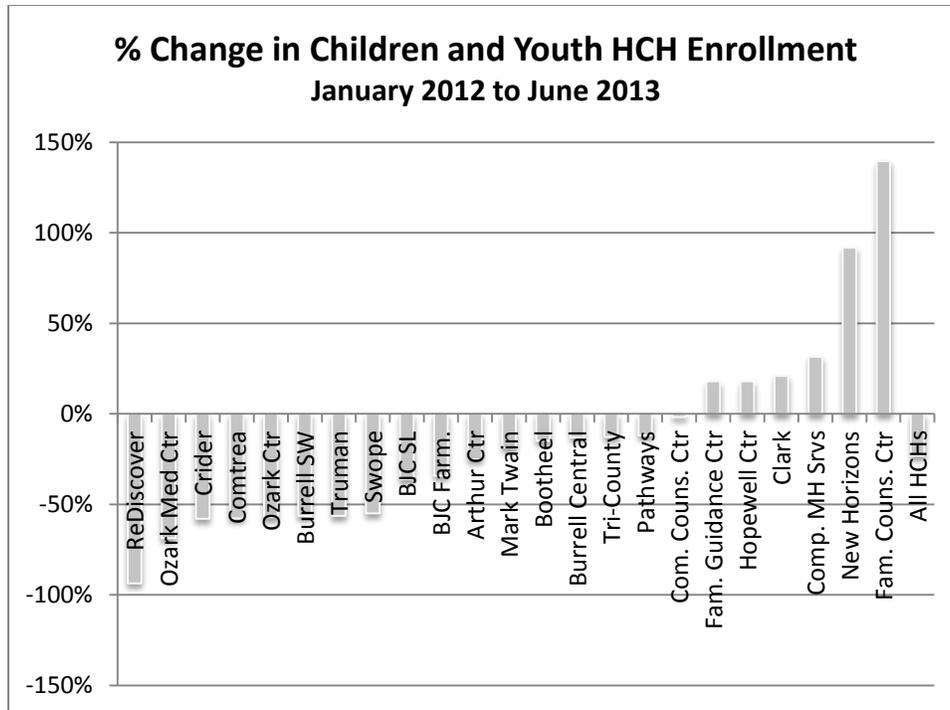
E. Children, Youth and Adults

Individuals are eligible for enrollment in a health home regardless of age. However, six of the participating CMHCs only serve adults³, and as the following table illustrates, children and youth account for a small percentage of the HCH enrollees served by the CMHCs that do serve children and youth. As of June 2013, only 12% of CMHC Healthcare Home enrollees were children or youth.



In addition, as the following table illustrates, the total enrollment of children and youth declined by 26% between January 2012 and June 2013; and the number of children and youth enrolled increased in only six CMHC Healthcare Homes during this time period.

³ Adapt, Comprehensive Health Systems, Independence Center, New Horizons, Places for People, and Preferred Family Healthcare serve adults, exclusively.



Several CMHC Healthcare Homes have struggled with the best way to serve children and youth enrolled in their health home, expressing concerns that the Nurse Care Manager position, as presently conceived and constructed, may not be appropriate to meet the needs of children and youth, and suggesting that other types of staffing, and a different emphasis, may be required to more effectively serve children and their families.

However, a few CMHC Healthcare Homes have experienced more success with the current model and have expanded their children and youth enrollment.

Consideration is currently being given to modifications to the CMHC Healthcare Home model that might better meet the needs of children, youth, and their families (See “Section 9: Implications”).

F. Medicare/Medicaid Dual Eligibles

The percentage of adults who are eligible for reimbursement for services from both Medicaid and Medicare is important for several reasons.

First, it is important because the HCH Care Management Reports and the daily hospital admissions reports are based on Medicaid paid claims and Medicaid authorizations, respectively (See “Section 4: Care Management and Clinical Outcomes”). Consequently, the Care Management Reports do not reflect services or medications purchased by Medicare, and the daily hospital admissions notifications that CMHC Healthcare Homes receive do not capture admissions paid by Medicare. Therefore, the higher percentage of dual eligibles enrolled in a CMHC Healthcare Home, the greater the likelihood that the HCH will have less than a complete picture of the health status and service utilization of enrollees, spend time

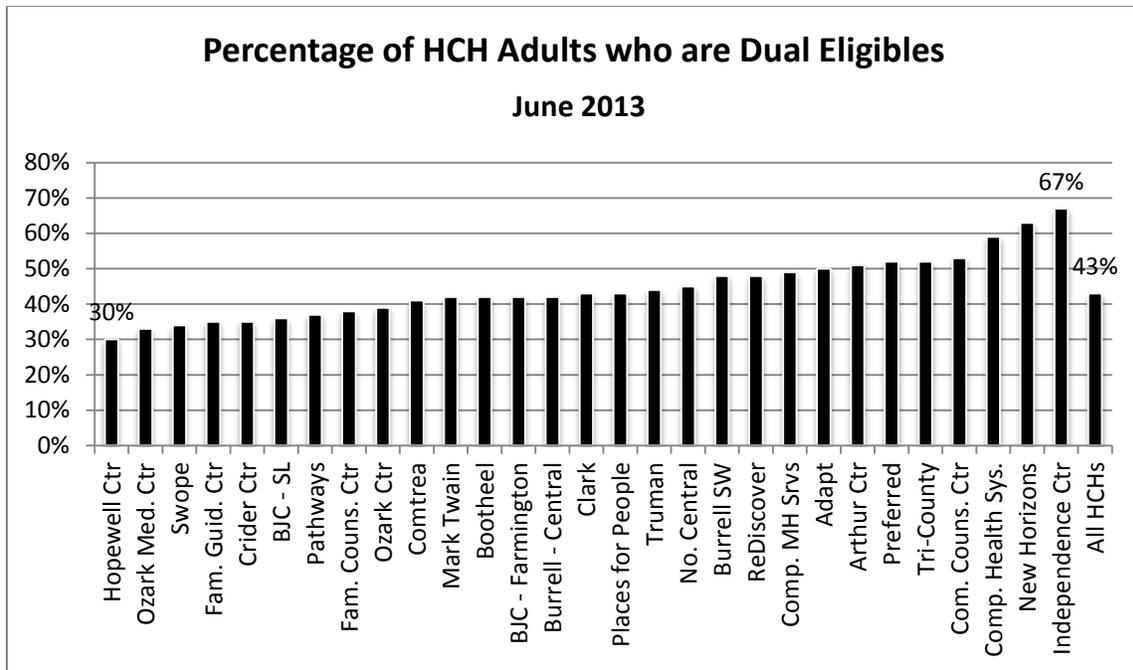
tracking down “false positives” (i.e. cases where it appears an individual had not received a needed service or medication when Medicare has, in fact, paid for the service or medication), and will not be notified of a significant number of hospital admissions. From this perspective, a higher percentage of dual eligibles are problematic in that it makes it more difficult for a CMHC Healthcare Home to effectively manage care.

Of course, a higher percentage of dual eligible adults enrolled in CMHC Healthcare Homes is also important, because it means there are additional resources to support the care of an individual beyond those available through the State’s Medicaid program.

Finally, because the State does not have access to Medicare costs and service data, a high percentage of dual eligibles complicates the ability of the State to determine the cost of effectiveness of the CMHC Healthcare Home program.

As of June 2013, about 43% of adult HCH enrollees (7,042 adults) were dual eligibles, compared to about 40% of the adult HCH enrollees in June 2012 (5,929 adults).

As the following chart illustrates, the percentage of dual eligible HCH adults varies significantly across CMHC Healthcare Homes from a low of 30% at Hopewell Center to a high of 67% at Independence Center, with at least 50% of the adult enrollees at eight CMHC Healthcare Homes being dual eligibles.



SECTION 2: POPULATION CHARACTERISTICS

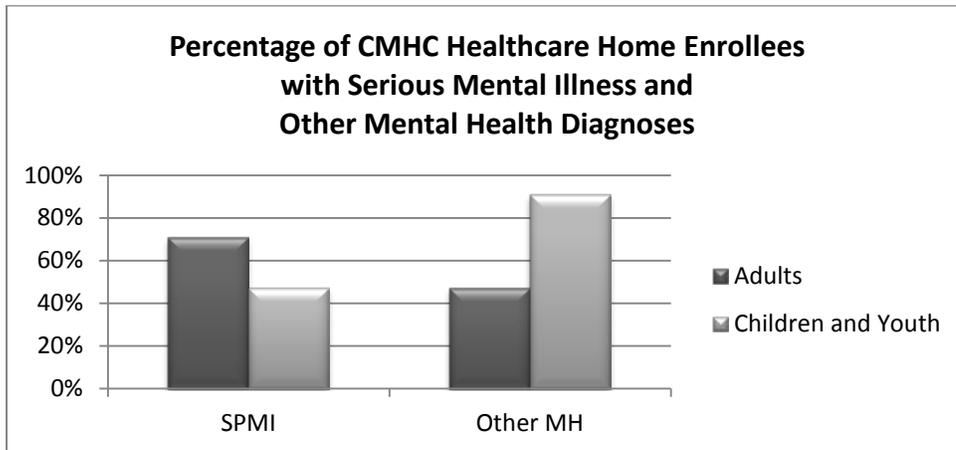
A. Serious Mental Illness, Serious Emotional Disorders, and other Mental Health Diagnoses

The following diagnostic categories are included in Missouri's serious and persistent mental illness definition:

- Schizophrenia
- Bipolar I Disorder
- Bipolar II Disorder
- Major Depressive Disorder
- Delusional Disorder
- Panic Disorder
- Psychotic Disorder NOS
- Generalized Anxiety Disorder
- Agoraphobia
- Social Phobia
- Obsessive-Compulsive Disorder
- Borderline Personality Disorder
- Posttraumatic Stress Disorder
- Reactive Attachment Disorder of Infancy or Early Childhood

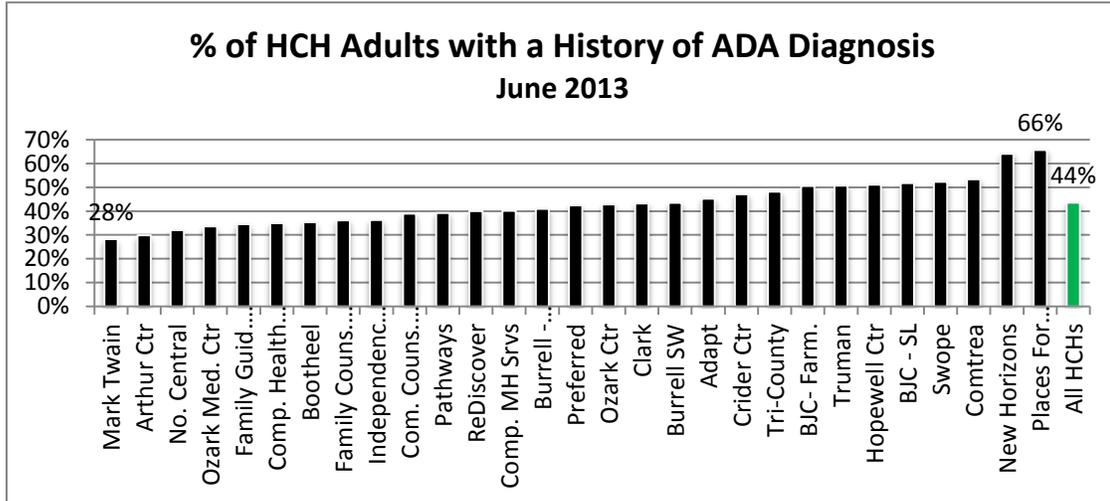
Children and Youth are considered to have a Serious Emotional Disorder if they have a mental health condition and a DLA-20 C-GAS score of less than 50.

As illustrated in the following chart, seventy-one percent (71%) of adults enrolled in a CMHC Healthcare Home and forty-seven percent (47%) of children and youth have a serious and persistent mental illness. Ninety-one percent (91%) of children and youth enrollees and forty-seven percent (47%) of adult enrollees have other mental health diagnoses.



B. Substance Abuse

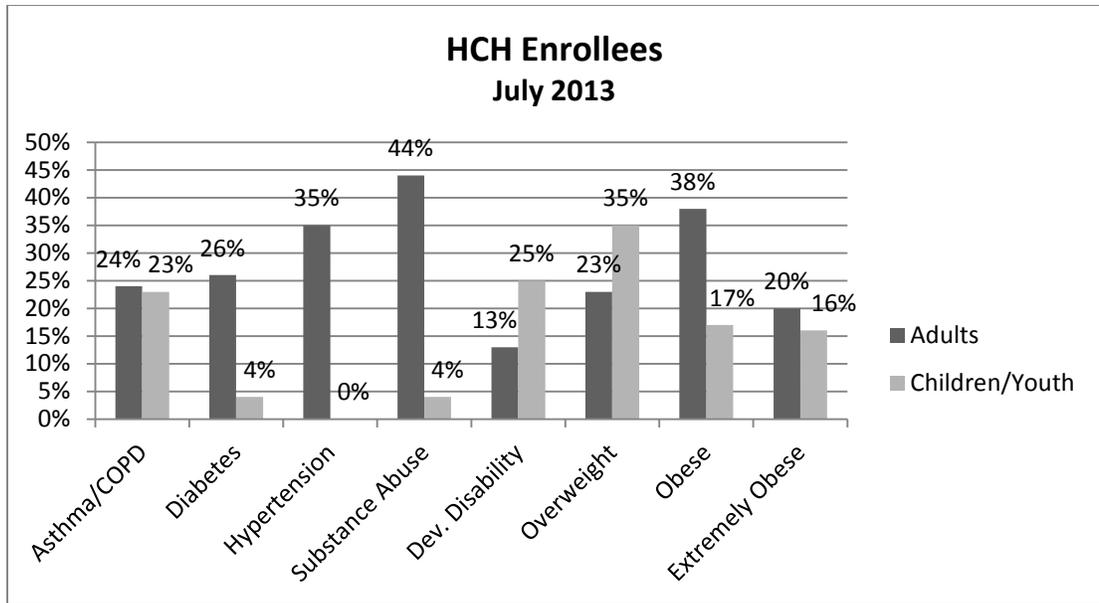
As of June 2013, although 19% of adults enrolled in a CMHC Healthcare Home have a current substance abuse diagnosis, forty-four percent (44%) have had a substance abuse diagnosis as part of their diagnostic history. The percentage of adults with a history of substance abuse varied by CMHC Healthcare Home from a low of 28% to a high of 66% .



Not surprisingly, only about 4% of the children and youth enrolled in CMHC Healthcare Homes as of June 2013 have a current substance abuse diagnosis or a substance abuse diagnosis in their diagnostic history. Some CMHC Healthcare Homes had no children or youth enrolled that had a history of substance abuse, and as much as 7% or 8% of children and youth had a history of substance abuse in only four CMHC Healthcare Homes.

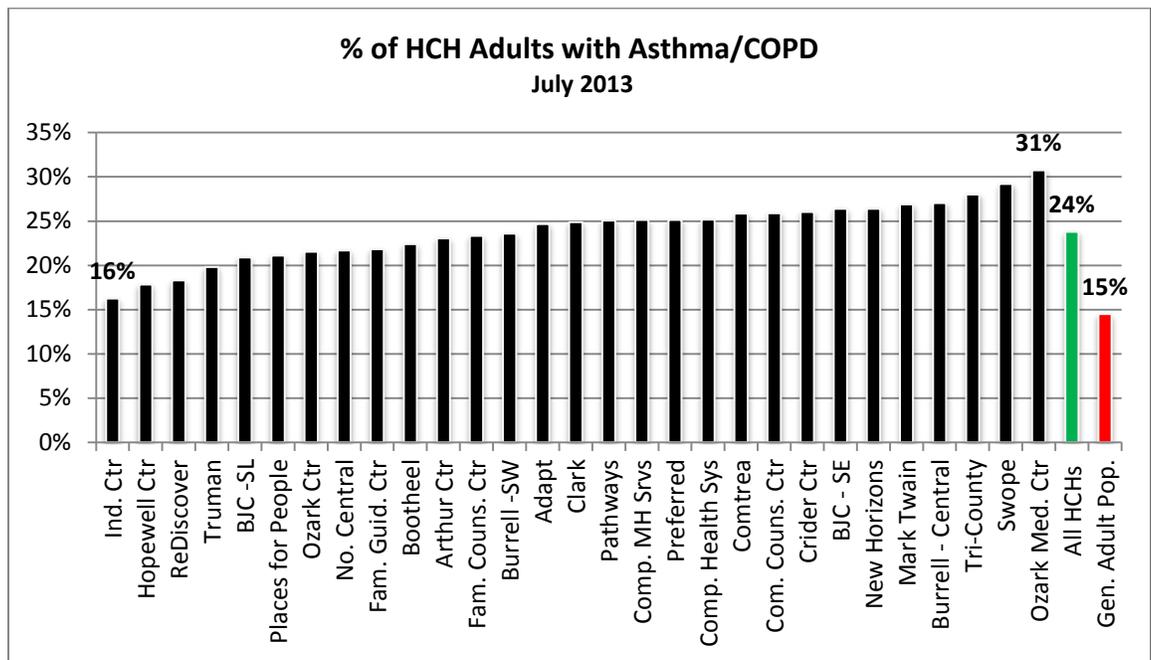
C. Chronic Disease and Health Status

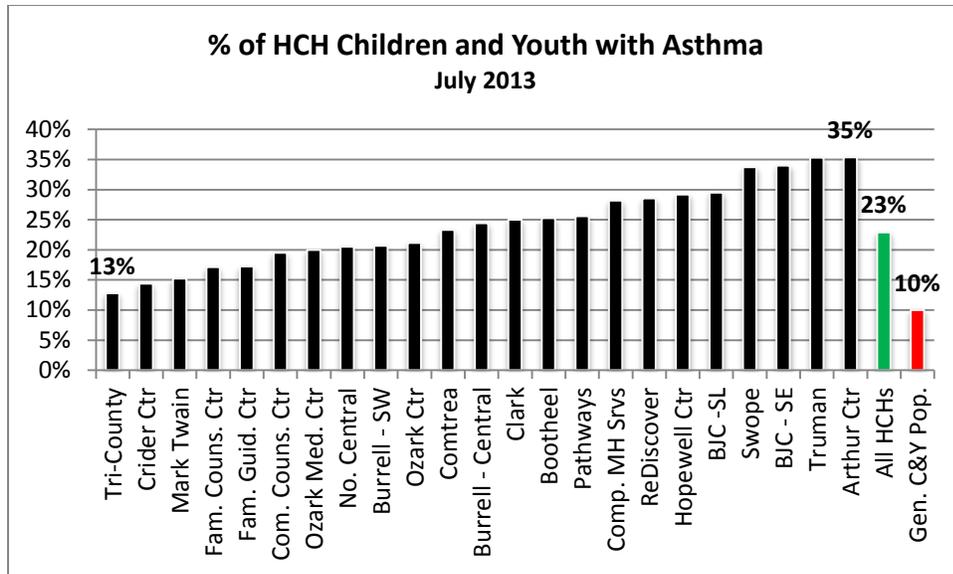
In addition to serious mental illnesses, serious emotional disorders, and substance abuse diagnoses, significant percentages of the current enrollees also suffer from other chronic diseases and have other health status factors that put them at risk for developing a chronic disease.



