

The Hilltop Institute



analysis to advance the health of vulnerable populations

Community Health Resources Commission Interim Evaluation Report

November 22, 2017

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Community Health Resources Commission Interim Evaluation Report

Introduction

The Maryland Community Health Resources Commission (CHRC) was created by the Maryland General Assembly through the Community Health Care Access and Safety Net Act of 2005 to expand access to health care for low-income Marylanders and underserved communities in the state and to bolster the capacity of Maryland's health care safety net infrastructure to deliver affordable, high-quality health services. Each year, the CHRC funds a group of proposals aimed at achieving its goal of improving access and quality of care. For fiscal year (FY) 2016, the CHRC focused on proposals that addressed: promoting comprehensive women's health services and reducing infant mortality rates; integrating behavioral health service delivery and addressing the heroin and opioid epidemic; and expanding access to primary and preventative care services and chronic disease management.

Maryland Medicaid participants are one of the primary populations served by CHRC-funded programs. To date, CHRC has never before evaluated its programs' effects on utilization and costs for Medicaid participants. To address this gap, The Hilltop Institute at the University of Maryland, Baltimore County (UMBC) developed an evaluation plan to compare healthcare utilization and costs for Medicaid participants before and after enrollment in one of four CHRC-sponsored programs.¹ The CHRC, in consultation with Hilltop, selected the following four programs from among the FY 2016 grantees to participate in an evaluation: the Lower Shore Clinic, the Potomac Healthcare Foundation, the Garrett County Health Department, and the Baltimore City Health Department. The purpose of this report is to share interim findings with the CHRC.

Grantee Overview

Lower Shore Clinic

The Lower Shore Clinic implemented a CareLink program that targets individuals with behavioral health needs who visit the hospital emergency department at Peninsula Regional Medical Center (PRMC) in high volumes. CareLink provides intensive case management services for these individuals post-hospital discharge. The project involves a partnership with PRMC and is designed to reduce 30-day readmission² rates for individuals participating in the

¹ This study was approved by the Maryland Department of Health Institutional Review Board (IRB) and the UMBC IRB.

² The frequency of 30-day readmissions is a standard quality measure that counts the number of participants who are hospitalized for an acute care episode and then readmitted for any unplanned hospital stay within 30 days of the initial discharge.



program. The program works to establish connections between the participant and healthcare resources in the community, including primary care providers and behavioral health treatment providers.

Potomac Healthcare Foundation

The Potomac Healthcare Center established a 50-bed residential Recovery Support Center in West Baltimore to provide treatment for participants with substance use disorders. Participants have expanded access to evidence-based treatment to address substance use and any coexisting behavioral health conditions.

Garrett County Health Department

The Garrett County Health Department uses telehealth technology to increase access to medication assisted treatment (MAT) for opioid addiction. Garrett's Center for Behavioral Health is the only certified addiction treatment service in the county. The program involves collaboration between the Garrett County Health Department and the University of Maryland, School of Medicine's Department of Psychiatry. Participants enrolled in the program receive outpatient substance abuse treatment and buprenorphine through real-time video conferencing with physicians.

Baltimore City Health Department

The Baltimore City Health Department and its B'More for Healthy Babies initiative use trauma-informed strategies to reach out to pregnant women who are currently unable to be located through traditional outreach methods or who refuse to talk to care coordinators. The investigators use cutting-edge strategies to direct vulnerable pregnant women and newborns into appropriate obstetric and pediatric homes. The short-term objective is to increase access to prenatal care, home visits, and other services shown to improve outcomes among this population and ultimately reduce the infant mortality rate in Baltimore.

Interim Evaluation

The final evaluation is scheduled for completion in June 2018. This date was selected to allow for program participants to complete the intervention, as well as a six-month post-intervention follow-up period. Lastly, Medicaid claims/encounters for health care services are not immediately available for analysis. Fee-for-service (FFS) providers are allowed 12 months to submit claims for payment, and managed care organizations (MCOs) are permitted 6 months to submit claims. For these reasons, Medicaid claims data are not considered complete until 12 months have passed.

