The Hilltop Institute

analysis to advance the health of vulnerable populations

Health Homes Program Annual Report

October 31, 2014

UMBC

AN HONORS UNIVERSITY IN MARYLAND

Health Homes Program Annual Report

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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. [1] 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.[2] 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.[3] 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).[4] 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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[1]United States Congress. (2010, March). Patient Protection and Affordable Care Act, 42 U.S.C. § 18001. Retrieved from http://www.gpo.gov/fdsys/pkg/PLAW-111publ148/html/PLAW-111publ148.htm

[2] The Centers for Medicare & Medicaid Services. (2010, November). *Letter to State Medicaid Director and State Health Official*, SMDL#10-024, ACA#12. Retrieved from http://downloads.cms.gov/cmsgov/archived-downloads/SMDL/downloads/SMD10024.pdf

[3] Sia, C., Tonniges, T. F., Osterhus, E., & Taba, S. (2004). History of the medical home concept. *Pediatrics*, 113(Supplement 4), 1473-1478. Retrieved from http://tennesseemedicalhome.com/tnaap/generalinfo/files/hxmedicalhomePediatrics-2004-Sia-1473-8.pdf

[4] Higgins, S., Chawla, R., Colombo, C., Snyder, R., & Nigam, S. (2013). Medical homes and cost and utilization among high-risk patients. *The American Journal of Managed Care*, 20(3), e61-71. Retrieved from http://www.ajmc.com/publications/issue/2014/2014-vol20-n3/Medical-Homes-and-Cost-and-Utilization-Among-High-Risk-Patients

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.[5] 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."[6] Additionally, Medicaid beneficiaries with severe mental illnesses and SUDs are more likely to have co-occurring chronic conditions than similar Medicaid beneficiaries.[7] 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.[8] 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.

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[5] Scott, D., & Happell, B. (2011). The high prevalence of poor physical health and unhealthy lifestyle behaviours in individuals with severe mental illness. *Issues in Mental Health Nursing*, *32*(9), 589-597

[6] The Centers for Medicare and Medicaid Services. (2014, October). Medicaid-CHIP Program Information: Behavioral Health Services. Retrieved from http://www.medicaid.gov/medicaid-chip-program-information/by-topics/benefits/mental-health-services.html

[7] Dickey, B., Normand, S. L. T., Weiss, R. D., Drake, R. E., & Azeni, H. (2002). Medical morbidity, mental illness, and substance use disorders. *Psychiatric Services*, *53*(7), 861-867. Retrieved from http://journals.psychiatryonline.org/data/Journals/PSS/4349/861.pdf

[8] The Centers for Medicare & Medicaid Services. (2013, September). *Maryland Health Home State Plan Amendment*. Retrieved from http://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-homes-technical-assistance/downloads/maryland-spa-13-15.pdf

Provider Requirements. The providers must be enrolled as a Maryland Medicaid provider and accreditated 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.[9] 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*

[9] The Centers for Medicare & Medicaid Services. (2014, March). *Core Set of Health Care Quality Measures for Medicaid Health Home Programs*. http://www.medicaid.gov/State-Resource-Center/Medicaid-State-Technical-Assistance/Health-Homes-Technical-Assistance/Downloads/Health-home-core-set-manual-.pdf

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.

Table 1. Health Home Enrollment by Month

Month	Number of Participants	Percentage Increase
October 2013	756	N/A
November 2013	1,552	105.3%
December 2013	2,197	41.6%
January 2014	2,474	12.6%
February 2014	2,775	12.2%
March 2014	3,013	8.6%
April 2014	3,294	9.3%
May 2014	3,423	3.9%
June 2014	3,530	3.1%
July 2014	3,660	3.7%
August 2014	3,771	3.0%
September 2014	3,846	2.0%
Total Ever Enrolled	**4,252**	**N/A**

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.