a. Asthma and Chronic Obstructive Pulmonary Disease (COPD)

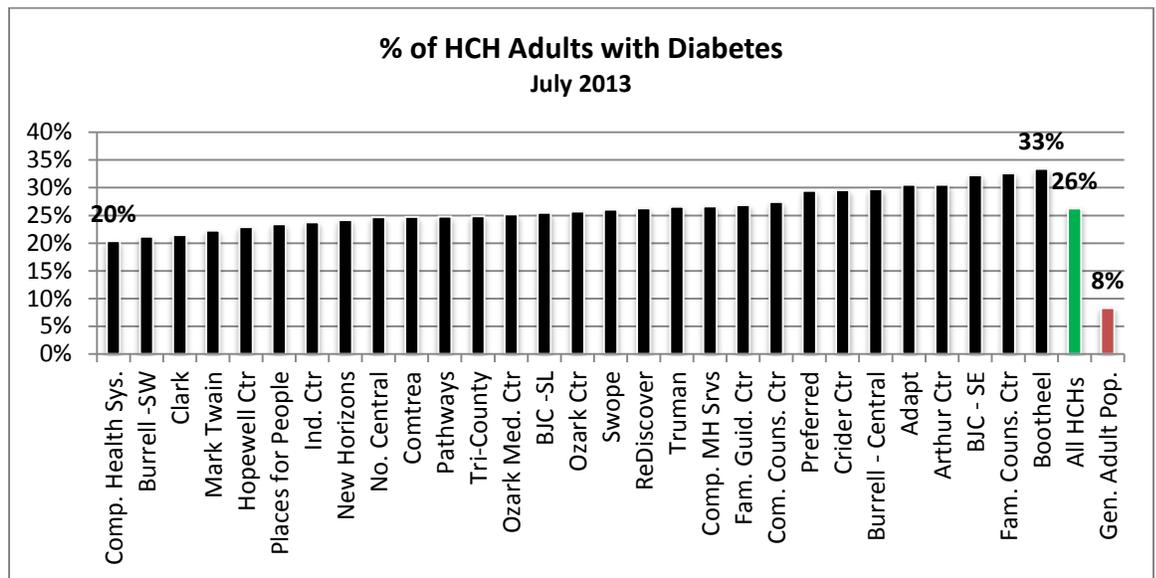
Slightly less than one-quarter of HCH adults and children and youth have been diagnosed with Asthma or COPD **compared to 11%** of the general adult population, and **10%** of the general children and youth population. The percentage of enrollees varies across CMHC Healthcare Homes from **16% to 31%** for HCH adults, and from **13% to 35%** for HCH children and youth.



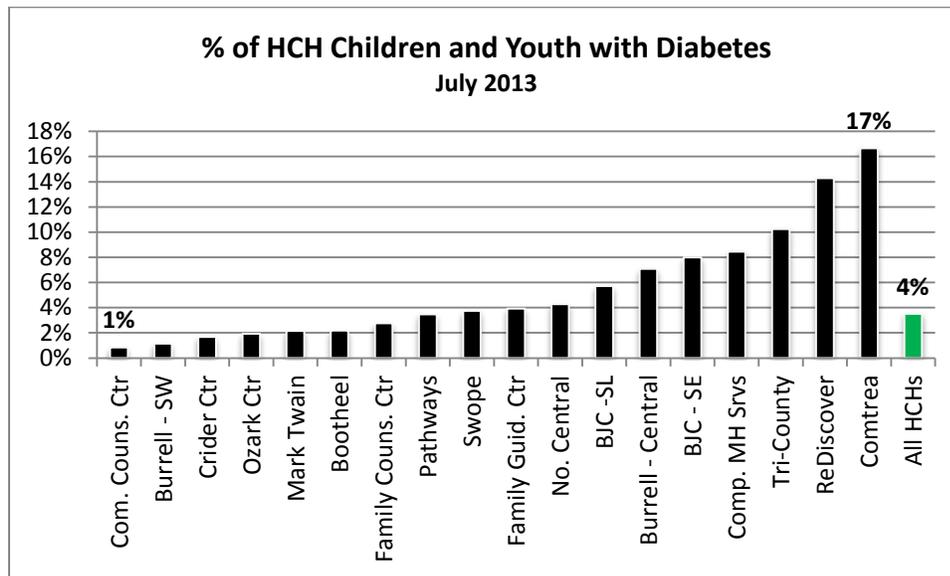


b. Diabetes Mellitus

More than one-quarter of HCH adults have Diabetes compared to 7% of the general adult population. The percentage of adults with Diabetes varies across CMHC Healthcare Homes from 20% to 33%.



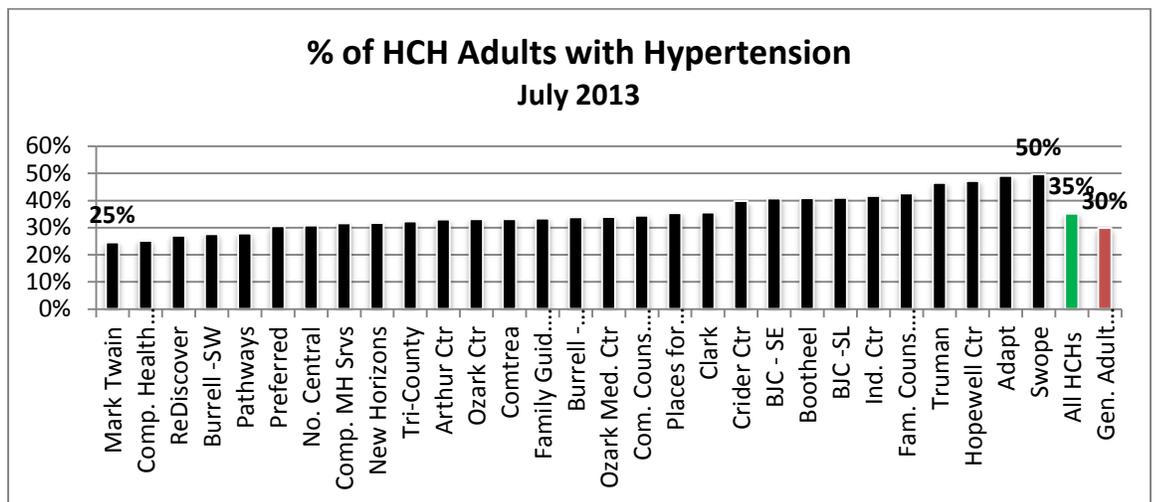
About 4% of the children and youth enrolled in a CMHC Healthcare Home have been diagnosed with Diabetes **compared to less than 1%** of the general child and youth population. Five of the CMHC Healthcare Homes that serve children and youth have no children and youth enrolled who have been diagnosed with Diabetes. There are only three CMHC Healthcare Homes in which 10% or more of the children and youth have been diagnosed with Diabetes.



c. Cardiovascular Disease and Hypertension

Only about 3% of adults enrolled in a Healthcare Home have been diagnosed with Cardiovascular Disease, and there is only one CMHC Healthcare Home in which as many as 7% of the adult enrollees have been diagnosed with Cardiovascular Disease.

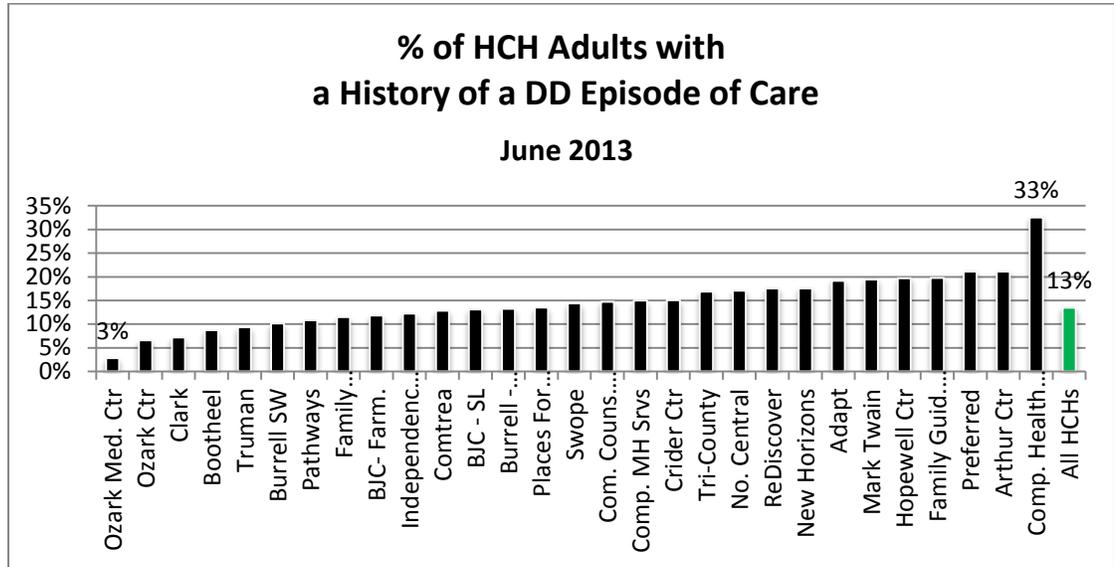
However, **more than one-third** of all adults enrolled in a CMHC Healthcare Home have been diagnosed with Hypertension **compared to 30%** of the general adult population.



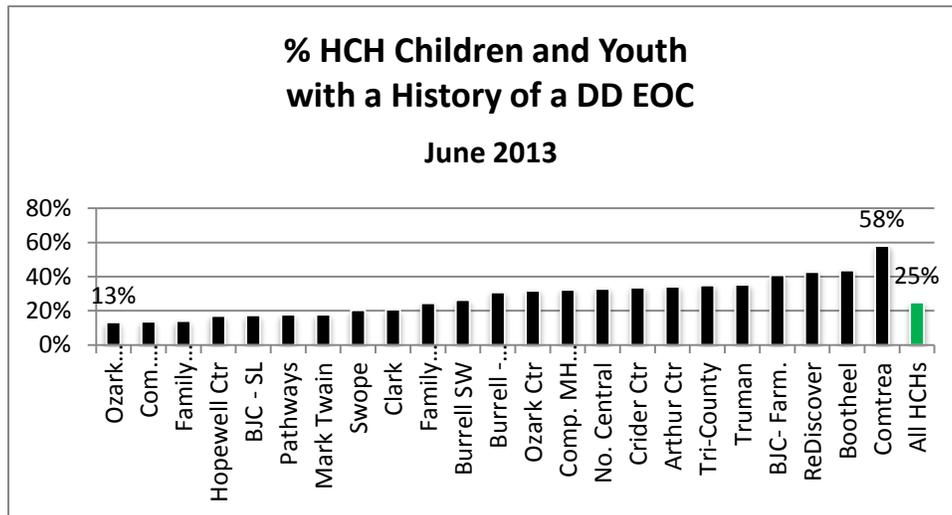
d. Developmental Disabilities

Less than 2% of the general population has a Developmental Disability. By comparison, about 13% of HCH adults had a history of an Episode of Care (EOC)

with the Division of Developmental Disabilities (DD), while more than 20% of adults enrolled in three CMHC Healthcare Homes had a history of an Episode of Care with the Division.

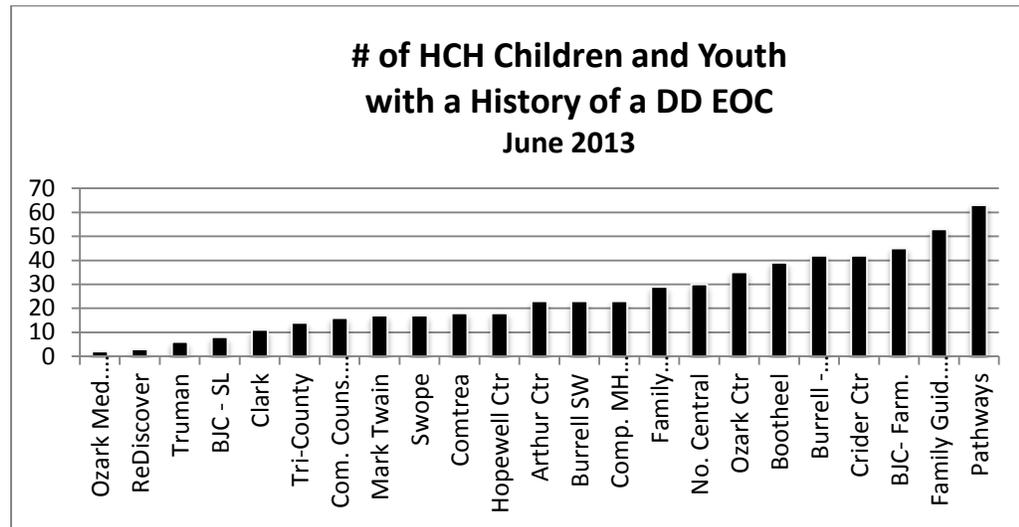


Overall 25% of children and youth enrolled in a CMHC Healthcare Home had an Episode of Care (EOC) with the Division of Developmental Disabilities, though the percentage varied significantly across the CMHC Healthcare Homes. More than 30% of the children and youth enrolled in twelve CMHC Healthcare Homes had an Episode of Care with the Division of Developmental Disabilities.



However, because the total number of children and youth enrolled in several CMHC Healthcare Homes is small, the actual number, rather than the percentage, of HCH children and youth with a history of an Episode of Care with the Division of Developmental Disabilities is a better indicator of the size of this subgroup.

As of June 2013, five hundred seventy-seven (about 25%) of HCH children and youth had an EOC with the Division of Developmental Disabilities.

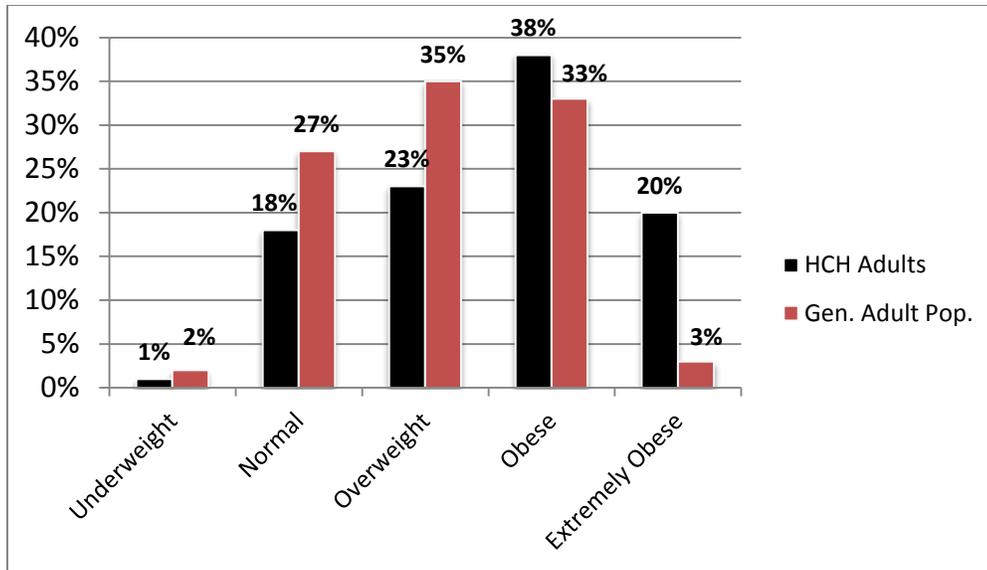


e. Body Mass Index >25

Excessive body fat and being severely underweight are both associated with increased risk for a variety of chronic health conditions. Because it is based on an individual's height and weight, calculating a Body Mass Index (BMI) is one of the easiest ways to assess the extent to which an individual is severely under- or overweight, and therefore, at greater risk for chronic health conditions.

A BMI between 18.5 and 24.9 is considered **normal**. An individual with a BMI under 18.5 is considered **underweight**. An individual with a BMI between 25 and 29.9 is considered to be **overweight**. An individual with a BMI between 30 and 39.9 is considered to be **obese**. And an individual with a BMI of 40 or greater is considered to be **extremely obese**.

As illustrated by the following chart, only about 2% of adults in the United States and only about 1% of HCH adults are considered to be underweight. More than 70% of adults in the United States and more than 80% of HCH adults have a BMI>25 and are considered overweight, obese or extremely obese.



However, of even greater concern, **20% of HCH adults are extremely obese** (BMI of 40 or more), **compared to about 3% of all adults** in the United States.

