Health Home Program Annual Report

Introduction

Health Homes are intended to improve health outcomes for individuals with chronic conditions by providing patients with an enhanced level of care management and care coordination. Section 2703 of the Patient Protection and Affordable Care Act of 2010, “State Option to Provide Health Homes for Enrollees with Chronic Conditions,” created the option for state Medicaid programs to establish Health Homes. Health Homes provide an integrated model of care that coordinate primary, acute, behavioral health, and long-term services and supports for Medicaid enrollees who have: two or more chronic conditions, one chronic condition and risk for developing a second chronic condition, or a serious and persistent mental health condition. In response to this initiative, the Maryland Office of Health Services submitted a Medicaid state plan amendment (SPA) that was approved by the Centers for Medicare & Medicaid Services (CMS) on September 29, 2013.

Background

The concept of the Health Home evolved from the Medical Home model, introduced by the American Academy of Pediatrics in 1967 to provide more centralized care for children with special health care needs. While a “Medical Home” initially denoted a single source for all of a patient’s medical information, it came to refer more broadly to an approach to primary care that is comprehensive, coordinated, and patient- and family-centered. In 2007, four primary care specialty societies (the American Academy of Physicians, the American Academy of Family Physicians, the American College of Physicians, and the American Osteopathic Association) agreed upon Joint Principles of the Patient-Centered Medical Home (PCMH). The PCMH was to include a personal physician, a whole-person orientation, coordination across providers and specialties, safe and high-quality care, enhanced access to care, and payment that recognized the added value provided to patients who have a patient-centered medical home.

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There has been growing recognition of the fragmentation between behavioral health and primary care faced by individuals with mental health and/or substance use disorders (SUDs), who are more likely to die prematurely from untreated and preventable chronic illnesses. According to CMS, Medicaid is “the single largest payer for mental health services in the United States and is increasingly playing a larger role in the reimbursement of substance use disorder services.” Additionally, Medicaid beneficiaries with severe mental illnesses and SUDs are more likely to have co-occurring chronic conditions than similar Medicaid beneficiaries. These issues provide the motivation to examine the impact of additional care coordination and care management services on the health outcomes of vulnerable populations.

**Overview of the Maryland Medicaid Health Homes Program**

The Maryland Health Homes program builds on statewide efforts to integrate somatic and behavioral health services, with the aim of improving health outcomes and reducing avoidable hospital utilization. The program targets populations with behavioral health needs who are at high risk for additional chronic conditions, offering them enhanced care coordination and support services from providers from whom they regularly receive care. The program is focused on Medicaid enrollees with either a serious and persistent mental illness (SPMI), or an opioid SUD and risk of additional chronic conditions due to tobacco, alcohol, or other non-opioid substance use. Details of the program are provided below.

**Eligible Populations.** Medicaid enrollees can participate in Health Homes if they are eligible for and engaged with a psychiatric rehabilitation program (PRP), mobile treatment service (MTS), or an opioid treatment program (OTP) that has been approved by the Maryland Department of Health and Mental Hygiene (DHMH) to function as a Health Home provider. Individuals are excluded from Health Home participation if they are currently receiving other Medicaid-funded services that may duplicate those provided by Health Homes, such as targeted mental health care management.

**Provider Requirements.** The providers must be enrolled as a Maryland Medicaid provider and accredited as a Health Home. A dedicated care manager must be assigned to each participant, and providers are required to maintain certain staffing levels based on the number of participants. The Health Home staff team must include a Health Home director, physician, and nurse practitioner. Health Homes are responsible for documenting all services delivered, participant outcomes, and social indicators in the eMedicaid care management system. They must notify each participant's other providers of the participant's goals and the types of services an individual is receiving via the Health Home, and encourage participation in care coordination efforts.

**Health Home Services.** Health Homes are required to provide at least two services to a participant in a given month. Categories of service include: (1) comprehensive care management to assess, plan, monitor, and report on participant health care needs and outcomes; (2) care coordination to ensure appropriate linkages, referrals, and appointment scheduling across different providers; (3) health promotion to aid participants in implementation of their care plans; (4) comprehensive transitional care to ease the transition when discharged from inpatient settings and ensure appropriate follow-up; (5) individual and family support services to provide support and information that is language, literacy, and culturally appropriate; and (6) referral to community and social support services. The Health Home receives a capitation payment per member per month for providing this enhanced level of care coordination in addition to payment for its usual services. The full list of Health Home services is presented in Appendix 1.