Table 2. Monthly Health Home Enrollment by Diagnosis

Diagnosis	Oct 2013		Nov 2013		Dec 2013		Jan 2014		Feb 2014		Mar 2014		Apr 2014		May 2014		Jun 2014		Jul 2014		Aug 2014		Sep 2014	
	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct	Num	Pct
Mental Health	739	97.8%	1,425	91.8%	2,055	93.5%	2,304	93.1%	2,567	92.5%	2,783	92.4%	3,056	92.8%	3,179	92.9%	3,287	93.1%	3,416	93.3%	3,522	93.4%	3,597	93.5%
SUD	186	24.6%	509	32.8%	681	31.0%	812	32.8%	962	34.7%	1,088	36.1%	1,227	37.2	1,320	38.6%	1,382	39.2%	1,429	39.0%	1,496	39.7%	1,531	39.8%
Asthma	69	9.1%	146	9.4%	205	9.3%	249	10.1%	300	10.8%	333	11.1%	359	10.9	382	11.2%	396	11.2%	418	11.4%	439	11.6%	460	12.0%
COPD	35	4.6%	121	7.8%	161	7.3%	186	7.5%	209	7.5%	223	7.4%	237	7.2	251	7.3%	253	7.2%	259	7.1%	270	7.2%	274	7.1%
Diabetes	68	9.0%	171	11.0%	239	10.9%	253	10.2%	278	10.0%	303	10.1%	345	10.5	362	10.6%	375	10.6%	395	10.8%	425	11.3%	434	11.3%
Heart Disease	30	4.0%	75	4.8%	106	4.8%	115	4.6%	145	5.2%	173	5.7%	199	6.0	214	6.3%	218	6.2%	233	6.4%	248	6.6%	251	6.5%
Hepatitis C	31	4.1%	75	4.8%	100	4.6%	121	4.9%	151	5.4%	171	5.7%	191	5.8	213	6.2%	216	6.1%	230	6.3%	251	6.7%	253	6.6%
HIV/AIDS	13	1.7%	29	1.9%	36	1.6%	40	1.6%	46	1.7%	47	1.6%	51	1.5	61	1.8%	63	1.8%	66	1.8%	70	1.9%	72	1.9%
Hyper-tension	203	26.9%	396	25.5%	520	23.7%	570	23.0%	642	23.1%	708	23.5%	775	23.5	833	24.3%	850	24.1%	891	24.3%	922	24.4%	947	24.6%
Obesity	598	79.1%	1,213	78.2%	1,691	77.0%	1,886	76.2%	2,101	75.7%	2,274	75.5%	2,464	74.8	2,571	75.1%	2,657	75.3%	2,748	75.1%	2,840	75.3%	2,900	75.4%
Total	**756**		**1,552**		**2,197**		**2,474**		**2,775**		**3,013**		**3,294**		**3,423**		**3,530**		**3,660**		**3,771**		**3,846**	

*Health Home participants can have more than one diagnosis

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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.