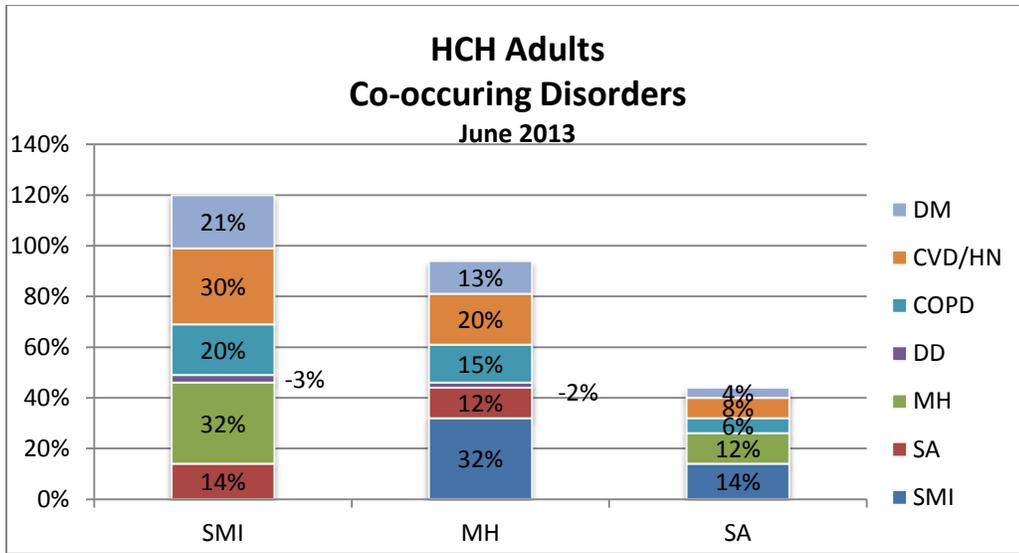
f. Tobacco Use

CMHC Healthcare Homes reported data on tobacco use on a smaller number of enrollees than the other screening measures. As of June 2013, CMHC Healthcare Homes reported data on whether or not adults used tobacco for 68% of all adults, and 54% of all children and youth, who had been enrolled for the entire 18 months of the program. Of the individuals for whom data was reported, 54% of adults and only 9% of children and youth reported using tobacco.

g. Co-occurring Disorders

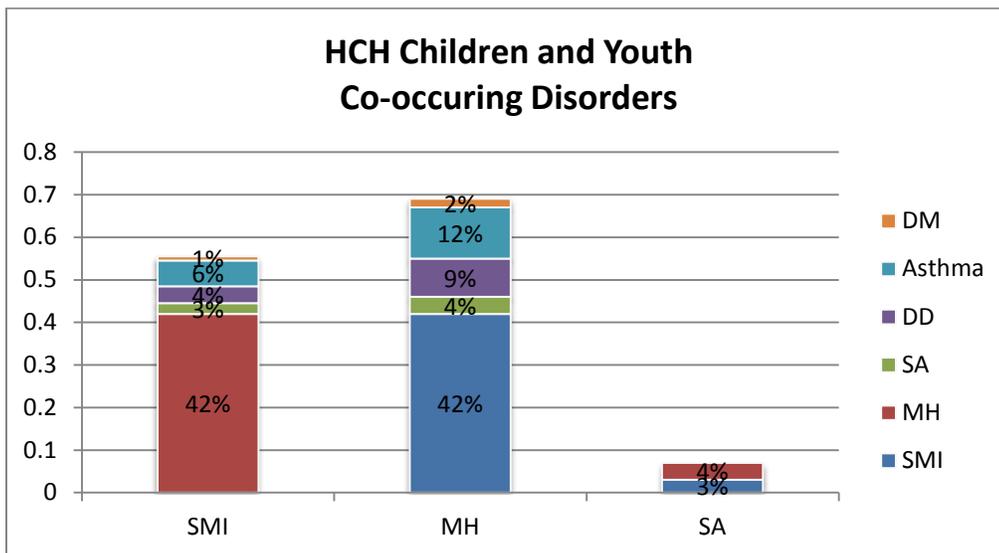
Individuals are eligible for enrollment in a CMHC Healthcare Home either because they have a serious and persistent mental illness, or because they have, or are at risk of having, co-occurring disorders, one of which is a mental health or a substance abuse condition. Of course, many of the individuals who are eligible for enrollment because they have a serious and persistent mental illness also have, or are at risk of having, another co-occurring disorder.

As the following chart illustrates, a significant percentage of the adult enrollees with a serious and persistent mental illness (SMI) have a co-occurring substance abuse disorder (SA), another co-occurring mental health disorder (MH), a developmental disability (DD), asthma or COPD (COPD), cardiovascular disease or hypertension (CVD/HN), and/or diabetes mellitus (DM).



This chart also illustrates the co-occurring disorders of adult enrollees with a mental health disorder other than a serious and persistent mental illness, and the co-occurring disorders of adult enrollees with substance disorders.

As illustrated by the following chart, forty-two percent (42%) of the children and youth enrolled in a CMHC Healthcare Home have a co-occurring serious mental illness and another mental health condition. Children and youth with serious and persistent mental illness (SPMI) and other mental health conditions (MH) also have co-occurring developmental disabilities (DD), asthma, and diabetes mellitus (DM). Less than 1% of the children and youth currently enrolled in a CMHC Healthcare Home who have a substance abuse disorder also have a co-occurring developmental disability, asthma, or diabetes.



SECTION 3: STAFFING

In designing the CMHC Healthcare Home initiative, administrators and clinicians from MO HealthNet, DMH, and the CMHCs agreed that it was important to augment the existing CMHC psychiatric rehabilitation teams with primary care nurses, secure consultation from primary care physicians and provide sufficient administrative and clerical support to lead the many changes required by the new initiative, and to handle the anticipated increase in data collection, entry and management.

To meet the increased administrative and clerical needs of the CMHCs, two new positions were established: HCH Director and HCH Clerical/Care Coordinator.

While a single FTE HCH Director would be adequate to manage change in most CMHCs, it was expected that a few of the CMHC Healthcare Homes with very large enrollments might require additional administrative staff, and that even CMHC Healthcare Homes with very small initial enrollments should have at least a half-time HCH Director.

Because of the significant increase in data entry and management that was anticipated, it was expected that all CMHCs, regardless of size, would require at least one FTE HCH Clerical/Care Coordinator position, and that a few of the very large CMHCs might require some additional clerical support.

Nurse Care Managers (NCMs) are the centerpiece of the clinical enhancement required by the CMHC Healthcare Home initiative. This position was conceived as working as part of the existing psychiatric rehabilitation teams to help manage the healthcare and health status of the consumers supported by the team. The psychiatric rehabilitation teams typically consist of a master's level Qualified Mental Health Professional (QMHP) supervisor and five Community Support Specialists, each with a caseload of 20 to 25 consumers, working with the treating psychiatrist and other psycho-social rehabilitation staff who may support multiple teams. It was expected that a NCM would work with two such psychiatric rehabilitation teams; and that therefore, the caseload of NCMs was expected to be between 200 and 250 enrollees.

Securing primary care physician consultation was expected to be both the most rewarding and also the most challenging clinical enhancement required by the initiative. In many ways, CMHCs were already functioning as health homes with regard to the behavioral health issues faced by the individuals they served. If primary care physicians could be engaged in helping CMHCs broaden their perspective by helping establish priorities for disease management and improving health status, helping staff understand the chronic diseases and health risks of their consumers, providing individual case consultation, and helping to develop collaborative working relationships with other healthcare providers, the benefits could be enormous. But it was not clear how easy it would be to engage primary care physicians as consultants in this new design. Securing one hour per HCH enrollee per year was established as an initial guideline for the amount of consultation required. To increase the opportunity for engaging appropriate primary

care clinicians, it was agreed that nurse practitioners could be used in place of primary care physicians for up to one-half of the required time.

There are two ways to evaluate the adequacy of HCH staffing. CMHC Healthcare Homes attest to the number of individuals that they served each month. However, each month some of the individuals who were served by the health home are not eligible for Medicaid reimbursement. Therefore, staffing can be measured either by the number of individuals that the Healthcare Home attested to serving or by the number of individuals that the Healthcare Home was paid to serve.

For the purpose of meeting Medicaid requirements for the program, staffing is compared to the number of individuals for whom the CMHC Healthcare Home received a PMPM payment. To allow for initial start up and inevitable staff turnover, CMHC Healthcare Homes are required to maintain at least an 85% staffing level for the year based on the number of enrollees for whom they received a PMPM payment or face a recoupment of PMPM payments commensurate with their shortfalls in staffing. At the end of the first year, three CMHC Healthcare Homes fell slightly below the required 85% staffing level due to difficulties in initial recruiting and unexpected staff turnover. Funding was recouped from these CMHCs proportional to their shortfall in staffing.

However, CMHC Healthcare Homes build their staffing based on the number of individuals they actually serve, regardless of whether or not they receive a PMPM payment for all of them in a given month. Therefore, it is also important to compare staffing levels to attestations (i.e. the number of individuals a CMHC Healthcare Home actually serves).

The current HCH staffing standards were obviously established before anyone had experience with operating a health home for individuals with serious mental illness. Therefore, while the standards represented our best understanding of what would be both effective and practical, we recognized that experience in operating as health homes would likely result in some modification of the initial staffing expectations.

In what follows, the focus is on the relationship between staffing levels and attestations, rather than PMPM payments, because it provides the best information about the actual experience of CMHC Healthcare Homes in staffing their programs to best meet the needs of the individuals enrolled. The reader should bear in mind that these ratios will be different from the ratios used to determine whether recoupment of funds is warranted due to failure to maintain adequate staffing levels.

A. Administration

Seventeen of the twenty-eight CMHC Healthcare Homes employed at least one full-time HCH Director, including two HCHs that averaged less than 400 enrollees. The eight CMHC Healthcare Homes that began with fewer than 300 enrollees employed at least a half-time HCH Director.

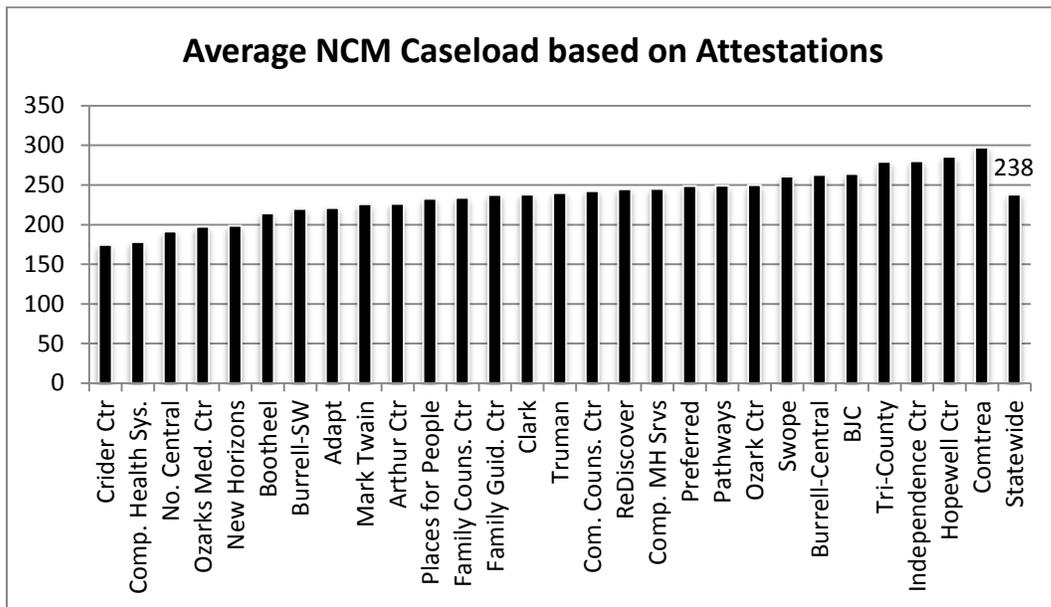
The five CMHC Healthcare Homes with the highest average number of enrollees added administrative staff to help lead and manage their health home initiative.

All but six of the smallest CMHC Healthcare Homes employed at least one full-time HCH Clerical/Care Coordinator.

B. Nurse Care Managers

Despite early concerns regarding the ability to recruit an adequate number of nurses, and despite some monthly fluctuations due to turnover in nurses recruited to fill the NCM positions at several Healthcare Homes, all CMHC Healthcare Homes met, and all but three exceeded, the number of NCMs required to serve the number of individuals for whom they received a health home PMPM.

As noted above, Nurse Care Managers are intended to be integrated into existing psychiatric rehabilitation teams to provide services and supports to a caseload of between 200 and 250 enrollees. The following chart illustrates the average NCM caseload by HCH and statewide based on the average number of enrollees that CMHC Healthcare Homes attested that they provided service to over the first 18 months of the initiative.

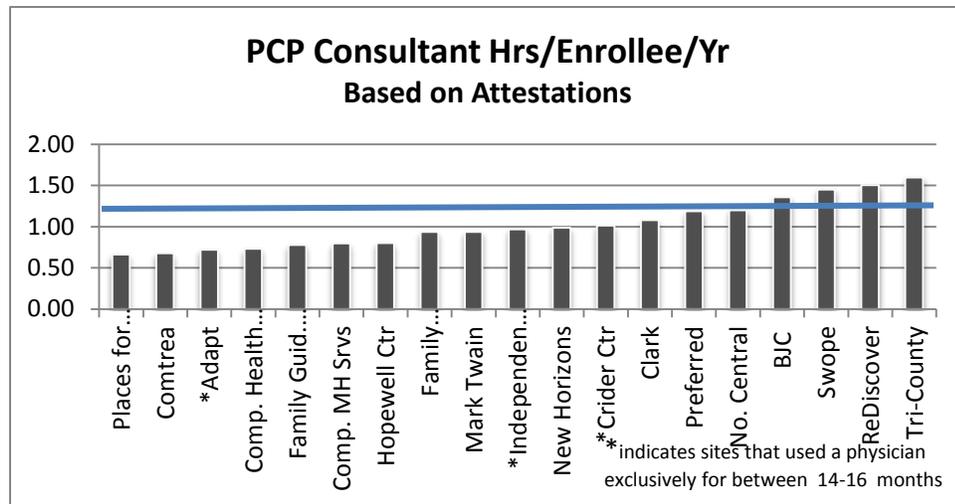


Turnover in NCM staff affects staffing ratios. When a NCM leaves, it typically takes a month or two for Healthcare Homes to recruit and employ a replacement. During that period, the ratio of NCMs to HCH enrollees obviously increases. Vacancies resulted in some CMHC Healthcare Homes having an average caseload higher than the expected 250 maximum caseload, when the number of NCMs is compared to the number of attestations for

the 18 month period.⁴ Over the first 18 months of the initiative, seven of the CMHC Healthcare Homes had an average NCM caseload greater than the expected 250 maximum caseload based on attestations, and five had fewer than 200 enrollees per NCM on average.

C. Primary Care Physician Consultants

Nineteen of the twenty-eight CMHC Healthcare Homes chose to engage physicians, exclusively, as their Primary Care Physician Consultant for all or most of the first eighteen months of the health home initiative. Three of these CMHC Healthcare homes initially utilized both physicians and nurse practitioners for consultation but began utilizing physicians exclusively after only two to four months. CMHC Healthcare Homes utilizing physicians exclusively to provide consultation were expected to engage a physician for at least one hour of consultation per HCH enrollee per year. The following chart illustrates that a few CMHC Healthcare Homes secured significantly more than one hour of consultation per enrollee, but that ten of the nineteen CMHC Healthcare Homes utilizing a physician exclusively were able to secure at least one hour of consultation time per HCH enrollee. Five additional CMHC Healthcare Homes secured more than three-quarters of an hour per enrollee, and four secured less than three-quarters of an hour per enrollee over the first eighteen months of the health home initiative. The statewide average for sites using physicians exclusively to provide consultation was 1.07 hours of consultation per enrollee per year.

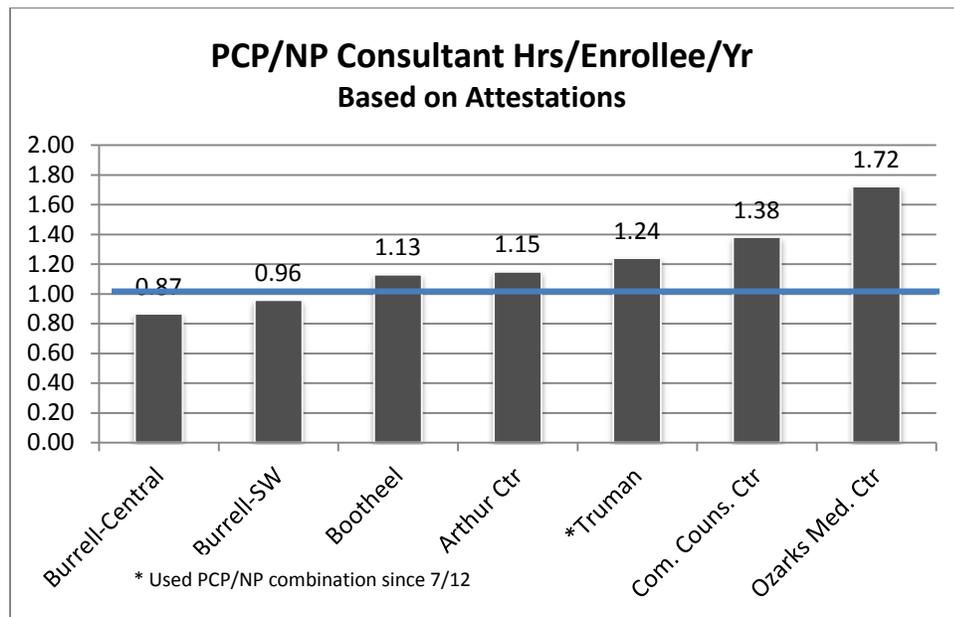


Six of the twenty-eight CMHC Healthcare Homes employed a nurse practitioner in collaboration with a physician for the entire eighteen month period in order to meet the Primary Care Physician Consultant requirement. One additional CMHC Healthcare Home

⁴ Remember that because the number of individuals that a Healthcare Home receives a PMPM for is less than the number they attested to serving, while the ratio of NCMs to individuals for whom they receive a PMPM may be less than the 250 standard, the ratio of NCMs to individuals attested to may be greater than 250.

started by using a physician exclusively but added a nurse practitioner in July 2012.⁵ When CMHC's used both physicians and nurse practitioners, physicians were expected to provide at least one-half the required hours, and the hours of consultation provided by a nurse practitioner were calculated at one-half the rate of those provided by a physician.