**Purpose of this Report**

The goal of this report is to provide a description of Medicaid enrollees’ participation in the Maryland Health Home program and their interactions with the health care system during the first year of program implementation. The measures presented were selected based on the original Maryland SPA application and quality measure recommendations published by CMS. They were calculated using information provided by Health Home providers entered in real time into the eMedicaid care management data system, as well as data from the Maryland Medicaid Information System (MMIS2). MMIS2 data are updated monthly and routinely used for evaluating the performance of Medicaid programs.

Please note that all of the data presented in this report were extracted from their respective data systems as of October 7, 2014. Typically, MMIS2 data are not considered complete until twelve months have passed for all claims and encounters to be resolved. Therefore, while the monthly enrollment data can be considered up-to-date, *all utilization measures based on MMIS2 data*

should be considered preliminary and will be revised and updated with complete data in future reports. Because additional claims and encounters will be received, majority of the measure estimates, particularly those summarizing utilization of care services, will increase during subsequent revisions.

This report presents the following measures to describe the Maryland Health Home Program from October 2013 through September 2014:

- Monthly enrollment
- Participant demographics
- Health care utilization and access
- Health care quality

**Monthly Enrollment**

The tables below present monthly enrollment for the first year of the program. These data provide an overview of monthly trends and overall program participation. The measures are calculated from data reported by Health Home providers into the eMedicaid care management system.

**Overall Enrollment**

Table 1 shows the number of participants by month during the first 12 months of the Health Home program. Over the 12-month period, 4,252 individuals participated in the program for some duration. Enrollment increased more than fourfold during the program’s first year, from 756 participants in October 2013 to 3,846 participants in September 2014.

As expected, enrollment increased the most at program outset. November had the largest enrollment increase (105 percent), with 796 additional individuals enrolling in the Health Home program. December had the second highest enrollment increase of 42 percent. After December, enrollment in the next four months increased between 8.6 and 12.6 percent. From May to September, the increases slowed down to 2 to 4 percent. Although the rate of increase dropped in recent months, the Health Home providers continue to identify and enroll eligible individuals into the program.
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<th>Month</th>
<th>Number of Participants</th>
<th>Percentage Increase</th>
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<td>1,552</td>
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<td>December 2013</td>
<td>2,197</td>
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<td>May 2014</td>
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<td>July 2014</td>
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<tr>
<td>September 2014</td>
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<td><strong>Total Ever Enrolled</strong></td>
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**Monthly Enrollment by Diagnosis**

Table 2 displays the monthly number and percentage of Health Home participants by diagnosis. All participants in Maryland’s Health Home program must be diagnosed with an SPMI or an opioid SUD, along with another chronic condition. The leading diagnosis among Health Home participants was mental health disorder, ranging between 91.8 to 97.8 percent of participants each month. The percentage of Health Home participants with an SUD was 24.6 percent in October 2013, but rose to 39.8 percent by September 2014. Of the secondary chronic conditions, the leading diagnosis by far was obesity, at 75 to 79 percent each month. Another top diagnosis was hypertension with monthly rates of 23 to nearly 27 percent. The other diagnoses, though much less prevalent, experienced increases throughout the year.