Table 3. Monthly Health Home Enrollment by Provider

Provider	Oct 2013	Nov 2013	Dec 2013	Jan 2014	Feb 2014	Mar 2014	Apr 2014	May 2014	Jun 2014	Jul 2014	Aug 2014	Sep 2014
All Walks Of Life Llc	*	*	*	27	52	54	66	69	74	74	76	77
Alliance Inc	*	*	*	*	*	*	*	*	*	*	12	12
Alliance Inc-Baltimore County & City	*	*	*	*	*	20	53	63	69	85	81	80
Alliance Inc - Harford County	*	*	*	*	*	*	17	18	35	49	56	65
Arundel Lodge Inc	65	103	103	102	103	110	118	118	117	118	121	120
Care Connection Inc	146	156	184	193	198	202	204	209	193	190	197	193
Catholic Charities Inc	*	*	*	*	*	*	25	30	31	35	37	36
Channel Marker Inc	*	22	46	64	81	89	97	97	103	103	101	107
Cornerstone Montgomery Inc	*	*	24	33	53	80	103	112	121	128	147	155
Crossroads Community Inc	*	*	*	*	16	29	36	45	63	62	69	77
Eastern Avenue Health Solutions	*	97	97	108	140	154	154	154	154	154	154	154
Family Serv Agency Inc	56	79	79	81	89	93	92	87	89	91	90	90
Go-Getters Inc	*	45	165	218	252	281	287	282	288	286	293	299
Guide Mc Prp	*	15	15	15	18	18	18	17	17	17	17	12
Guide Prp	*	53	54	53	55	55	53	53	52	53	53	53
Harford-Belair Cmhc Rehab	*	*	*	*	*	*	*	19	23	25	25	24
Hope Health Systems Inc Mobile	*	*	125	126	129	134	138	138	138	153	153	156
Humanim Inc	*	*	23	36	78	88	94	99	106	122	126	128
Ibr/Institutes For Behavior Resourc	25	41	66	89	114	134	137	150	149	152	154	159
Johns Hopkins Bayview Med Ctr	*	*	*	*	*	*	*	*	*	18	23	42
Lower Shore Clinic Inc	*	*	*	*	*	*	*	*	37	37	44	48
Man Alive Inc	23	47	61	68	71	72	95	109	112	118	126	126
Montgomery Recovery Services	*	*	*	*	*	*	*	*	*	*	*	*
Mosaic Community Services	*	43	87	122	165	199	235	249	252	257	265	274
Mosaic Community Services Inc	*	53	62	77	79	85	89	94	100	96	94	96
Nalty & Associates Inc	*	*	*	11	16	26	29	28	21	27	28	32
People Encouraging People	*	75	186	189	187	187	187	187	186	186	186	186
Prologue Inc	14	87	88	91	92	93	97	99	99	102	104	104

Prs Day Program	*	23	40	40	41	48	49	48	48	59	59	59
Psychotherapeutic Treatment Srv Inc	49	53	52	51	51	56	55	55	55	55	55	55
Ummc-Harbor City Unlimited	*	*	*	*	*	*	18	32	39	44	63	71
Umms Mobile Treatment Unit	*	*	*	*	*	*	*	28	28	28	36	30
Upper Bay Css-Psych Rehab	*	84	147	189	209	226	240	239	236	238	232	228
Way Station Inc	378	476	485	490	485	479	489	486	488	490	493	497
Total	**756**	**1,552**	**2,197**	**2,474**	**2,775**	**3,013**	**3,294**	**3,423**	**3,530**	**3,660**	**3,771**	**3,846**

***Suppresses cells <= 10**

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 4. Health Home Enrollment by Age Group

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

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.

[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

Race/Ethnicity	Number of Participants	Percentage of Participants
Black	1,950	45.9%
Asian	58	1.4%
White	2,032	47.8%
Hispanic	45	1.1%
Other	167	3.9%
Total	**4,252**	**100%**

Table 6. Health Home Enrollment by Gender

Gender	Number of Participants	Percentage of Participants
Female	1,917	45.1%
Male	2,335	54.9%
Total	**4,252**	**100%**

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

Region	Number of Participants	Percentage of Participants
Baltimore City	1,216	28.6%
Baltimore Suburban	1,325	31.2%
Eastern Shore	779	18.3%
Southern Maryland	*	*
Washington Suburban	730	17.2%
Western Maryland	196	4.6%
Out of State	*	*
Total	**4,252**	**100%**

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.[11] 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 8. Health Home Enrollment by HealthChoice MCO

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

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 9. Health Home Enrollment by Coverage Group

Coverage Group	Number of Participants	Percentage of Participants
Disabled	3,128	73.6%
Families & Children	472	11.1%
Maryland Children's Health Program	22	0.5%
Other	630	14.8%
Total	**4,252**	**100%**