The following chart illustrates the hours of consultation per enrollee for those CMHC Healthcare Homes that used physicians and collaborating nurse practitioners for the majority of the first eighteen months of the health home initiative. Nurse practitioner hours were adjusted to count at one-half the rate of these provided by physicians.



Five of the seven CMHC Healthcare Homes utilizing both physicians and nurse practitioners to provide consultation secured more than one hour of consultation per enrollee per year.

⁵ Pathways and Ozark Center utilized both approaches to meeting the Primary Care Physician Consultant staffing requirement for substantial portions of the first eighteen months. Ozark Center now uses a PCP exclusively; Pathways now uses both PCPs and a Nurse Practitioner. Neither is included in the calculations of consultation per enrollee per year provided above, since they did not use either method for a full year.

SECTION 4: CARE MANAGEMENT AND CLINICAL OUTCOMES

CMHC Healthcare Homes receive monthly reports based on Medicaid paid claims data that enable them to monitor the progress of enrollees in three key areas: psychotropic medications, medication adherence, and chronic disease management. CMT, a data analytics company, compares CMHC Healthcare Home enrollment data to Medicaid paid claims data and to metabolic screening data submitted by the CMHC Healthcare Homes to generate the reports.

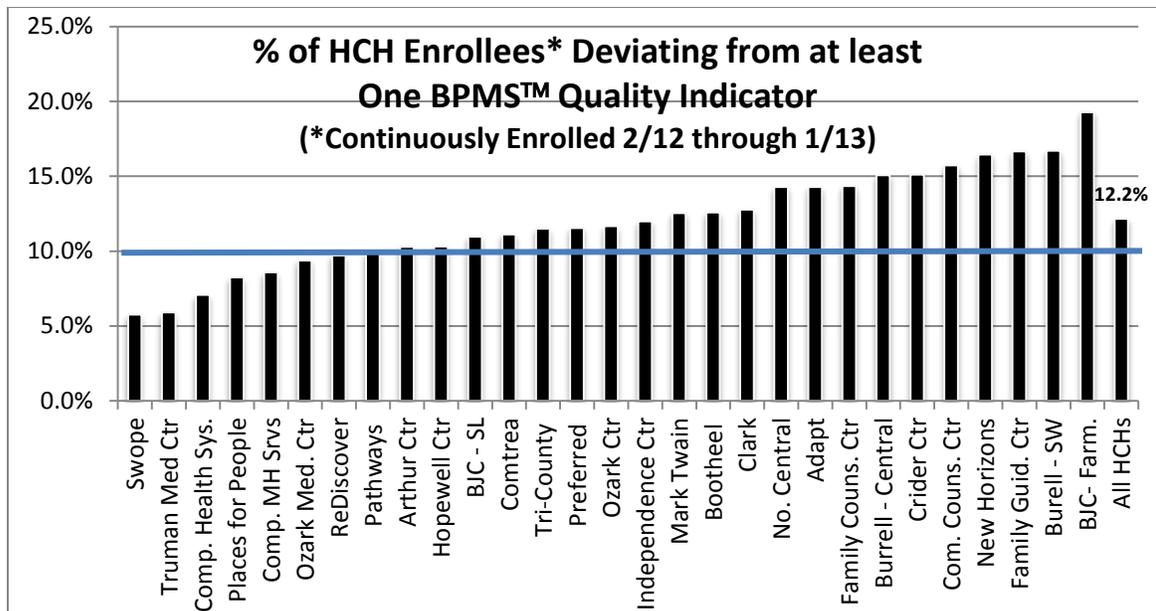
A. Behavioral Pharmacy Management

CMT's Behavioral Pharmacy Management System (BPMS™) reports compare prescribing practices for psychotropic medications prescribed by Medicaid providers with 25 Quality Indicators™ to identify prescriptions that deviate from Best Practice Guidelines, including inappropriate poly-pharmacy, doses that are higher or lower than recommended, and multiple prescribers of similar medications. When one of their prescriptions deviates from a Quality Indicator™, Medicaid providers receive a report that describes the Quality Indicator™ that their prescription deviates from and Clinical Considerations™ that include Best Practice Guidelines and recommendations. Reports are also sent to each CMHC identifying all of their Medicaid consumers who have been prescribed a psychotropic medication that deviates from a Quality Indicator™ regardless of who prescribed the medication. Since there may be appropriate reasons for deviating from the Quality Indicators™, the BPMS™ reports do include “false positives”. But the BPMS™ reports provide CMHCs with the opportunity to follow up with prescribers to determine whether changing the prescription would be appropriate.

The BPMS™ Quality Indicators™ for children and youth differ from those for adults so separate BPMS™ reports are developed for adults and for children and youth.

DMH established a benchmark goal of no more than 10% of enrollees having a psychotropic prescription that deviates from one of the fourteen top Quality Indicators™. An individual who has a psychotropic prescription that deviates from a Quality Indicator™ is “flagged” on the monthly BPMS™ report.

For the 12,477 individuals who were enrolled for the twelve months between February 2012 and January 2013, , the statewide percentage of enrollees having a psychotropic prescription that deviated from one of the top fourteen Quality Indicators™ declined only slightly from 12.8% in February 2012 to 12.2% in January 2013. However, there were eight CMHC Healthcare Homes that met the 10% benchmark goal in January 2013, and more than 80% of continuously enrolled individuals did not deviate from any Quality Indicator™ in every CMHC Healthcare Home.



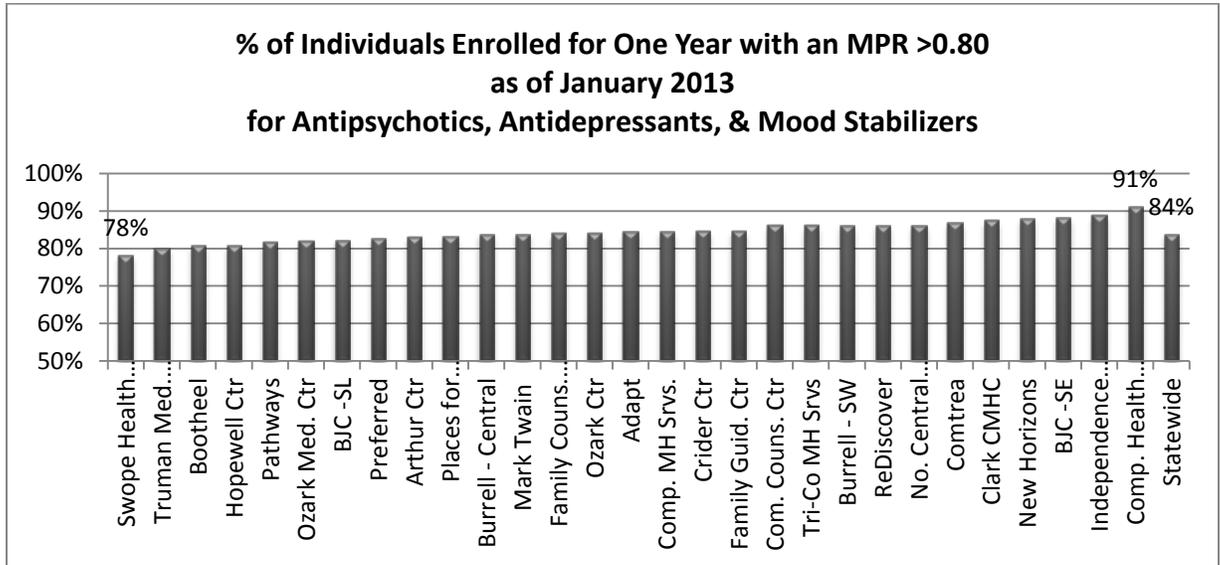
B. Medication Adherence

Routinely taking prescribed medications is important to the management of chronic illness. Medication Adherence Reports help CMHC Health Homes identify individuals who are not routinely filling their prescriptions and who are not taking their medications as prescribed. The Medication Adherence Reports identify individuals who have a Medication Possession Ratio (MPR) that suggests they are not routinely filling their prescriptions. The MPR is a measure of the percentage of time that an individual has a prescribed medication in their possession. For example, in a three month period, if an individual fills the prescription for the first 30 days, then skips the next 30 days, and then fills it for the last 30 days; they have the medication in their possession for 60 out of the 90 days (60/90) or 67% of the time – an MPR of 0.67. An MPR of 0.80 or higher (possession 80% of the time) is considered adherent according to the scientific literature.

Medication Adherence Reports identify individuals with MPRs of less than 0.80 for seven medication classes: anti-psychotic, anti-depressant, and mood stabilizer medications; cardiovascular and anti-hypertensive medications; and medications for Asthma and COPD. DMH established as a **benchmark goal** for all three drug classes that **90%** of individuals who have been prescribed the relevant medications have **an MPR of 0.80 or higher**. DMH also established a **gap closing goal of 5%** for all three drug classes (i.e. CMHC Healthcare Homes that improved the overall MPR for a drug class by at least 5% in one year are considered to have made very good progress).

The following charts illustrate the percentage of the individuals continuously enrolled in a CMHC Healthcare Home from February 2012 through January 2013 with an MPR or 0.80 or higher for each of the three drug classes as of January 2013.

As of January 2013, **84%** of the individuals who were **prescribed anti-psychotic, anti-depressant, and/or mood stabilizer medications** and who had been continuously enrolled in a CMHC Healthcare Home since February 2012 **had an MPR of 0.80 or higher**.

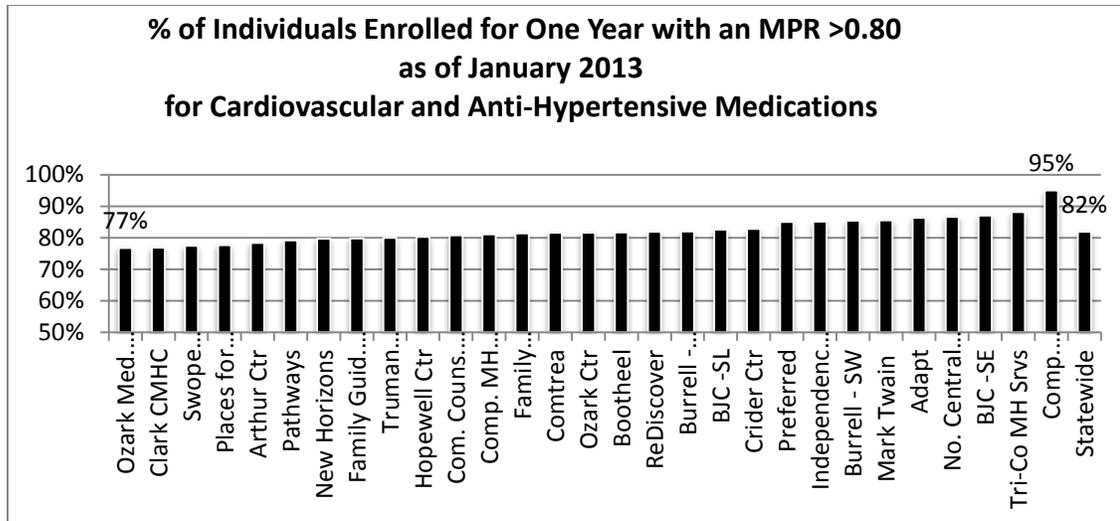


One CMHC Healthcare Home, **Comprehensive Health Systems**, exceeded the benchmark goal of 90% for this class of medications with 91.4% of individuals who had been continuously enrolled since February 2012 having an MPR of 0.80 or greater.

Two CMHC Healthcare Homes improved the percentage of enrollees with an MPR of 0.80 or higher who were continuously enrolled between February 2012 and January 2013 by more than the 5% gap closing goal established by DMH for this class of medications.

	% as of 2/12	% as of 1/13	Improvement
Clark CMHC	81.2%	87.5%	6.3%
New Horizons	79.4%	88%	8.6%

As of January 2013, **82%** of the individuals who were **prescribed cardiovascular and/or anti-hypertensive medications** and who had been continuously enrolled in a CMHC Healthcare Home since February 2012 **had an MPR of 0.80 or higher**.



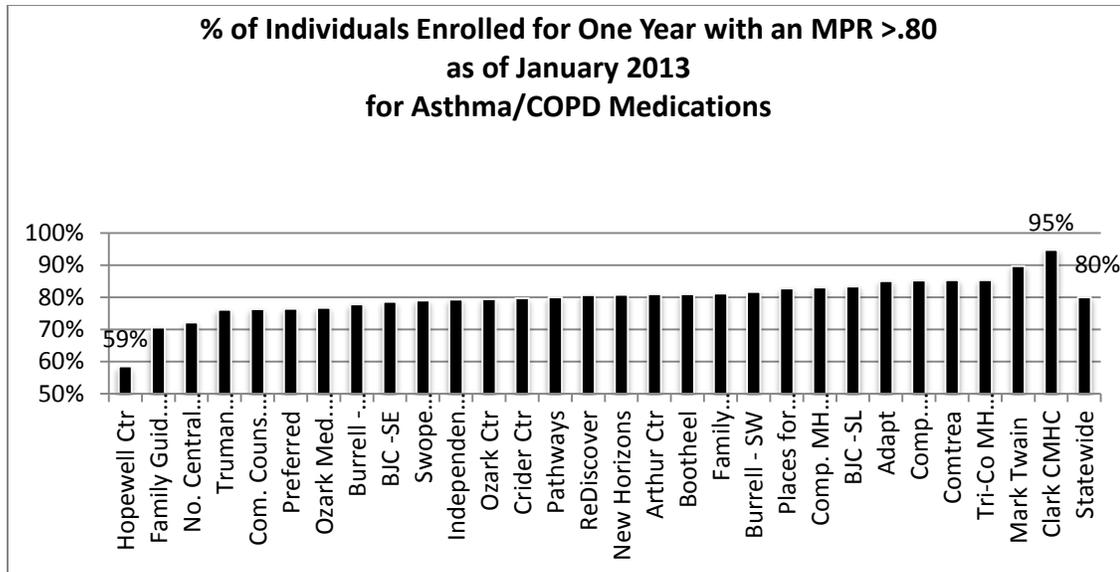
Again, **Comprehensive Health Systems** exceeded the benchmark goal of 90% for this class of medications with 95% of individuals who had been continuously enrolled since February 2012 having an MPR of 0.80 or greater.

Four CMHC Healthcare Homes improved the percentage of enrollees with an MPR of 0.80 or higher who were continuously enrolled between February 2012 and January 2013 by more than the 5% gap closing goal established by DMH for this class of medications.

	As of 2/12	As of 1/13	Improvement
Adapt	80.2%	86.4%	6.2%
Hopewell Ctr	75.1%	80.3%	5.2%
No. Cent. Mo MHC	77.9%	86.7%	8.7%
Tri-Co. MH Srvs	81.7%	88.2%	6.6%

As of January 2013, **80%** of the individuals who were **prescribed medications for Asthma or COPD** and who had been continuously enrolled in a CMHC Healthcare Home since February 2012 **had an MPR of 0.80 or higher.**⁶

⁶ Because some CMHC Healthcare Homes had few enrollees diagnosed with Asthma or COPD, the medication adherence of few individuals can significantly impact the percentage of enrollees who are adherent for this class of medications.



Mark Twain Behavioral Health (90%) met and Clark Community Mental Health Center (95%) exceeded the benchmark goal of 90% for this class of medications for individuals who had been continuously enrolled since February 2012 having an MPR of 0.80 or greater.

Four CMHC Healthcare Homes improved the percentage of enrollees with an MPR of 0.80 or higher who were continuously enrolled between February 2012 and January 2013 by more than the 5% gap closing goal established by DMH for this class of medications.

	As of 2/12	As of 1/13	Improvement
BJC -SL	77.7%	83.4%	5.8%
Crider Ctr	73.7%	79.7%	6.0%
Independence Ctr	73.1%	79.3%	6.2%
Comtrea	70.6%	85.3%	14.7%

C. Disease Management

Because of the significant potential for developing Metabolic Syndrome, DMH began requiring CMHCs to conduct a metabolic screening on all individuals receiving psychotropic medications in 2010. CMHCs report metabolic screening values to a statewide database. The data submitted to the statewide database includes height, weight, waist circumference, blood pressure, blood glucose or A1c, and lipid panel values. CMHCs also report whether the individual is on an anti-psychotic medication, is pregnant, and uses tobacco. This information is compared with Medicaid claims data to generate Disease Management Reports that are used to monitor the health status of individuals with chronic diseases.

Over the course of the first eighteen months of the CMHC Healthcare Home initiative, both the Metabolic Screening database and the Disease Management Reports have undergone

many changes. We are continuing to revise these reports to improve their utility for the CMHC Healthcare Homes.

Initially, these reports monitored ten indicators related to the treatment and management of individuals with chronic obstructive pulmonary disease (COPD), asthma, congestive heart failure (CHF), coronary artery disease (CAD), gastro-esophageal reflux disease (GERD), and diabetes mellitus. Initially, they were updated on a quarterly basis. They focused on whether an individual had a particular screening, test, or treatment, and were based on matching diagnoses found in the Medicaid paid claims database with pharmacy and service claims in the same database, and with data submitted by the CMHCs to the statewide Metabolic Screening database.

In September 2012 the Disease Management Report was updated and revised to include the following indicators that more closely approximate HEDIS measures and, most importantly, provide data directly related to each individual’s health status collected through the Metabolic Screening database, in addition to indicators related to monitoring whether tests, procedures and medications typically associated with the care and treatment of the chronic conditions being monitored by the CMHC Healthcare Homes have been provided.