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<td>Mental Health</td>
<td>739 97.8%</td>
<td>1,425 91.8%</td>
<td>2,055 93.5%</td>
<td>2,304 93.1%</td>
<td>2,567 92.5%</td>
<td>2,783 92.4%</td>
<td>3,056 92.8%</td>
<td>3,179 92.9%</td>
<td>3,287 93.1%</td>
<td>3,416 93.3%</td>
<td>3,522 93.4%</td>
<td>3,597 93.5%</td>
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<td>SUD</td>
<td>186 24.6%</td>
<td>509 32.8%</td>
<td>681 31.0%</td>
<td>812 32.8%</td>
<td>962 34.7%</td>
<td>1,088 36.1%</td>
<td>1,227 37.2%</td>
<td>1,320 38.6%</td>
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<td>Asthma</td>
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<td>300 10.8%</td>
<td>333 11.1%</td>
<td>359 10.9%</td>
<td>382 11.2%</td>
<td>396 11.2%</td>
<td>418 11.4%</td>
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<td>35 4.6%</td>
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<td>259 7.1%</td>
<td>270 7.2%</td>
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<tr>
<td>Diabetes</td>
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<td>171 11.0%</td>
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<td>278 10.0%</td>
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<td>345 10.5%</td>
<td>362 10.6%</td>
<td>375 10.6%</td>
<td>395 10.8%</td>
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<td>199 6.0%</td>
<td>214 6.3%</td>
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<td>248 6.6%</td>
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<td>Hepatitis C</td>
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<tr>
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<tr>
<td>Hypertension</td>
<td>203 26.9%</td>
<td>396 25.5%</td>
<td>520 23.7%</td>
<td>570 23.0%</td>
<td>642 23.1%</td>
<td>708 23.5%</td>
<td>775 23.5%</td>
<td>833 24.3%</td>
<td>850 24.1%</td>
<td>891 24.3%</td>
<td>922 24.4%</td>
<td>947 24.6%</td>
</tr>
<tr>
<td>Obesity</td>
<td>598 79.1%</td>
<td>1,213 78.2%</td>
<td>1,691 77.0%</td>
<td>1,886 76.2%</td>
<td>2,101 75.7%</td>
<td>2,274 75.5%</td>
<td>2,464 74.8</td>
<td>2,571 75.1%</td>
<td>2,657 75.3%</td>
<td>2,748 75.1%</td>
<td>2,840 75.3%</td>
<td>2,900 75.4%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>756</strong></td>
<td><strong>1,552</strong></td>
<td><strong>2,197</strong></td>
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<td><strong>3,660</strong></td>
<td><strong>3,771</strong></td>
<td><strong>3,846</strong></td>
</tr>
</tbody>
</table>

*Health Home participants can have more than one diagnosis
**Monthly Enrollment by Provider**

Table 3 displays the number of Health Home participants by provider for each month in the first year of the program. Way Station provided services to the highest number of participants each month. However, their rate dropped from 50 percent in October 2013 to 12.9 percent in September 2014. Go-Getters Inc. and Mosaic Community Services also provided services to a high number of participants. Both providers had no participants in the first month of the program, but by September 2014, Go-Getters Inc had 299 participants, and Mosaic Community Services had 274 participants. Please note that the provider names in the table below are all taken directly from the eMedicaid system as reported by the providers. The data are only edited to suppress cell sizes with less than 10 participants to protect the privacy of individually identifiable health information.

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<td>Nalty &amp; Associates Inc</td>
<td>*</td>
<td>*</td>
<td>11</td>
<td>16</td>
<td>26</td>
<td>29</td>
<td>28</td>
<td>21</td>
<td>27</td>
<td>28</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>People Encouraging People</td>
<td>*</td>
<td>75</td>
<td>186</td>
<td>189</td>
<td>187</td>
<td>187</td>
<td>187</td>
<td>186</td>
<td>186</td>
<td>186</td>
<td>186</td>
<td>186</td>
</tr>
<tr>
<td>Prologue Inc</td>
<td>14</td>
<td>87</td>
<td>88</td>
<td>91</td>
<td>92</td>
<td>93</td>
<td>97</td>
<td>99</td>
<td>99</td>
<td>102</td>
<td>104</td>
<td>104</td>
</tr>
</tbody>
</table>
Participant Demographics

Table 4 shows the age distribution of Health Home participants. Most participants were adults. Sixty percent of the participants were aged 40 to 64 years, and slightly more than a quarter of them were between the ages of 21 and 39 years. Nearly 9 percent of participants were children up to age 20. Enrollment drops off steeply among those aged 65 and over, whose medical service use is mainly covered by Medicare.10