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

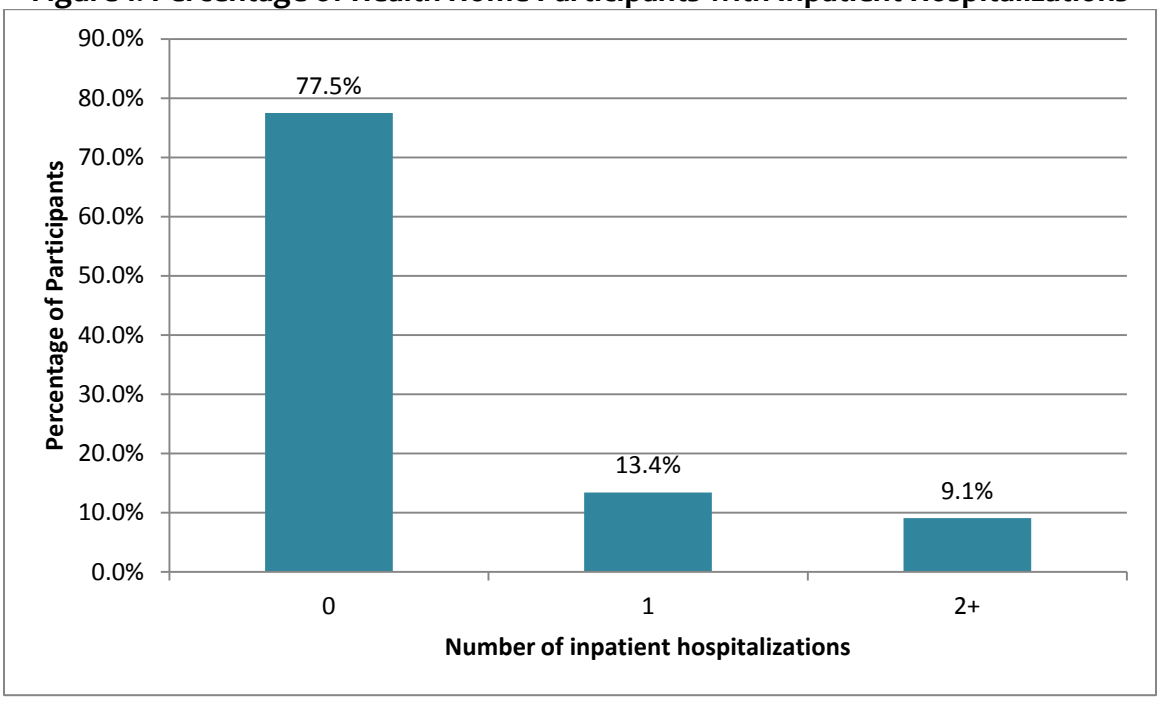
Table 10 presents data on Health Home participant's inpatient hospital admission rates for October 2013 through September 2014. During this period, 22.5 percent of Health Home participants experienced at least one inpatient admission. Health Home participants had a total of 1,854 admissions with an average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

Table 10. Inpatient Admissions by Health Home Participants

Number of Participants	Number of Admissions	Number with Any Admission	Percentage with Any Admission
4,252	1,854	957	22.5%

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.

Figure 1. Percentage of Health Home Participants with Inpatient Hospitalizations



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 11. Percentage of Health Home Participants with an ED Visit

Number of ED Visits	Number of Participants	Percentage of All Participants	Percentage of Participants with an ED Visit
0	2,011	47.3%	
1	834	19.6%	37.2%
2	473	11.1%	21.1%
3-5	555	13.1%	24.8%
6-12	292	6.9%	13.0%
More than 12	87	2.0%	3.9%
Total	**4,252**	**100%**	**100%**

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 12. ED Visit Statistics for Health Home Participants with at least One ED Visit

Number of Participants	Sum ED Visits	Average ED Visits	Median ED Visits	Minimum ED Visits	Maximum ED Visits
2,241	8,562	3.8	2.0	1	188

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

Number of Ambulatory Care Visits	Number of Participants	Percentage of Participants
0	742	17.5%
1	495	11.6%
2-6	1,639	38.5%
7-10	627	14.7%
More than 10	749	17.6%
Total	**4,252**	**100%**

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

Number of Participants	Number of Ambulatory Care Visits	Average Number of Ambulatory Care Visits Per Participant
4,252	25,216	5.9

Quality Measures

The primary of the 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.