Indicator	Description	Persons Flagged
Asthma Med (A) Goal: 70%	% of patients 18-64 years of age who were identified as having persistent asthma and were appropriately prescribed medication during the measurement period.	Persons flagged have a diagnosis of persistent asthma and are NOT currently prescribed a controller medication.
Asthma Med (C) Goal: 70%	% of patients 5-17 years of age who were identified as having persistent asthma and were appropriately prescribed medication during the measurement period.	Persons flagged have a diagnosis of asthma and are NOT currently prescribed a controller medication.
BP Control HTN (A) Goal: 60%	% of patients 18 years and older with a diagnosis of hypertension with a blood pressure <140/90 mmHg, during the most recent office visit within a 12 month period.	Persons flagged have a diagnosis of hypertension and have a blood pressure of >140/90 mmHg.
LDL Control Cardio (A) Goal: 70%	% of patients 18-75 years of age with a diagnosis of CAD with lipid level adequately controlled (LDL <100 mg/dL).	Persons flagged have a diagnosis of CVD or CAD and whose lipid level is NOT currently controlled (LDL >100 mg/dL).
Diabetes BP Control (A) Goal: 65%	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had a blood pressure <140/90 mmHg.	Persons flagged have a documented blood pressure >140/90 mmHg.
Diabetes A1c Control (A) Goal: 60%	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had an HbA1c <8.0%.	Persons flagged have a documented HbA1c >8.0%.
Diabetes LDL Control (A) Goal: 36%	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had LDL <100 mg/dL.	Persons flagged have a documented LDL >100 mg/dL.

Diabetes A1c Control (C) Goal: 60%	% of patients under 18 years of age with diabetes (type 1 or type 2) who had an HbA1c <8.0%.	Persons flagged have a documented HbA1c >8.0%
Metabolic Screen (A)* Goal: 80%	% of patients 18 years and older screened in the previous 12 months – Metabolic Screening (BMI, BP, HDL cholesterol, triglycerides, and HbA1c or FBG).	Persons flagged have NOT had a metabolic screening documented in the previous 12 months.
Metabolic Screen (C)* Goal: 80%	% of patients under 18 years of age screened in the previous 12 months – Metabolic Screening (BMI, BP, HDL cholesterol, triglycerides, and HbA1c or FBG).	Persons flagged have NOT had a metabolic screening documented in the previous 12 months.
BMI Control (A)* Goal: 37%	% of patients 18 years and older with documented BMI between 18.5-24.9.	Persons flagged have a documented BMI of >25.
BMI Control (C)* Goal: 37%	% of patients under 18 years of age with documented BMI between 18.5-24.9.	Persons flagged have a documented BMI of >25.
Tobacco Use (A)* Goal: 56%	% of patients 18 years and older reporting tobacco use in previous 12 months.	Persons flagged report tobacco use in the previous 12 months.
Tobacco Use (C)* Goal: 56%	% of patients under 18 years of age reporting tobacco use in previous 12 months.	Persons flagged report tobacco use in the previous 12 months.

*These indicators were not included in the reports until January 2013.

At the end of the first year of the HCH initiative, all three of the Care Management Reports (the BPMS™, Medication Adherence, and Disease Management reports) began to be refreshed with new data every month, instead of on a quarterly basis. The ProAct™ tool also introduced an Integrated Health Profile, or IHP, for each individual that pulls together information from each of these reports as well as data on hospital and ER use and other service utilization to provide an overall picture of the current and historical health and healthcare utilization of an individual. ProAct™ can also be used by the HCH to upload the metabolic screening data.

Since the data included in the Disease Management Report is based on Medicaid paid claims, it may include a number of ‘false positives’ (i.e. individuals may in fact have had the appropriate test, medication, or service, but it was not paid for by Medicaid). This would include tests, medications, and services purchased through Medicare, private pay, or county mill tax funds, as well as any free sample medications. In order to help address the problem of ‘false positives’, a clinical correction capacity was incorporated into ProAct™ that allows a HCH to note inaccurate data so that Nurse Care Managers do not waste time following up on inaccurate data.

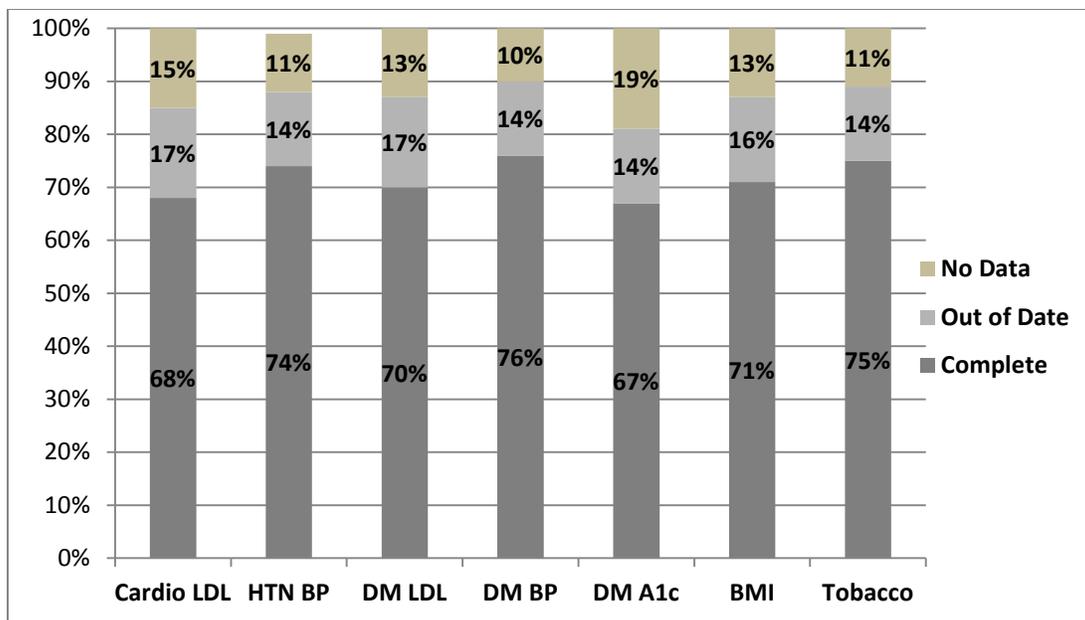
Although ProAct™ can be used to upload metabolic screening data; initially many CMHC Healthcare Homes continued to use two other systems for uploading data: submitting Excel spreadsheets on a monthly basis and using an Access database. The Access database had

been created on an ad hoc basis prior to the development of ProAct™, but by early 2013, it began to fail and could no longer be supported. Many CMHCs favored using Excel spreadsheets, because it was much more difficult to enter data into early versions of ProAct™, and because ProAct™ only exhibited each HCH enrollee's current metabolic values (BP, LDL, A1c, etc.), so CMHCs needed to maintain a separate database to track changes in an individual's metabolic values. However, because the Excel sheets did not have built in edits to screen out nonsensical or incomplete data, and because the process of transferring the data from the Excel sheets to ProAct™ sometimes resulted in data that was submitted failing to be uploaded, it was difficult to determine whether metabolic screening data was complete and accurate for each CMHC Healthcare Home. Moreover, it was also clear that some CMHC Healthcare Homes had not kept pace with maintaining up-to-date metabolic screening data on all of their HCH enrollees. Consequently, during the spring of 2013, a great deal of effort was made to make ProAct™ more user friendly, to identify and eliminate data uploading errors, and to bring metabolic screening data up to date for all HCH enrollees.

These efforts to improve data integrity and assure up-to-date information for all HCH enrollees are paying off. Most CMHC Healthcare Homes are now entering metabolic screening data into ProAct™ which assures data integrity; and the timeliness and completeness of data entry has greatly improved.

The following chart illustrates that complete and accurate data on seven key Disease Management variables was available for more than two-thirds to more than three-quarters of the 9,667 adults who had been continuously enrolled in a CMHC Healthcare Home as of July 2013; and that data was available but had not been updated on another 14% to 17% of adults. Data was either missing or inaccurately recorded⁷ for 10% to 19% of these adults. It is important to note that while CMHCs directly measure blood pressure levels, and height and weight which are used to calculate BMI levels, and also determine whether individuals use tobacco, they are often dependent on primary care providers or independent laboratories to determine LDL and A1c levels. Not surprisingly, the percentage of missing or inaccurate LDL and A1c data is higher than the percentage of missing or inaccurate blood pressure and BMI data. It should also be noted that on every measure there are several CMHC Healthcare Homes that have complete data for more than 80% of enrollees, including a few HCHs with 90% to 100% complete data for enrollees.

⁷ Missing or inaccurately recorded data includes recorded values that fall outside of the parameters that have been established for each variable, as well as errors in recording a patient ID number, and text that has been inadvertently entered in numeric fields. Thus "missing data" includes a number of transcription errors, as well as fields that have actually been left blank.



DMH established benchmark goals for each of the measures included in the Disease Management Report. The benchmark goal was intended to indicate the level of performance, which a fully developed CMHC Healthcare Home should strive to maintain. However, because we recognized that there would be several months at the beginning of the program where staff were being recruited and trained, and processes and systems were in development, and because we understood that it would take time for all CMHC Healthcare Homes to screen all of their enrollees, we also established a gap closing goal for each measure. So, for example, a 10% improvement during the first year of the program in the number of HCH enrollees with diabetes whose blood pressure was in control (e.g. from 25% to 35%) would be considered adequate progress toward the benchmark goal (70%).

In order to assess progress in achieving the benchmark and gap closing goals, reports were created for individuals who had been continuously enrolled for one year as of the end of January 2013, and individuals who had been enrolled for 18 months as of the end of June 2013, comparing the values for each of these measures at baseline (February 2012) with the values for these measures as of January 2013 and June 2013.⁸

Seventy-seven percent (77%) of the individuals who were enrolled in February 2012 were still enrolled as of January 2013; so as of January 2013, there were 10,877 adults and 1,527

⁸ February 2012 was selected to establish baseline data, rather than January 2012, because CMHCs were still engaged in contacting auto-enrollees to confirm their enrollment in the Healthcare Home initiative during January 2012. As noted above, some auto-enrolled individuals could not be located or declined enrollment, so CMHC Healthcare Home enrollment actually stabilized in February 2012. However, because CMHCs did not immediately add new enrollees beyond those who had been auto-enrolled, it is fair to assume that individuals enrolled in February 2012 were also enrolled in January 2012; so individuals continuously enrolled in a Healthcare Home as of June 2013 can fairly be considered to have been enrolled for 18 months.

children and youth who had been continuously enrolled in a CMHC Healthcare Home for one year.⁹

Two-thirds (67%) of the individuals who were enrolled in February 2012 were still enrolled as of June 2013; so as of June 2013, there were 9,667 adults and 1,090 children and youth who had been continuously enrolled in a CMHC Healthcare Home for 18 months.

Each of the following sections discusses the progress in meeting the benchmark and gap closing goals for this cohort of enrollees.

a) Diabetes Mellitus

Almost 30% of adults (2,822 out of 9,667) who were continuously enrolled in CMHC Healthcare Homes for 18 months have been diagnosed with diabetes mellitus: about three times the prevalence of diabetes in the general adult population (10%).

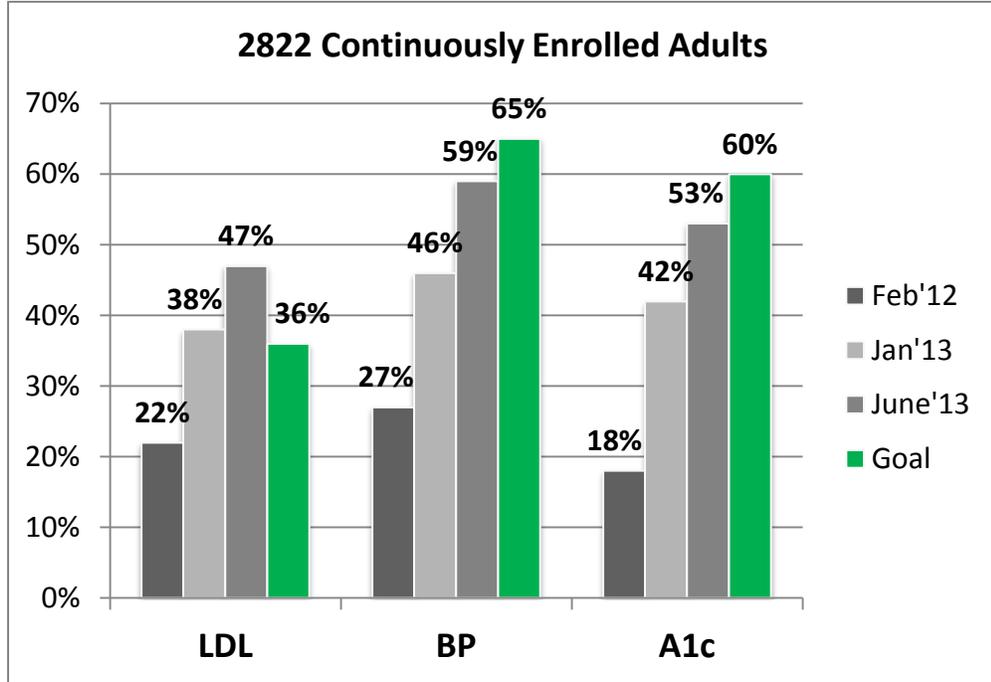
CMHC Healthcare Homes track and report blood pressure, LDL, and A1c levels for all HCH enrollees with diabetes as part of the required Metabolic Screening. The following table defines the population that is “in control” with regard to each measure for adults.

Diabetes Blood Pressure Control (Adult)	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had a blood pressure <140/90 mmHg.	Benchmark Goal: 65% Gap Closing Goal: increase by 10 percentage points
Diabetes A1c Control (Adult)	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had an HbA1c <8.0%.	Benchmark Goal: 60% Gap Closing Goal: increase by 10 percentage points
Diabetes LDL Control (Adult)	% of patients 18-75 years of age with a diagnosis of diabetes (type 1 or type 2) who had LDL <100 mg/dL.	Benchmark Goal: 36% Gap Closing Goal: increase by 10 percentage points

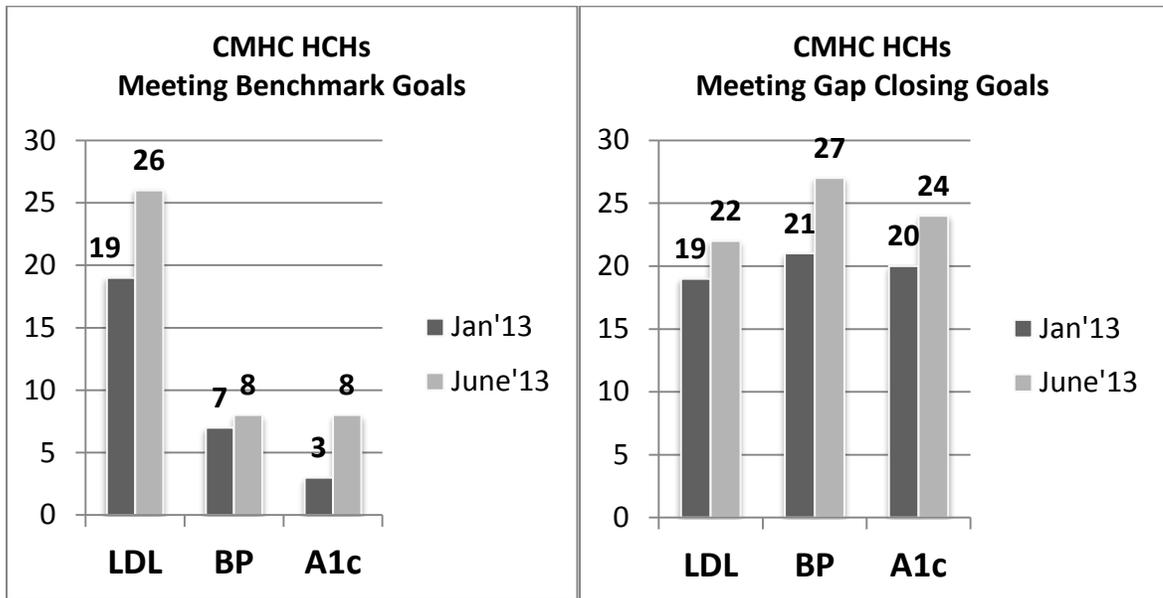
As the following chart illustrates, the percentage of adults with diabetes with LDL, blood pressure, and A1c levels that are in control has steadily improved from

⁹ One hundred thirty-three (133) individuals who were counted as children and youth as of February 2012 had a birthday by January 2013, so they were counted as adults in the annual report.

February 2012 through June 2013, so that at 18 months, the percentage of adults whose diabetes was in control exceeded or was approaching the benchmark goal for each measure.



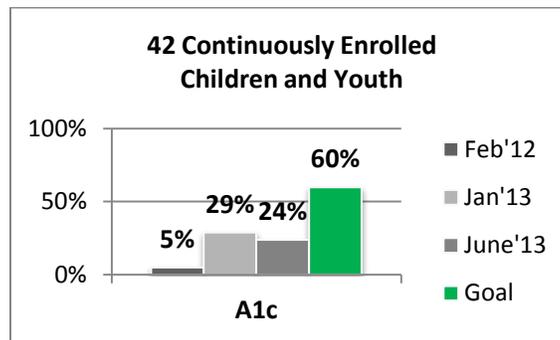
As illustrated by the following charts, for each measure, several CMHC Healthcare Homes met the benchmark goal, and nearly all of the twenty-eight CMHC Healthcare Homes were meeting the gap closing goal for each measure as of June 2013.



Of the twenty-eight (28) CMHC Healthcare Homes, twenty-six (26) met the benchmark goal for LDL control, eight (8) met the benchmark goal for blood pressure control, and eight (8) met the benchmark goal for A1c control for their adult enrollees with diabetes as of June 2013.

As of June 2013, twenty-two (22) CMHC Healthcare Homes met the gap closing goal (at least a 15% improvement) for LDL control, twenty-seven (27) met the gap closing goal for blood pressure control, and twenty-four (24) met the gap closing goal for A1c control for their adult enrollees with diabetes.