<table>
<thead>
<tr>
<th>Age Group (Years)</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-9</td>
<td>71</td>
<td>1.7%</td>
</tr>
<tr>
<td>10-14</td>
<td>187</td>
<td>4.4%</td>
</tr>
<tr>
<td>15 - 18</td>
<td>74</td>
<td>1.7%</td>
</tr>
<tr>
<td>19 - 20</td>
<td>32</td>
<td>0.8%</td>
</tr>
<tr>
<td>21 - 39</td>
<td>1,107</td>
<td>26.0%</td>
</tr>
<tr>
<td>40 - 64</td>
<td>2,552</td>
<td>60.0%</td>
</tr>
<tr>
<td>65 and over</td>
<td>229</td>
<td>5.4%</td>
</tr>
<tr>
<td>Total</td>
<td>4,252</td>
<td>100%</td>
</tr>
</tbody>
</table>

Tables 5 and 6 present the number and percentage of Health Home participants by race/ethnicity and gender. The majority of the participants were White (47.8 percent) or Black (45.9 percent). Less than 3 percent were Asian (1.4 percent) or Hispanic (1.1 percent). Participants of other races/ethnicities composed 3.9 percent of the population. Table 6 shows that slightly more than half (54.9 percent) of Health Home participants were male.

*Suppresses cells <= 10

10 For those individuals over 65 enrolled in both Health Home and Medicare, we will report on their medical service utilization that is billed to Medicaid.
Table 5. Health Home Enrollment by Race/Ethnicity

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>1,950</td>
<td>45.9%</td>
</tr>
<tr>
<td>Asian</td>
<td>58</td>
<td>1.4%</td>
</tr>
<tr>
<td>White</td>
<td>2,032</td>
<td>47.8%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>45</td>
<td>1.1%</td>
</tr>
<tr>
<td>Other</td>
<td>167</td>
<td>3.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 6. Health Home Enrollment by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>1,917</td>
<td>45.1%</td>
</tr>
<tr>
<td>Male</td>
<td>2,335</td>
<td>54.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 7 presents the number and percentage of Health Home participants by region. Nearly 60 percent of Health Home participants were from Baltimore City and the Baltimore Suburban regions (28.6 percent and 31.2 percent, respectively). The Eastern Shore and Washington Suburban regions accounted for an additional 18.3 percent and 17.2 percent, respectively. Fewer than 5 percent of participants were from the Western or Southern Maryland regions.

Table 7. Health Home Enrollment by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore City</td>
<td>1,216</td>
<td>28.6%</td>
</tr>
<tr>
<td>Baltimore Suburban</td>
<td>1,325</td>
<td>31.2%</td>
</tr>
<tr>
<td>Eastern Shore</td>
<td>779</td>
<td>18.3%</td>
</tr>
<tr>
<td>Southern Maryland</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>Washington Suburban</td>
<td>730</td>
<td>17.2%</td>
</tr>
<tr>
<td>Western Maryland</td>
<td>196</td>
<td>4.6%</td>
</tr>
<tr>
<td>Out of State</td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Table 8 presents the distribution of Health Home participants who were enrolled in a Medicaid managed care organization (MCO). Approximately 62 percent of Health Home participants were in an MCO, while the remaining 38 percent were in the fee-for-service (FFS) program. Priority Partners and United Healthcare provided services to more than half (51 percent) of the Health Home participants, followed by Maryland Physicians Care and Amerigroup.

<table>
<thead>
<tr>
<th>MCO</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Priority Partners</td>
<td>722</td>
<td>27.6%</td>
</tr>
<tr>
<td>United Healthcare</td>
<td>618</td>
<td>23.6%</td>
</tr>
<tr>
<td>Maryland Physicians Care</td>
<td>509</td>
<td>19.5%</td>
</tr>
<tr>
<td>Amerigroup</td>
<td>483</td>
<td>18.5%</td>
</tr>
<tr>
<td>JAI Medical Systems</td>
<td>168</td>
<td>6.4%</td>
</tr>
<tr>
<td>MedStar</td>
<td>83</td>
<td>3.2%</td>
</tr>
<tr>
<td>Riverside</td>
<td>32</td>
<td>1.2%</td>
</tr>
<tr>
<td>Kaiser</td>
<td>2</td>
<td>0.1%</td>
</tr>
</tbody>
</table>

Table 9 presents the distribution of Health Home participants by coverage group. Nearly three-quarters of participants were eligible for Medicaid because of disabilities.