[12] The Agency for Healthcare Research and Quality. (2014, September). *Prevention Quality Indicators.* Retrieved from http://www.qualityindicators.ahrq.gov/

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 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

Number of PQI Admissions	Number of Participants	Percentage of Participants
0	430	89.2%
1	32	6.6%
2	10	2.1%
More than 2	10	2.1%
Total	**482**	**100%**

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

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

* Indicator only includes those ages 40 through 64 years

** Indicator only includes those ages 18 through 39 years

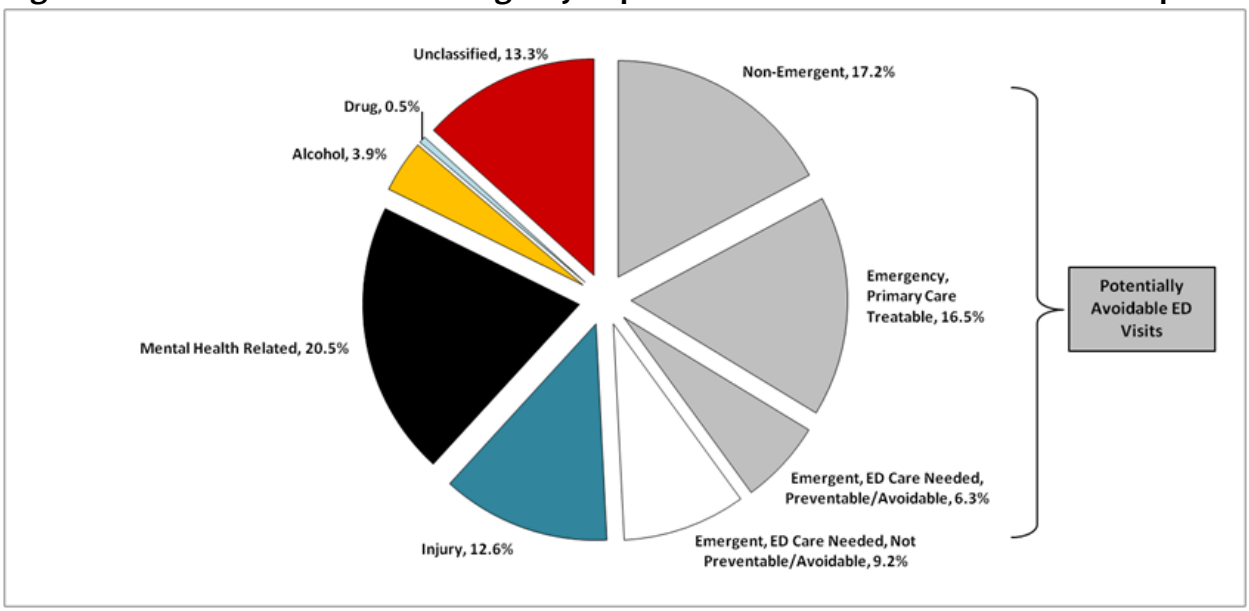
Appropriateness of ED Care

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.

Figure 2. NYU Classification of Emergency Department Visits for Health Home Participants



30-Day-All-Cause-Readmissions

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 17. Adult Health Home Participants with 30-Day-Readmissions

Number of Participants with an Admission	Number of Admissions	Number of Participants with a 30-day Readmission	Percentage of Participants Admitted with a 30-day Readmission
696	741	76	10.9%

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 Homes 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.

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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.

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

Service Category	Service Name
	Housing
	Legal services
	Peer support
	Life skills
	Educational/vocational training
	Other

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