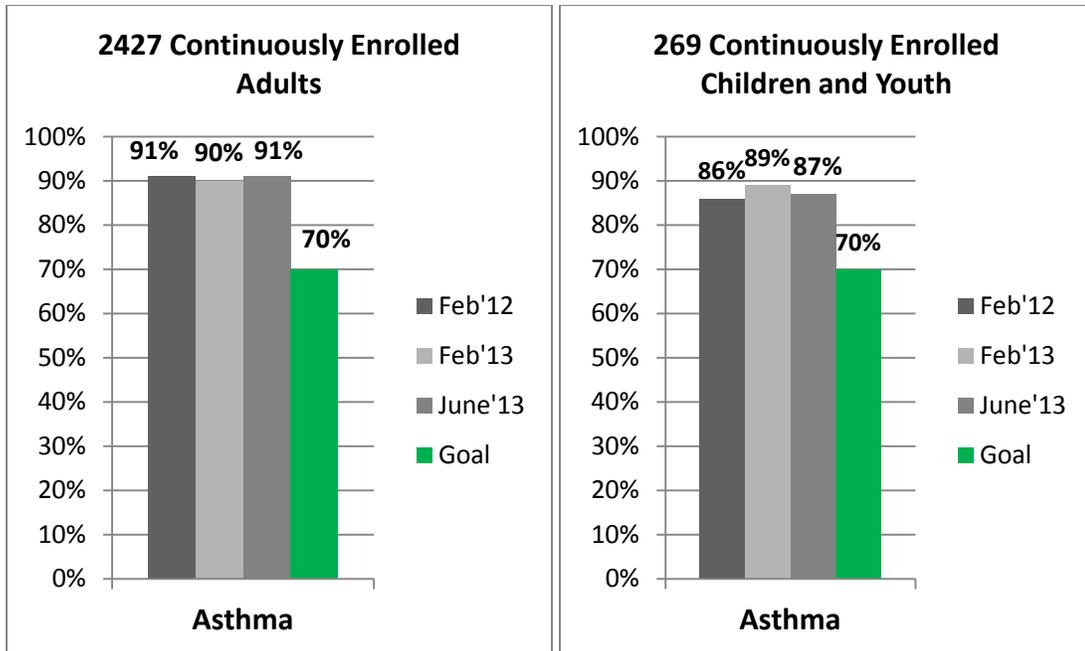
Only forty-two (42) of the children and youth continuously enrolled in a CMHC Healthcare Home for 18 months were diagnosed with diabetes. The only measure for which DMH initially established benchmark and gap closing goals related to children and youth with diabetes involved improving A1c levels.



b) Asthma

One quarter (25%) of both the adults (2,247), and the children and youth (269), continuously enrolled in CMHC Healthcare Homes for 18 months were diagnosed with COPD or Asthma compared to fifteen percent (15%) of adults, and ten percent (10%) of children and youth, in the general population.

CMHC Healthcare Homes are responsible for assuring that individuals with persistent Asthma have been appropriately prescribed a corticosteroid. Initially it was thought that the benchmark goal for this measure should be established at a relatively low level, since only individuals with persistent asthma require a corticosteroid, and it is not possible to determine from diagnostic data which individuals have “persistent” asthma. But as illustrated from the following charts, more than 90% of the adults, and more than 85% of the children and youth, who have been continuously enrolled in a CMHC Healthcare Home have been receiving a corticosteroid since the beginning of the HCH initiative. Consequently, every CMHC Healthcare Home was already meeting the benchmark goal for this measure when the initiative began.



c) Hypertension and Cardiovascular Disease

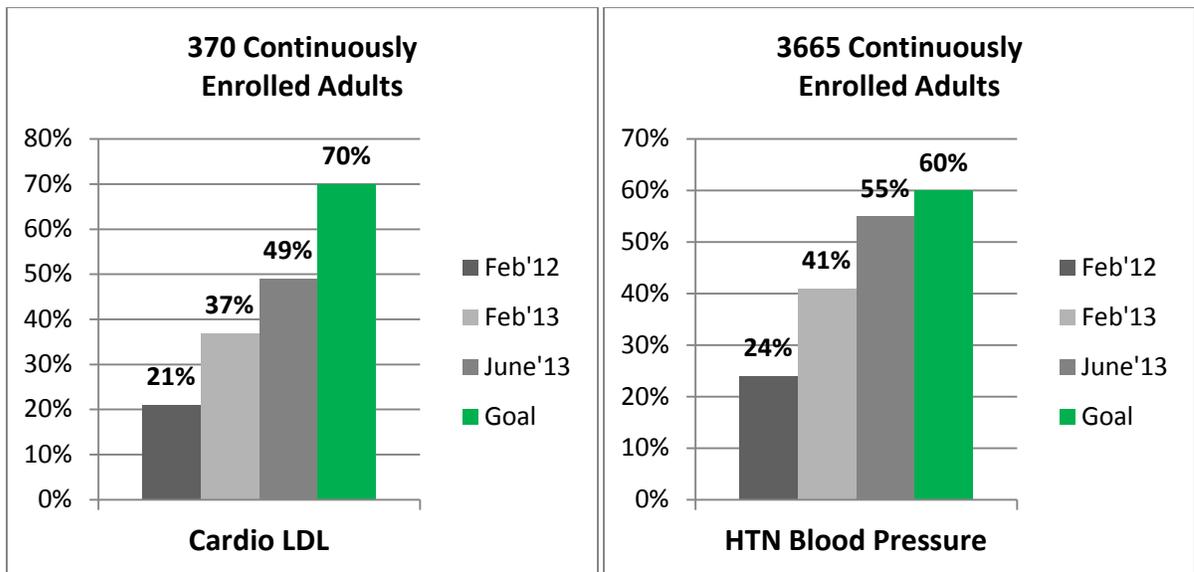
Although only about four percent (4%) of the adults who have been continuously enrolled in a CMHC Healthcare Home for 18 months have been diagnosed with cardiovascular disease, almost forty percent (or 3,665 adults) have been diagnosed with hypertension.

CMHC Healthcare Homes are responsible for tracking, reporting, and improving the percentage of adults with cardiovascular disease whose LDL is in control and the percentage of adults with hypertension whose blood pressure is in control.

BP Control HTN	% of patients 18 years and older with a diagnosis of hypertension with a blood pressure <140/90 mmHg, during the most recent office visit within a 12 month period.	Benchmark Goal: 60% Gap Closing Goal: 10% (1yr) 15% (18 mos.)
LDL Control Cardio	% of patients 18-75 years of age with a diagnosis of CAD with lipid level adequately controlled (LDL <100 mg/dL).	Benchmark Goal: 70% Gap Closing Goal: 10% (1yr) 15% (18 mos.)

As illustrated by the following charts, both the percentage of adults with Cardiovascular disease whose LDL levels are in control, and the percentage of adults

with hypertension whose blood pressure levels are in control have steadily improved from February 2012 through June 2013.



d) Body Mass Index

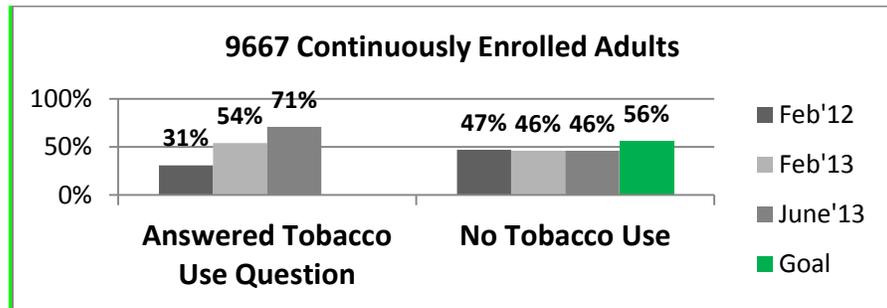
The Affordable Care Act provided that individuals with a BMI greater than 25 were eligible for enrollment in a health home if they also had another chronic disease or were at risk for a chronic disease.

Although less than 30% of the general adult population has a BMI of 25 or less, DMH initially established, what we now recognize as, an unrealistic benchmark goal of 37% of HCH enrollees having a BMI of 25 or less. In fact, as noted above, more than 80% of HCH adults have a BMI greater than 25, and 20% of HCH adults have a BMI greater than 40 compared to 3% of the general adult population. Therefore, because a relatively modest reduction in BMI score can result in general health benefits, we will be establishing more realistic benchmark and gap closing goals related to percentage reductions in BMI score, targeting individuals with a BMI greater than 30.

Because assessing Body Mass Index for children and youth is more complicated than it is for adults, and our initial data collection systems did not take into consideration the additional variables required to accurately measure BMI for children and youth, we are unable to accurately report the status of BMI control for HCH children and youth. However, the data collection systems are being revised, so we will be able to report and assess progress for HCH children and youth in the future.

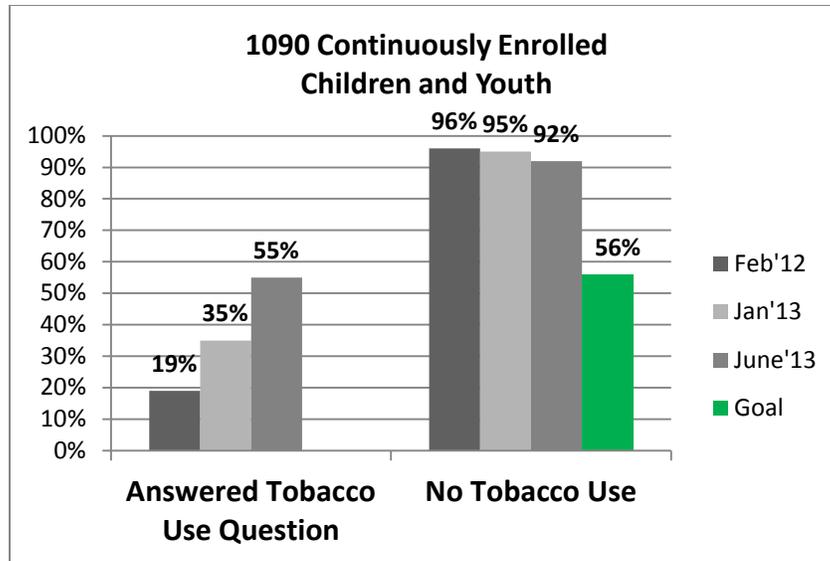
e) **No Tobacco Use**

DMH established a benchmark goal of 56% of HCH enrollees being free of tobacco use. Tobacco use is determined simply by asking enrollees about their use of tobacco. The following graph illustrates the percentage of adults who had been continuously enrolled for 18 months in June 2013 and who were asked and answered the question concerning their tobacco use at baseline, at one year, and at 18 months, as well as the percentage of these adults who reported no tobacco use at each point in time.



While the percentage of adults who have been asked and answered the question concerning tobacco use has grown significantly, the percentage of adults who indicate that they do not use tobacco has remained essentially constant with no progress toward meeting the benchmark goal on a statewide basis, though fifteen CMHC Healthcare Homes met the gap closing goal by reducing tobacco use among adults by at least 15% as of June 2013 when compared with February 2012.

Similarly, the following graph illustrates the percentage of children and youth who were continuously enrolled for 18 months as of June 2012 and who were asked and answered the question regarding tobacco use, as well as the percentage who reported no tobacco use at that point in time.



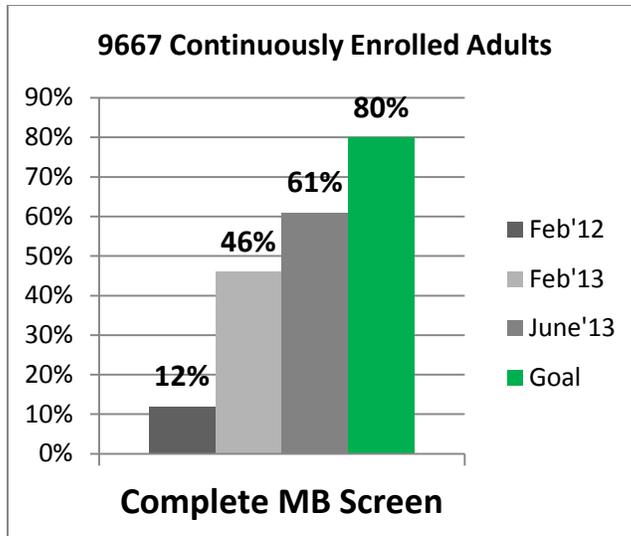
The graph also shows that while the percentage of children and youth who were asked about their tobacco use has grown significantly, the percentage of children and youth who report tobacco use has remained relatively constant. However, CMHC Healthcare Homes have been meeting the benchmark goal for no tobacco use from the beginning of the program, indicating that this benchmark needs to be revised to be more meaningful for children and youth.

f) Metabolic Screening

Metabolic screening is critical, because it is the key tool for identifying diabetes, hypertension, and cardiovascular disease; assessing progress in controlling these chronic diseases; and improving health status related to being overweight.

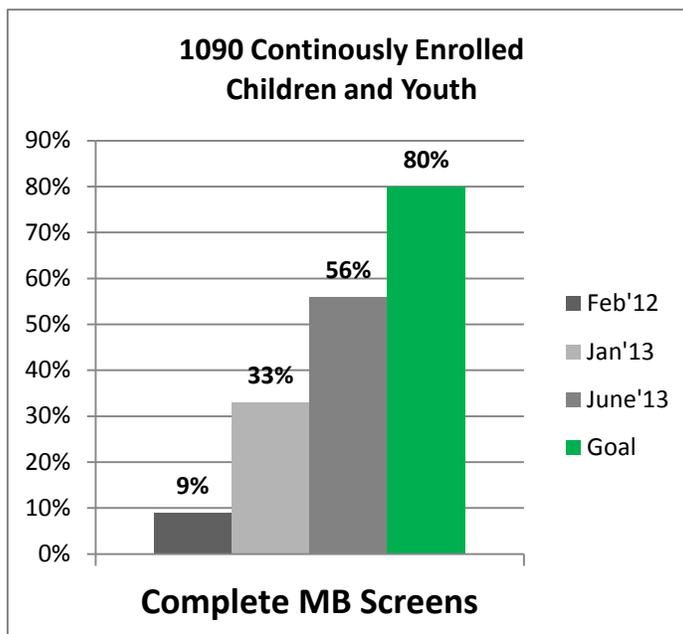
DMH established a benchmark goal of having a complete annual metabolic screen for 80% of HCH enrollees. To be counted as “complete”, values must be present and up-to-date for all eleven measures on the standard screening tool. If one value is missing, or if one value has not been updated within the past twelve months, then the entire screen is considered incomplete.

As illustrated by the following chart, the percentage of adults with complete metabolic screens has steadily improved from February 2012 through June 2013.



Three CMHC Healthcare Homes (Arthur Center, Burrell-Central, and North Central Mo MHC) met the benchmark goal in June 2013, and nine CMHC Healthcare Homes met the gap closing goals of improving the percentage of adults with complete screens by 50% and 71% at the annual and 18 month milestones, respectively.

As illustrated by the following chart, the percentage of children and youth with complete metabolic screens has steadily improved from February 2012 through June 2013, though lagging behind the percentage of complete screens for adults.



Two CMHC Healthcare Homes (Arthur Center and North Central Mo MHC) were meeting the benchmark goal as of June 2013.

D. Hospital Follow-up and Medication Reconciliation

CMHCs have a history of monitoring psychiatric hospital admissions and participating in discharge planning for individuals enrolled in their Community Psychiatric Rehabilitation programs. Now, in addition to psychiatric admissions, CMHC Healthcare Homes are responsible for participating in discharge planning and following up with HCH enrollees who have been hospitalized for any reason within 72 hours of discharge, and Nurse Care Managers are responsible for completing a medication reconciliation within 72 hours of the discharge of a HCH enrollee. Our goal is to follow up and complete a medication reconciliation within 72 hours for 80% of HCH enrollees discharged from hospitalization.

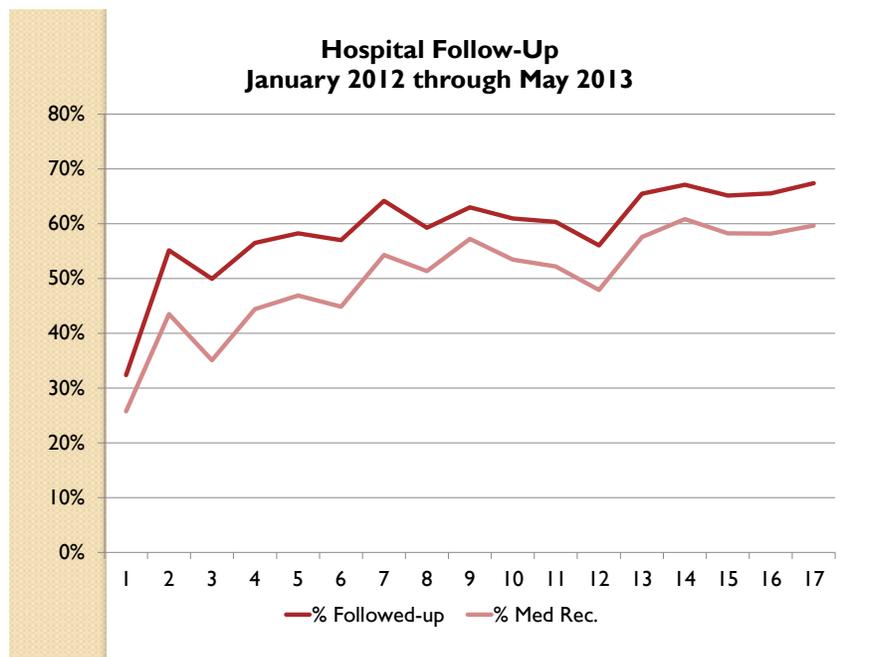
In February 2012, CMHC Healthcare Homes began receiving a daily e-mail notifying them when Medicaid has approved a request for payment of a hospital admission for one of their enrollees. Since hospitals are only required to submit a request for payment some time prior to discharging a patient, CMHCs sometimes receive the notification after the individual has already been discharged. In addition, because the daily e-mails are based on a system in which a hospital may be seeking additional hospital days for a patient who is already in the hospital or even appealing a previously denied request subsequent to the discharge of a patient, the daily e-mails include “false positives” (i.e. patients who have already been admitted and whose stay is simply being extended, as well as patients who have already been discharged but for whom the hospital is appealing a denial of payment by Medicaid). Moreover, if a HCH enrollee’s admission is being billed to some other source than Medicaid (e.g. Medicare or other third party payer), then the CMHC may not be notified of the admission at all. Obviously, then, it is possible for a CMHC Healthcare Home to be unaware of an admission, to learn of the admission too late to participate in discharge planning or follow up with the individual within 72 hours of discharge, and it is often the case that CMHC Healthcare Home staff are forced to spend time determining whether a new admission has actually occurred or not.