<table>
<thead>
<tr>
<th>Coverage Group</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disabled</td>
<td>3,128</td>
<td>73.6%</td>
</tr>
<tr>
<td>Families &amp; Children</td>
<td>472</td>
<td>11.1%</td>
</tr>
<tr>
<td>Maryland Children’s Health Program</td>
<td>22</td>
<td>0.5%</td>
</tr>
<tr>
<td>Other</td>
<td>630</td>
<td>14.8%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Health Care Utilization and Access**

Services provided by Health Homes are intended to shift the participant towards integrated, comprehensive care that supports all health needs of the patient. It is anticipated that receipt of person-centered care will lead to reduced hospitalizations and emergency department (ED) use,

---

11 Frequency count and percentages presented here are based on enrollee’s last coverage group, MCO, and PAC provider in the study period.
and receipt of care in recommended settings, ultimately resulting in better care coordination and lower health care costs.

**Inpatient Hospital Admissions**

Table 10 presents data on Health Home participant’s inpatient hospital admission rates for October 2013 through September 2014. During this period, 22.5 percent of Health Home participants experienced at least one inpatient admission. Health Home participants had a total of 1,854 admissions with an average of 1.9 admissions per participant among those with at least one inpatient hospital admission.

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Number of Admissions</th>
<th>Number with Any Admission</th>
<th>Percentage with Any Admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,252</td>
<td>1,854</td>
<td>957</td>
<td>22.5%</td>
</tr>
</tbody>
</table>

Figure 1 displays the frequency of admissions per participant. Over three-quarters of participants had no hospital admission during the period. Of those that were admitted, 570 (13.4 percent) had one hospitalization, while 387 (9.1 percent) had two or more visits.
**ED Utilization**

Table 11 presents data on Health Home participant’s ED visits from October 2013 through September 2014. The average number of ED visits across all Health Home participants was two. However, almost half of the Health Home participants (47.3 percent) did not have any ED visits during this period. Of those that visited the ED, 834 participants (37 percent) had only 1 visit. However, 379 (17 percent) of those with an ED visit had 6 or more ED visits during the year.

<table>
<thead>
<tr>
<th>Number of ED Visits</th>
<th>Number of Participants</th>
<th>Percentage of All Participants</th>
<th>Percentage of Participants with an ED Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>2,011</td>
<td>47.3%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>834</td>
<td>19.6%</td>
<td>37.2%</td>
</tr>
<tr>
<td>2</td>
<td>473</td>
<td>11.1%</td>
<td>21.1%</td>
</tr>
<tr>
<td>3-5</td>
<td>555</td>
<td>13.1%</td>
<td>24.8%</td>
</tr>
<tr>
<td>6-12</td>
<td>292</td>
<td>6.9%</td>
<td>13.0%</td>
</tr>
<tr>
<td>More than 12</td>
<td>87</td>
<td>2.0%</td>
<td>3.9%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 12 presents the descriptive statistics of Health Home participants with at least one ED visit. Of those that visited the ED, there was a wide range in the frequency of their visits throughout the year, from 1 to 188. While the average number of ED visits across all Health Home participants was two, the average of those that visited the ED at least once was nearly four.

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Sum ED Visits</th>
<th>Average ED Visits</th>
<th>Median ED Visits</th>
<th>Minimum ED Visits</th>
<th>Maximum ED Visits</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,241</td>
<td>8,562</td>
<td>3.8</td>
<td>2.0</td>
<td>1</td>
<td>188</td>
</tr>
</tbody>
</table>

**Ambulatory Care Utilization**

An ambulatory care visit is defined as contact with a physician or nurse practitioner in a clinic, physician’s office, or hospital outpatient department. This definition excludes ED visits, hospital inpatient services, SUD treatment, mental health, x-rays, and laboratory services.

Table 13 presents the number and percentage of Health Home participants with an ambulatory care visit between October 2013 and September 2014. Approximately 82.5 percent of Health Home participants had at least one ambulatory care visit during this period. The largest proportion of Health Home participants had between two and six ambulatory care visits during this period.
Table 13. Percentage of Health Home Participants with an Ambulatory Care Visit

<table>
<thead>
<tr>
<th>Number of Ambulatory Care Visits</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>742</td>
<td>17.5%</td>
</tr>
<tr>
<td>1</td>
<td>495</td>
<td>11.6%</td>
</tr>
<tr>
<td>2-6</td>
<td>1,639</td>
<td>38.5%</td>
</tr>
<tr>
<td>7-10</td>
<td>627</td>
<td>14.7%</td>
</tr>
<tr>
<td>More than 10</td>
<td>749</td>
<td>17.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,252</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 14 presents the total and average number of ambulatory care visits for Health Home participants between October 2013 and September 2014. During this period, Health Home participants averaged 5.9 ambulatory visits.

Table 14. Average Number of Ambulatory Care Visits for Health Home Participants

<table>
<thead>
<tr>
<th>Number of Participants</th>
<th>Number of Ambulatory Care Visits</th>
<th>Average Number of Ambulatory Care Visits Per Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>4,252</td>
<td>25,216</td>
<td>5.9</td>
</tr>
</tbody>
</table>

**Quality Measures**

The primary goal of the Health Home model is to improve the quality and coordination of care, leading to improved health outcomes. This report presents various measures to evaluate the quality of care received: potentially avoidable hospitalizations, appropriate use of ED visits, and all-cause 30-day readmissions.

**Potentially Avoidable Hospitalizations**

The Agency for Healthcare Research and Quality’s (AHRQ’s) Prevention Quality Indicators (PQIs) include measures of preventable or avoidable hospitalizations. These measures are intended to indicate hospitalizations that could have been prevented if effective ambulatory care had been completed in a timely manner. As part of this analysis, the participant’s inpatient hospital admissions were reviewed using AHRQ’s PQI\(^{12}\) criteria to determine which events may have been potentially avoidable. As specified by the AHRQ criteria, only a subset of hospital admissions experienced by Health Home participants aged 18 through 64 years within specified diagnosis related groups (DRGs) were taken into consideration for this portion of the analysis.

Table 15 presents the number and percentage of Health Home participants with a PQI admission between October 2013 and September 2014. Among all Health Home participants aged 18 through 64 years, 482 had a qualifying hospitalization, and 52 experienced at least one potentially avoidable hospital admission. On average, participants in the program with at least one PQI admission experienced 2.3 potentially avoidable admissions during the study period. Of those hospitalized, 10.8 percent were classified as potentially avoidable.

Table 15. Percentage of Health Home Participants, Aged 18-64 Years, with PQI Admissions

<table>
<thead>
<tr>
<th>Number of PQI Admissions</th>
<th>Number of Participants</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>430</td>
<td>89.2%</td>
</tr>
<tr>
<td>1</td>
<td>32</td>
<td>6.6%</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>2.1%</td>
</tr>
<tr>
<td>More than 2</td>
<td>10</td>
<td>2.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>482</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

The most common PQI admission type was chronic obstructive pulmonary disease (COPD) or asthma in older adults (aged 40 to 64 years), followed by bacterial pneumonia. Overall, more PQI admissions were attributed to chronic conditions than to acute conditions.

Table 16. Percentage of Health Home Participants, Aged 18-64 Years, by Type of PQI

<table>
<thead>
<tr>
<th>AHRQ Prevention Quality Indicators</th>
<th>Percentage of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>PQI #1: Diabetes Short-Term Complications</td>
<td>1.2%</td>
</tr>
<tr>
<td>PQI #2: Perforated Appendix</td>
<td>0.0%</td>
</tr>
<tr>
<td>PQI #3: Diabetes Long-Term Complications</td>
<td>1.2%</td>
</tr>
<tr>
<td>PQI #5: COPD or Asthma in Older Adults*</td>
<td>6.6%</td>
</tr>
<tr>
<td>PQI #7: Hypertension</td>
<td>0.6%</td>
</tr>
<tr>
<td>PQI #8: Heart Failure</td>
<td>1.0%</td>
</tr>
<tr>
<td>PQI #10: Dehydration</td>
<td>0.2%</td>
</tr>
<tr>
<td>PQI #11: Bacterial Pneumonia</td>
<td>2.3%</td>
</tr>
<tr>
<td>PQI #12: Urinary Tract Infection</td>
<td>0.4%</td>
</tr>
<tr>
<td>PQI #13: Angina Without Procedure</td>
<td>0.2%</td>
</tr>
<tr>
<td>PQI #14: Uncontrolled Diabetes</td>
<td>0.0%</td>
</tr>
<tr>
<td>PQI #15: Asthma in Younger Adults**</td>
<td>0.0%</td>
</tr>
<tr>
<td>PQI #16: Lower-Extremity Amputation In Patients With Diabetes</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>PQI #90: Prevention Quality Overall Composite</strong></td>
<td><strong>10.8%</strong></td>
</tr>
<tr>
<td><strong>PQI #91: Prevention Quality Acute Composite</strong></td>
<td><strong>2.9%</strong></td>
</tr>
<tr>
<td><strong>PQI #92: Prevention Quality Chronic Composite</strong></td>
<td><strong>8.3%</strong></td>
</tr>
</tbody>
</table>