Participating in discharge planning and follow up is complicated by the fact that many CMHC Healthcare Homes must work with several hospitals. Pathways, which serves four rural Missouri service areas covering 21 counties, faces a unique challenge. In one month, Pathways HCH enrollees had 78 unique hospital episodes involving 38 separate hospitals. Crider Center in the suburban St. Louis area and BJC in the City of St. Louis each had HCH enrollee admissions to 17 separate hospitals in one month. In addition, one large, specialty hospital in St. Louis had HCH enrollee admissions from one-half (14) of the CMHC Healthcare Homes across the state in one month.

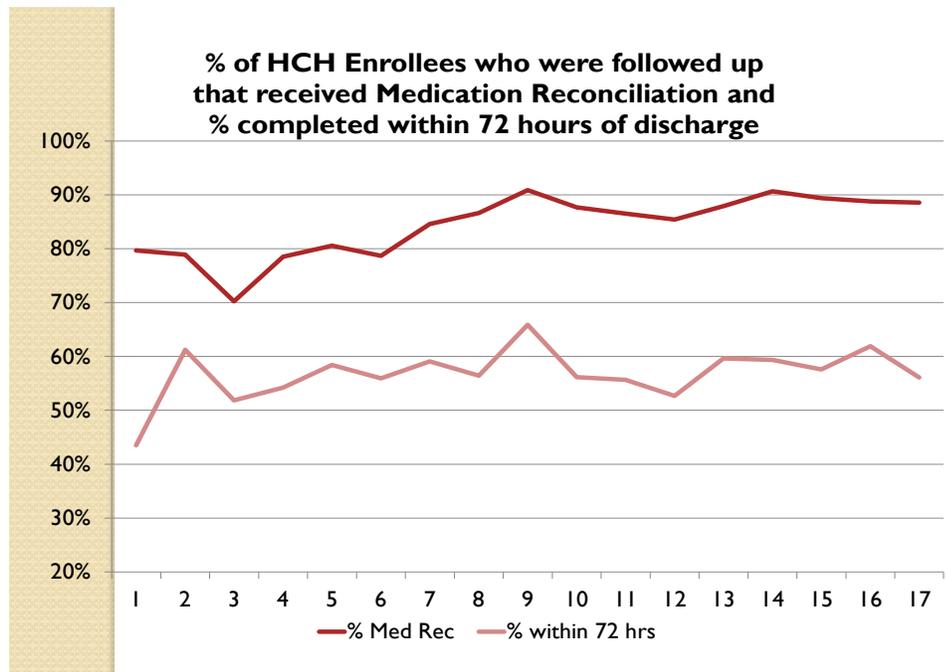
Finally, when discharges occur over a weekend, the ability of CMHC Healthcare Home staff to follow up within 72 hours of discharge is compromised by the fact that they are not typically available on weekends.

Each month between 3% and 4% of CMHC Healthcare Home enrollees are discharged from Medicaid authorized hospitalizations. CMHC Healthcare Homes began receiving daily e-mails notifying them of Medicaid authorized hospital admissions in February 2012.

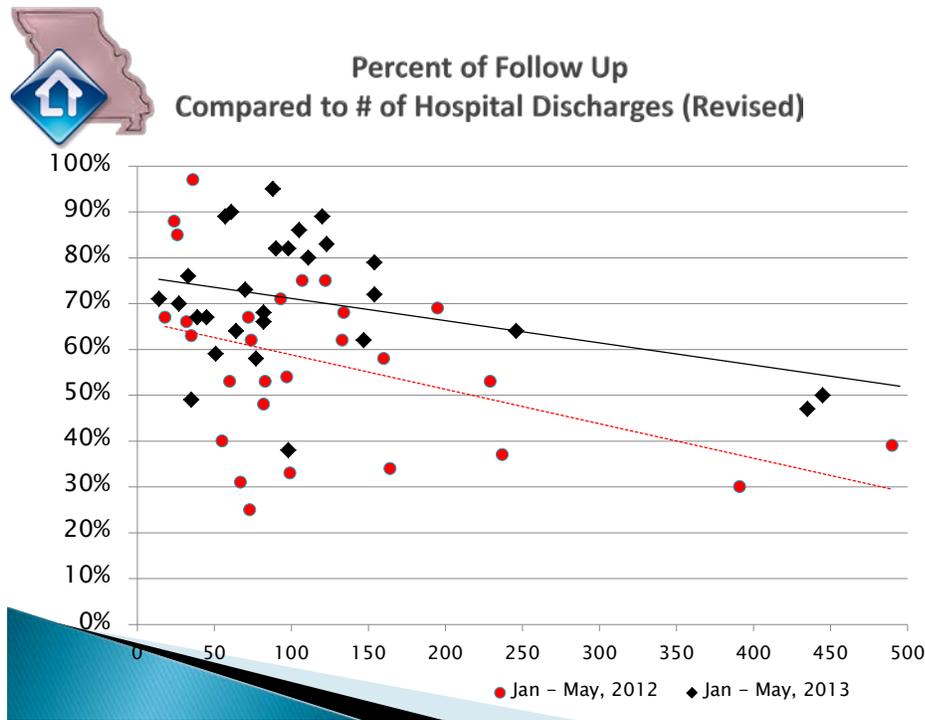
The following chart illustrates that, despite the challenges due to the problems noted above regarding late notification, “false positives”, and the complexity of dealing with multiple hospitals, there has been a steady improvement in the percentage of HCH enrollees that CMHC Healthcare Homes have followed up with, and completed a Medication Reconciliation for, following discharge from a Medicaid authorized hospital admission. Overall, as of May 2013, CMHC Healthcare Homes followed up on two-thirds, and completed a Medication Reconciliation on 60%, of all discharges.



If one focuses on the HCH enrollees that CMHC Healthcare Homes were able to contact following discharge, then, as the following chart illustrates, overall CMHC Healthcare Homes are now completing Medication Reconciliation on 90% of the individuals contacted and completing 60% of the reconciliations within 72 hours of discharge.



The number of discharges that CMHC Healthcare Homes are required to follow up on varies dramatically. Some CMHC Healthcare Homes have only one or two discharges to track in some months, and no more than 10 in any month; while other CMHC Healthcare Homes regularly have 70 or 80 discharges to track, and more than 100 in some months. As noted above, the complexity of follow up for the CMHC Healthcare Homes with the largest number of discharges to track is also complicated by having to develop working relationships with a great many hospitals. Not surprisingly, as the following chart illustrates, the ability to successfully follow up with individuals who have been discharged is highly correlated with the number of discharges a CMHC Healthcare Home is tracking.



This chart compares the number of discharges for each CMHC Healthcare Home for two time periods (January through May 2012 and January through May 2013) with the percentage that the CMHC followed up during the same time periods. The regression lines illustrate that there is an inverse relationship between the number of discharges and the ability to follow up, but the reduction in the slope of the line from the first to the second time period indicates that the strength of this correlation declined somewhat. In short, while CMHC Healthcare Homes with large numbers of discharges to track have a more difficult time in following up, they are getting better at doing so.

This chart also illustrates that hospital follow-up improved significantly during the first 18 months of the HCH initiative. From January through May 2012, only three CMHC Healthcare Homes were able to follow up on 80% or more of discharges, compared to the period from January through May 2013 during which nine CMHC Healthcare Homes were able to follow up on 80% or more of discharges. And while nine CMHC Healthcare Homes followed up on less than 50% of discharges from January through May 2012, only four CMHC Healthcare Homes followed up on less than 50% of discharges from January through May 2013.

Because of the overall shift to the left on this chart from January through May 2012 and January through May 2013, this chart also suggests there has been an overall reduction in the number of HCH enrollees being hospitalized. This trend is confirmed by data developed by MO HealthNet regarding hospital and emergency room usage by health home enrollees.

SECTION 5: SERVICE UTILIZATION AND FINANCIAL IMPACT

The Department of Mental Health and MO HealthNet have begun assessing the impact of the health home initiative on service utilization and the cost of care for HCH enrollees.

MO HealthNet analyzed Medicaid expenditures for hospitalization and emergency room services for CMHC Healthcare Home enrollees for the year prior to enrollment and the year following enrollment. As the following table illustrates, as the previous discussion of CMHC Healthcare Home hospital follow-up suggested, there was a reduction in both hospital admissions per 1000, and in emergency room use per 1000, for individuals enrolled in CMHC Healthcare Homes.

Hospital Admissions per 1000	Emergency Room Use per 1000
-12.8%	-8.2%

Based on average costs for hospital stays and emergency room services, and adjusting for inflation, together these reductions resulted in a \$127.55 PMPM reduction in hospital and emergency room costs. CMHC Healthcare Homes receive a \$78.74 PMPM for each enrollee, so the net savings resulting from the reduction in hospital and emergency room use was $\$127.55 - \$78.74 = \$48.81$ PMPM, or an overall cost savings of approximately \$2.9 million.

An alternative approach to assessing the cost of care is to compare the total cost to Medicaid of all care for the year prior to enrollment with the total cost to Medicaid of all care for the year following enrollment in a CMHC Healthcare Home.

MO HealthNet and DMH analyzed total Medicaid cost for the 12,105 non-DM 3700 enrollees who were enrolled in a CMHC Healthcare Home for at least nine months during 2012.

Almost one-half (5,949) of these were dually eligible for Medicare and Medicaid. These dually eligible individuals showed significant cost savings to Medicaid of \$138.07 PMPM, over and above the \$78.74 PMPM cost of the CMHC Healthcare Home, or \$9.75 million compared to the cost of their care to Medicaid in the year prior to enrollment in a CMHC Healthcare Home.

Medicaid was the sole payer for the remaining 6,156 non DM 3700 enrollees who were enrolled in a CMHC Healthcare Home for at least 9 months during 2012. These individuals accounted for a net savings of \$32.98 PMPM, over and above the \$78.74 PMPM cost of the CMHC Healthcare Home; or total savings to Medicaid of more than \$2.4 million.

Considering all 20,031 who were in CMHC Health Homes during the first 18 months of operation, there was a \$76.33 PMPM reduction in cost totaling \$15.7 million.

In addition, MO HealthNet and DMH analyzed total Medicaid costs for 2,237 DM 3700 enrollees who were enrolled in a CMHC Healthcare Home for at least nine months during 2012.

One-quarter (552) of these were dually eligible for Medicare and Medicaid who showed a substantial cost savings to Medicaid of \$1,548 PMPM, over and above the \$78.74 PMPM cost of the CMHC Healthcare Home, or a cost savings to Medicaid of \$10.1 million.

Medicaid was the sole payer for the remaining 1,685 DM 3700 enrollees, who also showed a significant cost savings to Medicaid of \$247.16 PMPM, over and above the \$78.74 PMPM cost of the CMHC Healthcare Home; or a total cost savings to Medicaid of \$4.9 million.

Considering all 3,560 persons in DM 3700 since December 2010 to August 2013, there was a \$614.80 PMPM reduction of cost totaling \$22.3M.

Therefore, after one year of enrollment in a CMHC Healthcare Home, the total net cost savings to Medicaid for both DM 3700 and non-DM 3700 CMHC Healthcare Home enrollees, including individuals who were dually eligible for Medicare, was more than \$27 million. The total rises to \$38 million if all enrollees are considered.

SECTION 6: FINANCIAL MANAGEMENT

The health home PMPM provides resources to support three key enhancements to enable the existing CMHC treatment programs to make the changes necessary to function as health homes for their consumers: improved care management reports and tools, targeted training and technical assistance, and additional staffing.

The portion of the PMPM devoted to supporting additional staffing includes resources for four new positions and assumes a specific staff to enrollee ratio for each of the four types of positions.

The health home PMPM provides support for:

- HCH Director positions based on a ratio of 1 FTE per 500 HCH enrollees;¹⁰
- HCH Clerical/Care Coordinator positions also based on a ratio of 1 FTE per 500 enrollees;
- Nurse Care Manager (NCM) positions based on a ratio of 1 FTE per 250 enrollees;
- Primary Care Physician Consultation based on 1 hour per enrollee per year.

When these staffing expectations were established, we recognized that the challenges involved in recruiting and training staff for entirely new positions, and of dealing with inevitable staff turnover, made it unlikely that providers would be able to fulfill the staffing expectations perfectly. Consequently, recognizing that the first two months of the initiative (January and February 2012) would be particularly volatile in terms of both consumer enrollment as CMHCs worked to engage individuals who had been auto-enrolled, and in terms of recruiting staff,

¹⁰ However, CMHC Healthcare Homes with fewer than 250 enrollees have been expected to retain at least a half-time HCH Director.

CMHC Healthcare Homes were actually expected to maintain at least 85% of the staffing levels established by these ratios for the annual period of March 2012 through February 2013.

With approval CMHC Healthcare Homes were allowed to substitute additional Nurse Care Manager, Primary Care Physician Consultant, and other clinical position hours for any administrative hours required by the staffing ratios beyond maintaining at least one HCH Director and one HCH Clerical/Care Coordinator. CMHC Healthcare Homes were not allowed to substitute administrative hours for any Nurse Care Manager or Primary Care Physician Consultant hours required by the staffing ratios.

Each month CMHC Healthcare Homes attest to the actual individuals that received a health home service and also report the actual hours worked by each of the required staff supported by the PMPM payment. Based on a comparison of the hours actually worked with the expected hours for each position, and the proportion of the PMPM associated with each position, the Department of Mental Health calculated the value of the hours worked for each position versus the value of the hours expected for each position for the period of March 2012 through February 2013.

In the aggregate, all of the CMHC Healthcare Homes, except three, provided more value based on the actual number of enrollees and the expected staffing ratios when the value of the hours actually worked were compared with the value of the expected hours worked. To account for over payments, adjustments were made in subsequent payments to the three CMHC Healthcare Homes that did not maintain at least 85% of the expected staffing ratios, commensurate with their variance from the expected staffing ratios.

SECTION 7: TRAINING AND TECHNICAL ASSISTANCE

A. Healthcare Home 101

An orientation to the purpose, key components, and policies and procedures of CMHC Healthcare Homes was initially provided to all HCH directors, nurse care managers, primary care physician consultants, care coordinators, and community support supervisors, and continues to be provided every four to six months for all newly hired staff. This day long, “Healthcare Home 101” training provides an overview of the following topics:

- Why CMHC Healthcare Homes?
- What is a CMHC Healthcare Home?
- Roles and responsibilities of HCH directors, nurse care managers, primary care physician consultants, care coordinators, community support specialists, and other clinical staff
- Care Management: Tools and Reports
- Performance Measures
- Program Reviews, Evaluations, and Accreditation
- Training

B. Medical Home Learning Collaborative

In October 2012, the Missouri Foundation for Health and the Healthcare Foundation of Greater Kansas City launched the Missouri Medical Home Collaborative (MMHC) with the goal of improving the care for a broad spectrum of Missouri residents by transforming entire Primary Care Practices (PCP) and Community Mental Health Centers (CMHC) to Patient Centered Medical Homes (PCMH) or Healthcare Homes. The concept of health homes serving individuals with serious mental illness was, of course, completely new; and, consequently, the expertise of the contractor selected by the foundations to provide training and technical support to the collaborative related to the implementation of Patient Centered Medical Homes. Understandably, then, there was an initial disconnect between the approach and material utilized by the contractor and the interest and needs of the CMHC Healthcare Home participants. The contractor did work to better understand the needs of the CMHCs and to modify its curriculum to better meet those needs; and over the 18 months that the Collaborative was operative, it provided a needed opportunity for CMHC Healthcare Home participants to have time away from their daily routines to work on the variety of implementation issues they were facing.

C. Wellness Coach Training

A recent SAMHSA publication, entitled “Promoting Recovery in Health Homes,” notes that recovery is “a process of change through which individuals improve their health and **wellness**, live a self-directed life, and strive to reach their full potential”¹¹, and that

Wellness...relates to how meaningful our lives are and suggests that individuals have purpose, are actively involved in work and play, take pleasure in relationships with others, maintain our health and living situations, and have some measure of happiness.¹²

We recognized that in order to transform CMHCs into health homes, in addition to augmenting treatment teams by adding Healthcare Home Directors, Nurse Care Managers, Primary Care Physician Consultants, and Care Coordinator/Clerical Support staff, CMHCs would need to understand and embrace the importance of promoting wellness, as well as to develop the skills to assist individuals in embracing and pursuing wellness.

Community Support Specialists (CSSs) seemed the natural vehicle for promoting wellness. CSSs work with twenty to thirty individuals and are already responsible for helping them access services and supports, self-manage chronic conditions, and make lifestyle choices and changes. Therefore, as part of the CMHC Healthcare Home initiative, the Department of Mental Health committed to training all CSSs as wellness coaches.

¹¹ SAMHSA’s current working definition of ‘recovery’ found in “Promoting Recovery in Health Homes, p.4. (Emphasis added.)

¹² Ibid., p. 4.

The Department selected a wellness coach training curriculum developed by the Collaborative Support Programs of New Jersey and faculty in the Department of Psychiatric Rehabilitation and Counseling Professions, Rutgers-SHRP, and contracted with the authors to conduct the training and monitor progress.

Wellness is conceptualized across 8 dimensions: physical, spiritual, occupational, intellectual, social, environmental, financial, and mental/emotional. Wellness coaches help individuals identify personal strengths across these 8 dimensions, clarify their expectations for change or improvement, and guide them toward successful and long lasting behavioral change.

Because of the large number of Community Support Specialists statewide, and because regular turnover in the CSS staff will require ongoing training, a train-the-trainer approach was utilized with each CMHC sending at least one staff member to a four-day training in September 2012. These individuals were both trained as wellness coaches and trained to train others to be wellness coaches.

Following the initial training, each CMHC submitted a plan for training all adult Community Support Specialists, CPR Supervisors, and Peer Specialists. The contractor provided technical assistance to assure that the plans were well designed and included realistic timelines.