* Indicator only includes those ages 40 through 64 years

** Indicator only includes those ages 18 through 39 years
**Appropriateness of ED Care**

A principal aim of care coordination is the delivery of the right care at the right time in the right setting. One widely used methodology to evaluate this goal in the ED setting is based on classifications developed by the New York University (NYU) Center for Health and Public Service Research. The algorithm assigns probabilities of likelihoods that the ED visit falls into one of the following categories:

1. **Non-emergent**: Immediate care was not required within 12 hours based on patient’s presenting symptoms, medical history, and vital signs
2. **Emergent but primary care treatable**: Treatment was required within 12 hours, but it could have been provided effectively in a primary care setting (e.g., CAT scan or certain lab tests)
3. **Emergent but preventable/avoidable**: Emergency care was required, but the condition was potentially preventable/avoidable if timely and effective ambulatory care had been received during the episode of illness (e.g., asthma flare-up)
4. **Emergent, ED care needed, not preventable/avoidable**: Ambulatory care could not have prevented the condition (e.g., trauma or appendicitis)
5. **Injury**: Injury was the principal diagnosis
6. **Alcohol-related**: The principal diagnosis was related to alcohol
7. **Drug-related**: The principal diagnosis was related to drugs
8. **Mental-health related**: The principal diagnosis was related to mental health
9. **Unclassified**: The condition was not classified in one of the above categories

Figure 2 presents the distribution of ED visits for Health Home participants by NYU classification between October 2013 and September 2014. ED visits that fall into categories 1 through 3 may indicate problems with access. During the first program year, 40 percent of all ED visits were classified as likely to fall within one of these three categories, meaning that the visit could possibly have been avoided with timely and quality primary care. ED visits in categories 4 (emergent, ED care needed, not preventable/avoidable) and 5 (injury) are the least likely to be prevented with access to primary care. These two categories accounted for 21.8 percent of all ED visits. The NYU algorithm classified 20.5 percent as likely to be mental-health related and only 0.5 percent as drug-related.
Access to high quality care is critical immediately after an inpatient hospital discharge. Providing support to transition a patient successfully from an inpatient to a community setting can decrease the likelihood of readmission. The all-cause readmission rate, based on National Committee for Quality Assurance (NCQA) definitions, was calculated as the percentage of acute inpatient stays during the measurement year that were followed by an acute readmission for any diagnosis within 30 days. The Healthcare Effectiveness Data and Information Set (HEDIS) 2013 specifications identify inclusion criteria for types of stays and hospitals, as well as limiting the population to people continuously enrolled with respect to the date of discharge.

Table 17 presents data on Health Home participant’s 30-day-all-cause-readmission rates for October 2013 through September 2014. Of the 696 Health Home participants that had a qualifying hospital admission, there were 741 total admissions. Among all Health Home participants, 76 (1.8 percent) were readmitted to the hospital within 30 days post-discharge. The 30-day readmission rate of those that had least one admission was 10.9 percent.

<table>
<thead>
<tr>
<th>Number of Participants with an Admission</th>
<th>Number of Admissions</th>
<th>Number of Participants with a 30-day Readmission</th>
<th>Percentage of Participants Admitted with a 30-day Readmission</th>
</tr>
</thead>
<tbody>
<tr>
<td>696</td>
<td>741</td>
<td>76</td>
<td>10.9%</td>
</tr>
</tbody>
</table>
Conclusion

Maryland's Health Home program is just beginning to provide a model of care for people with chronic conditions, and Health Home providers have only been serving this population for a year. The information presented in this report provides preliminary evidence that there is demand for these comprehensive coordinated services for this population, but cannot yet tell a story about the effectiveness of this approach as compared with regular Medicaid coverage because of the brief program duration. This document represents a first step in monitoring the performance of the Health Home program. The report uses claims and encounter data, as well as data currently available from the eMedicaid case management tracking tool, to analyze the program’s performance. The eMedicaid tool will be expanded in the coming months, which may allow for more detailed analyses.

Moving forward, it is anticipated that: 1) the measures presented in this report will be revised to include sufficient run-out for year one, as well as data on upcoming years; 2) new measures of interest will be identified as more data become available; and 3) a thorough evaluation of provider experiences will be conducted. Through a combination of these evaluation efforts, information from training sessions, and feedback gathered from providers and participants, a comprehensive picture of the program’s impacts will emerge. DHMH is committed to working with CMS and other stakeholders to identify and address necessary programmatic changes by continuing to monitor the progress of participants and their health care utilization and outcomes.
References


Appendix 1: Health Home Services

Maryland Health Homes are required to provide at least two services to a patient in any given month in order to receive the monthly capitation payment, as shown in the table below.

<table>
<thead>
<tr>
<th>Service Category</th>
<th>Service Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Care Management</td>
<td>Care plan updated</td>
</tr>
<tr>
<td></td>
<td>Care plan progress reviewed with patient</td>
</tr>
<tr>
<td></td>
<td>Population health management activity</td>
</tr>
<tr>
<td>Care Coordination</td>
<td>Participant records request from PCP</td>
</tr>
<tr>
<td></td>
<td>Communication with other providers and supports</td>
</tr>
<tr>
<td></td>
<td>Medical scheduling assistance</td>
</tr>
<tr>
<td></td>
<td>Referral to medical specialist</td>
</tr>
<tr>
<td></td>
<td>Immunization tracking</td>
</tr>
<tr>
<td></td>
<td>Screening (cancer, STI, etc) tracking and referral</td>
</tr>
<tr>
<td>Health Promotion</td>
<td>Health education regarding a chronic condition</td>
</tr>
<tr>
<td></td>
<td>Sexuality education and family planning</td>
</tr>
<tr>
<td></td>
<td>Self-management plan development</td>
</tr>
<tr>
<td></td>
<td>Depression screening</td>
</tr>
<tr>
<td></td>
<td>Medication review and education</td>
</tr>
<tr>
<td></td>
<td>Promotion of lifestyle interventions</td>
</tr>
<tr>
<td></td>
<td>Substance use prevention</td>
</tr>
<tr>
<td></td>
<td>Smoking prevention or cessation</td>
</tr>
<tr>
<td></td>
<td>Nutritional counseling</td>
</tr>
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<td>Physical activity counseling, planning</td>
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<td>Other</td>
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<tr>
<td>Comprehensive Transitional Care</td>
<td>Patient care plan developed/reviewed</td>
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<tr>
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<td>Transitional support</td>
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<tr>
<td></td>
<td>Medication review with participant</td>
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<tr>
<td></td>
<td>Medication reconciliation</td>
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<td>Home visit</td>
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<tr>
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<td>Participant scheduled for follow-up appointment</td>
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<tr>
<td>Individual and Family Support Services</td>
<td>Health literacy</td>
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<tr>
<td></td>
<td>Scheduling support</td>
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<tr>
<td></td>
<td>Advocacy for participants and/or caregivers</td>
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<tr>
<td></td>
<td>Medication adherence support</td>
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<td>Providing participant took kits</td>
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<tr>
<td>Referral to Community and Social Support Services</td>
<td>Medicaid eligibility</td>
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<td>Disability benefits</td>
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<td>Social services</td>
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<td>Narcotics/Alcoholics Anonymous</td>
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<tr>
<td>Service Category</td>
<td>Service Name</td>
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<tr>
<td>Housing</td>
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<td>Legal services</td>
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<tr>
<td>Peer support</td>
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<tr>
<td>Life skills</td>
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<tr>
<td>Educational/vocational training</td>
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<tr>
<td>Other</td>
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</table>