As of July 2013, all but two CMHCs had begun, and ten had completed, the initial training of all Community Support Specialists, CPR Supervisors and Peer Specialists. Twenty-one CMHCs trained additional agency staff. Several used the Wellness Coach training as an opportunity to transform their entire organization, including all staff and consumers, to a wellness orientation. All but two CMHCs are expected to complete the initial training of staff by the end of 2013.

D. Practice Coaches

Beginning in November 2012, the Missouri Foundation for Health provided funding to support the establishment of Practice Coaches for the CMHC Healthcare Homes. Four recently retired senior mental health officials were recruited to fill these positions. Three of the four had served as either the CEO or COO of a Missouri CMHC, and the fourth had served as Coordinator of Policy and Program for the Division of Comprehensive Psychiatric Services.

Each Practice Coach was assigned to work with several CMHC Healthcare Homes with the following objectives:

- Assist HCHs in preparing for CARF accreditation
- Integrating the HCH into the CPR Program
- Identifying and eliminating barriers
 - HIPAA and Hospital Follow-Up

- Effective use of the PCP Consultants
- Improving Metabolic Screening rates
- Effective use of Care Management Reports
- Training Needs
- EMR development

Following an initial site visit to their assigned CMHCs in December 2012 or January 2013, practice coaches began having monthly conference calls with the CMHC staff, as well as making additional site visits as appropriate, generally on a quarterly basis.

Practice coaches tailored their technical assistance to the particular needs of each CMHC, often reviewing draft policies and procedures to assure they accorded with CARF standards, advising on approaches to better integrating health home functions into existing systems, and facilitating a quality review of HCH client records.

Practice coaches were also instrumental in advising the DMH/Coalition health home implementation team on issues/problems encountered by CMHCs, as well as progress in implementing health home functions.

Consideration is being given to continuing some capacity for practice coaching beyond the expiration of the Missouri Foundation for Health grants at the end of 2013.

E. Health Literacy, Motivational Interviewing, and Chronic Diseases

Early in 2012, the Coalition of Community Mental Health Centers provided training in Motivational Interviewing through the University of Missouri for Nurse Care Managers and related CMHC Healthcare Home staff; and the Coalition, in collaboration with the Primary Care Association and Health Literacy Missouri, offered training for health home staff in on health literacy.

Providing training to other CMHC staff on the nature and treatment of the diabetes, asthma, COPD, cardiovascular disease, and hypertension is among the functions that may be performed by Nurse Care Managers and Primary Care Physician Consultants. But in order to help provide a resource for ongoing training of new staff, DMH, in association with the Missouri Institute for Mental Health (MIMH), has developed a series of videos that, in addition to explaining the nature and treatment of each of these chronic diseases, also describes the role of Community Support Specialists in assisting individuals in managing these diseases.

The material included in the videos was presented in live training sessions as part of the Coalition of Community Mental Health Centers and Psychiatric Rehab Annual Conference in October 2013 and included sessions on Hypertension, Diabetes and Asthma. The training videos will be available soon through the Coalitions e-learning system.

The Annual Conference also included sessions on the following topics:

- Motivational Interviewing
- Using the DLA-20 in Assessment, Referral and Treatment
- Trauma Informed Care
- Using Stage Based Treatment
- Planning Care in CMHC Healthcare Homes
- Health Literacy and Cultural Competence

The second Physician's Institute was also held in conjunction with the Annual Conference. This year the Institute focused on the meaning and use of population management and the role of the psychiatrist as part of the Healthcare Home team. More than 250 CMHC Psychiatrists, Primary Care Physician Consultants, Nurse Care Managers, HCH Directors, CMHC Clinical Directors, and Community Support Supervisors participated in the Institute. In the morning, participants were introduced to ways some CMHCs are approaching population management and were given an opportunity to practice population management as a team in small group exercises. In the afternoon, the results of a survey of CMHC psychiatrists and HCH primary care physician consultants regarding their roles and relationships as part of the healthcare home team stimulated discussion about better ways for psychiatrists and PCP consultants to collaborate as part of the HCH team.

Finally, during 2013, the Coalition of Community Mental Health Centers collaborated with the Missouri Primary Care Association to sponsor training for Nurse Care Managers in becoming "Asthma Educator Care Managers."

F. Data Analytics

Frequent revisions to the data collection and reporting systems, including major revision of the outcome indicators in the fall of 2012, followed by revisions to ProAct™ in January 2013, and major updates of ProAct™ in the late spring of 2013, necessitated ongoing training and technical assistance to enable CMHC Healthcare Homes to use the systems.

In addition to ad hoc technical assistance and regularly scheduled training for new staff on how to utilize ProAct™ provided by an on-site, full-time project manager employed by CMT, the data analytics contractor for the CMHC Healthcare Homes, a special all-day training for all HCH staff was held in June 2013 to introduce new ProAct™ components and update HCHs on planned changes in development.

Training is also available to HCH staff in how to access and use CyberAccess, MO HealthNet's web-based system that allows all Medicaid providers access to historical diagnosis and treatment data of their Medicaid clients based on Medicaid paid claims.

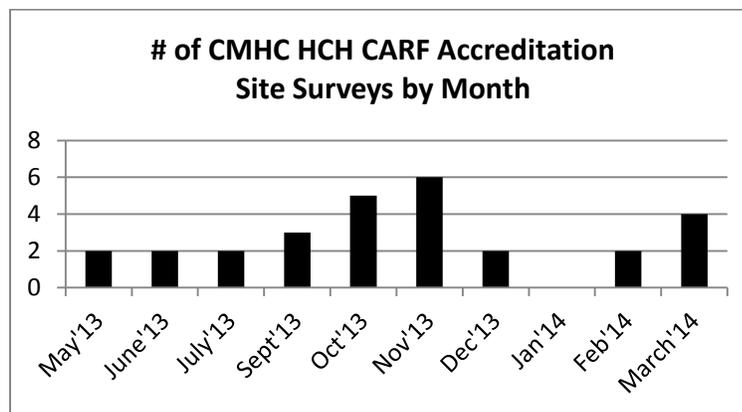
SECTION 8: ACCREDITATION

The Council on Accreditation of Rehabilitation Facilities (CARF) invited the Missouri Department of Mental Health to participate in discussions regarding the development of accreditation standards for behavioral health organizations seeking to serve as health homes for individuals with serious mental illness in the fall of 2011. DMH subsequently had the opportunity to review and comment on draft accreditation standards before their final promulgation as a Supplement to the 2012 Behavioral Health Standards Manual.

Because these new standards were specifically designed to capture the unique characteristics of behavioral health organizations serving as health homes for individuals with serious mental illness, in lieu of creating its own certification standards or accepting any other type of accreditation, DMH is requiring CMHC Healthcare Homes to be accredited under these health home standards. Most Missouri CMHCs are already accredited, or were seeking accreditation, by CARF for other behavioral health programs they operate. Therefore, DMH established January 2013 as the date by which CMHCs that are already accredited, or who were already seeking accreditation, by CARF must have their Healthcare Home accredited by CARF. The small number of CMHCs who were not currently accredited or seeking accreditation by CARF will have until April 2014 to receive CARF accreditation of their Healthcare Homes.

In November 2012, DMH and the Coalition of Community Mental Health Centers sponsored a two-day training session by CARF for all CMHCs and their Healthcare Homes designed to familiarize them with the CARF process, general program standards, and new health home standards.

As illustrated in the following chart, in May 2013, the first two CMHC Healthcare Homes were surveyed by CARF, twenty-two of the twenty-eight CMHC Healthcare Homes are expected to have had site surveys by the end of 2013, and the remaining six CMHC Healthcare Homes are expected to have their site surveys by the end of the first quarter of 2014.



All nine of the CMHC Healthcare Homes whose surveys were completed as of the end September 2013 have received CARF Accreditation.

SECTION 9: IMPLICATIONS

A. Target Populations

a. Serious Mental Illness and Serious Emotional Disorders

In many ways, since the creation of the Community Psychiatric Rehabilitation (CPR) program in the early 1990s, CMHCs have been functioning as health homes for the people they serve but with an exclusive focus on each individual's serious mental illness or serious emotional disorder, with little regard to the individual's general health and wellness. Consequently, with the creation of the CMHC Healthcare Homes, CMHCs had much to learn about other chronic diseases, wellness, and coordinating care with the larger healthcare system. And because a significant percentage of the individuals they were serving had other chronic diseases, most of the time and attention of the CMHCs during the first nearly two years of the health home initiative has been focused on staff training, revising processes and systems, and assessing and measuring outcomes, all related to these chronic diseases and to general health and wellness. So, for example, the "Outcomes" section of this report focuses almost exclusively on the progress in improving the health status of individuals with diabetes, asthma, COPD, cardiovascular disease, hypertension, or who are obese. But people are enrolled in a CMHC Healthcare Home primarily because they have a serious mental illness or serious emotional disorder.

Until recently, in addition to the Behavioral Pharmacy Management System, the only instrument for measuring the progress of the recovery of individuals with serious mental illness or serious emotional disorders was an annual survey of CMHCs regarding the housing, employment, and legal status; psychiatric hospitalizations; and substance abuse of consumers. DMH now utilizes the DLA-20 for both adults and children and youth to assess progress toward recovery on twenty domains related to activities of daily living. In the coming months, **consideration should be given to utilizing these two instruments to analyze and report the progress of CMHC Healthcare Home enrollees toward recovery from serious mental illness and serious emotional disorders.**

b. Diabetes, Asthma, and Hypertension

Although there has been obvious progress in improving several of the measures related to the health status of enrollees with diabetes, asthma, and hypertension, the high prevalence of these chronic diseases among CMHC Healthcare Home enrollees warrants a **continued emphasis on assuring that all members of the treatment team understand the nature and treatment of these conditions, as well as their role in assisting individuals in managing them; and on working with primary**

and specialty care providers to continue to improve the health status and quality of life of the individuals affected by diabetes, asthma, and hypertension.

c. Obesity and Tobacco Use

Many factors contribute to the high rates of obesity and tobacco use among the individuals enrolled in CMHC Healthcare Homes; and, consequently, reducing the rates of obesity and tobacco use will be challenging. The training of Community Support Specialists as Wellness Coaches that began in September 2012 is a key step in enabling CMHC Healthcare Homes to assist individuals in developing and maintaining healthy lifestyles aimed at preventing and reducing the rates of obesity and tobacco use. Nevertheless, **additional technical assistance and training is needed to assure that CMHC Healthcare Homes are equipped to assist individuals in making the difficult lifestyle changes needed to have a significant impact; and it should be recognized that reductions in the rates of obesity and tobacco use will have a long term, rather than near term, impact on healthcare costs.**

d. Substance Abuse

A significant percentage of CMHC Healthcare Home adult enrollees have a history of substance, and most CMHCs provide substance abuse treatment, including many that utilize an Integrated Dual Diagnosis Treatment model. However, during the first eighteen months of the health home initiative, we have given little attention to the implications that implementation of the health home initiative might have for this population or to any special training or technical assistance that health home staff might need to better serve this population. Therefore, **consideration should be given to assessing whether and to what extent CMHC Healthcare Homes are addressing the needs of this population and to whether special training or technical assistance is needed.**

e. Children and Youth

From the beginning of the health home initiative, the number and percentage of children and youth enrolled in CMHC Healthcare Homes has been relatively small, and, with the exception of three CMHC Healthcare Homes, has been declining.

The initial design of the CMHC Healthcare Home staffing focused on introducing additional expertise in the form a Nurse Care Managers (caseload 1:250) and a Primary Care Physician Consultant to the existing psychiatric rehabilitation treatment teams in order to infuse expertise related to chronic disease management and health promotion and prevention. But this design did not take into consideration some key differences between serving adults and serving children and youth:

- Serving children means working with a family, not just one individual.

- Children and youth are not as readily available to CMHC site-based staff as are adults who often attend weekly or daily psycho-social rehabilitation opportunities at CMHC sites.
- Children and youth are often involved with community-based systems of care that include representatives from multiple child-serving systems.

The caseload size initially established for Nurse Care Managers is not compatible with trying to meet these unique needs of children and their families. To be effective, individuals working with children and youth need to be able to spend considerable time in the community and especially in the home of the family. This is not possible for Nurse Care Managers currently, given their caseload sizes.

In addition, while about one-quarter of the children and youth enrolled in a CMHC Healthcare Home have asthma, most children and youth enrolled do not have another chronic disease. Instead, developing and/or maintaining healthy lifestyles, such as preventing or reducing childhood obesity, tends to be the primary focus of intervention for children and youth requiring extensive work with families, not just the individual child or adolescent.

Consequently, **consideration is being given to significant changes in the staffing and structure of CMHC Healthcare Homes for children and youth.**

B. Benchmark Goals

At the outset of the health home initiative, we established benchmark goals that were intended to indicate a high level of performance by a CMHC Healthcare Home. Since we did not expect CMHC Healthcare Homes to easily achieve the benchmark goals, we also established gap closing goals to measure the progress of CMHC Healthcare Homes in moving toward achievement of the benchmark goals.

Creating the data collection and reporting systems to enable CMHC Healthcare Homes to have accurate and timely data on which to assess, and measure progress toward improving, health status and system impact has been among the greatest challenges of the nearly first two years of the health home initiative, demanding a significant amount of time and attention by clinical and administrative staff alike. Nevertheless, despite this necessary preoccupation with getting the data collection and reporting systems right, as this Progress Report demonstrates, almost every CMHC Healthcare Home met most of the gap closing goals, and we are already approaching several benchmark goals on a statewide basis, and a few CMHC Healthcare Homes are already meeting and exceeding several benchmark goals.

Benchmark goals were based on information about best practices garnered from a variety of sources. Because no one had any experience with health homes focused on individuals with serious mental illness, often the goals were an informed “best guess” at what might be a high, yet realistically attainable, level of performance for an organization serving this target

population. In fact, some of the benchmark goals may have been set too low (e.g. the expectation that LDL levels should be in control for 36% of the enrollees with Diabetes). Therefore, **the benchmark and gap closing goals should be reviewed and revised based on experience to date.**

The majority of the measure definitions mandated by CMS for our benchmarks are not useful for behavioral health conditions in behavioral health settings. For instance, there are no behavioral health conditions in the current definition of Ambulatory Care Sensitive conditions, and screening for depression has been occurring at almost every behavioral health care visit for decades. Also, the HEDIS measures for the targeted chronic conditions have many exclusions that, while reducing “false positives”, make them too narrow to be relevant for the broad CMHC Healthcare Home Population (e.g. the LDL control measures are limited to individuals with diabetes or cardiovascular disease instead of the broader CMHC Healthcare Home population with dyslipidemia). Therefore, **consideration should be given to choosing indicators that are more appropriate for CMHC settings and apply to broader segments of the population served.**

A special word needs to be said about the benchmark goal related to BMI. Because of the very high percentage of CMHC Healthcare Home enrollees who are obese or extremely obese, we recognize that it is inappropriate to measure CMHC Healthcare Home performance simply in terms of the percentage of enrollees with a BMI <25. Moreover, we know that a relatively small reduction in the BMI score of an individual is associated with a significant reduction in risk for other health complications. Therefore **the benchmark and gap closing goals related to BMI need to be revised to focus on the percentage of enrollees with clinically significant improvement in their BMI scores.**

C. Staffing

CMHC Healthcare Homes were created with an expectation that Nurse Care Managers would serve approximately 250 enrollees. The actual average ratio of Nurse Care Managers to enrollees was 1:238 over the first 18 months of the initiative. Feedback from NCMs, Healthcare Home Directors, and CMHC administrators alike suggests that a somewhat lower staffing ratio would be more effective. The 1:250 ratio was established based on a hypothetical connection of one NCM relating to two Community Support teams of average size. But the reality is that there is no such easy or neat correspondence, and it appears that the current caseload size may negatively impact the ability of NCMs to have adequate time for individual interaction with the people on their caseloads. **Consideration should be given to reducing the NCM caseload closer to 1:200.**

D. Hospital and Emergency Room Follow-Up

CMHC Healthcare Homes in the Kansas City and St. Louis areas are exploring the possibility of creating regional systems for following up on the hospitalization of HCH enrollees. If it appears that such systems would help to simplify the complex process of

following up with a great number of hospitals, then **consideration should be given to making whatever administrative adjustments would be necessary to support such regional systems.**

Unlike hospital admissions, no system currently exists to alert CMHC Healthcare Homes to Emergency Room utilization by HCH enrollees. Some preliminary efforts at the state level suggest that it may be possible to access such information. If so, **creating a system that would notify CMHC Healthcare Homes that enrollees are seeking Emergency Room services could greatly impact their ability to divert unnecessary and costly ER use.**

E. System Transformation

As noted above, creating the data collection and reporting systems to enable CMHC Healthcare Homes to have accurate and timely data has demanded a significant amount of the time and attention of CMHC Healthcare Home clinical and administrative staff alike. However, although the inability to have access to Medicare data continues to significantly hamper the ability of CMHC Healthcare Homes to have a complete picture of the services and supports individuals are receiving, the data collection and reporting systems have now improved to a level where attention can be directed away from assuring the data is accurate and timely, and that reports are meaningful, to using these reports to better guide interventions aimed at improving health status and reducing or eliminating inappropriate or unnecessary service utilization. **Training and technical assistance efforts will continue to focus on helping CMHC Healthcare Home staff sharpen their skills in utilizing these reports for population management and priority setting.**

Based on site visits and ongoing interactions with their assigned CMHC Healthcare Homes, Practice Coaches indicate that **most CMHCs have made good progress in integrating Nurse Care Managers into the existing Community Support Teams, and that the Primary Care Physician Consultants are serving in a variety of appropriate roles as part of the Healthcare Home team.**

However, a recent survey of Primary Care Physician Consultants and CMHC staff Psychiatrists suggests **that in many cases there is work to be done to strengthen the connection between the Physician Consultants and the Psychiatric staff.** Consequently, this topic served as one of the major issues addressed at the second annual Physician Institute held in October 2013.

Finally, it appears that all CMHC Healthcare Homes will achieve CARF health home accreditation by early 2014, thereby achieving a significant milestone in the continuing transformation of Missouri's public mental health system toward a system with a "whole person" approach.