Considering the extended period of time that must pass before the evaluation is finalized, Hilltop developed an interim analysis using data that are currently available. The purpose of this interim



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analysis is to describe the demographic characteristics of participants enrolled in CHRC programs. This report will provide data on the number of participants who concurrently enrolled in a CHRC program and were eligible for Medicaid, as well as to confirm the typical period of enrollment and describe the demographic characteristics of CHRC program participants. The results for each section are first presented in aggregate for all CHRC participants, followed by program-specific results.

Methodology

Data for this report include information collected by each of the four programs since the enrollment of the first participant in May 2016. The four program sites collected the data on a data template developed by Hilltop. Hilltop provided the sites with detailed data collection instructions at the initiation of the project. The data collection template is included in Appendix A. The sites transmitted all data to CHRC staff, who then forwarded the data to Hilltop through secure ftp server.

The data include each participant's full name, date of birth, date of enrollment, date of discharge, reason for discharge, and when available, the participant's Medicaid identification number. Hilltop reviewed the data for completeness, validity, and accuracy (e.g. enrollment did not occur after discharge, and all dates were within the measurement period). Hilltop partnered with each site to address any missing or inconsistent data points prior to proceeding with the analysis.

Data in this report include participants from the initiation of the program through June 30, 2017. Data were submitted in July 2017.

Enrollment Data

The sites provided all CHRC program enrollment information. Hilltop was not able to independently verify the accuracy or integrity of the data collected beyond the data management practices described above.

The date of enrollment was defined as the date in which the participant completed any intake assessments or procedures. If the program did not include any intake assessments, then the date of enrollment was the date the site began to interact with the participant. The date of discharge was the last date of contact with the participant during the program. Discharge can occur because the participant completed the program, refused to continue participation, or needed to end enrollment due to non-compliance or another reason. There were minor modifications, described in the program-specific sections of the report, to these definitions to accommodate the needs of each program.



Identifying Participants in Medicaid

Hilltop began with the list of participants provided by each site, which included the individual's full name, date of birth, and when available, the participant's Medicaid identification number. In the absence of a Medicaid identifier, Hilltop used the following matching permutation to locate individuals in the Medicaid Management Information System (MMIS2): first name, last name, and date of birth. In addition, Hilltop manually reviewed participants who did not have an immediate match in the MMIS2 based on the information provided. There were several cases where there was a minor typographical error in the participant's date of birth, name, and/or Medicaid identification number prohibiting a match between datasets. These errors were manually corrected to allow for a match. Once a successful match was identified, Hilltop obtained demographic and enrollment characteristics from the MMIS. All demographic and Medicaid eligibility data presented in the report are current as of September 2017.

Results

Program Enrollment

Table 1 describes enrollment by program, including the minimum, maximum, average, and median length of enrollment in the intervention.

Table 1. Number of Participants and Enrollment Length, by Program, May 2016 to June 2017

Enrollment Report	Baltimore City Health Department	Garrett County Health Department	Lower Shore Clinic	Potomac Healthcare Foundation	Total
Average Length of Enrollment (Days)	23.3	66.3	112.8	12.7	23.0
Median Length of Enrollment (Days)	16	64	100	15	16
Number of Unique Participants	133	16	62	475	686
Number Completing Program	133	7	51	475	666
Number of Enrollment Events	133	16	66	475	690
Minimum Length of Enrollment (Days)	1	8	3	1	1
Maximum Length of Enrollment (Days)	198	134	344	28	344



Figure 1 presents the number of participants who enrolled in each program by month. By November 2016, all programs had enrolled at least one participant. Enrollment gradually increased during calendar year (CY) 2016, and remained stable through May 2017. In June 2017, enrollment declined. One explanation for this decline is that programs may have not submitted data for participants who had not completed the program at the time of data submission in July 2017.

Figure 1. Participant Enrollment by Enrollment Month and Program, May 2016 – June 2017

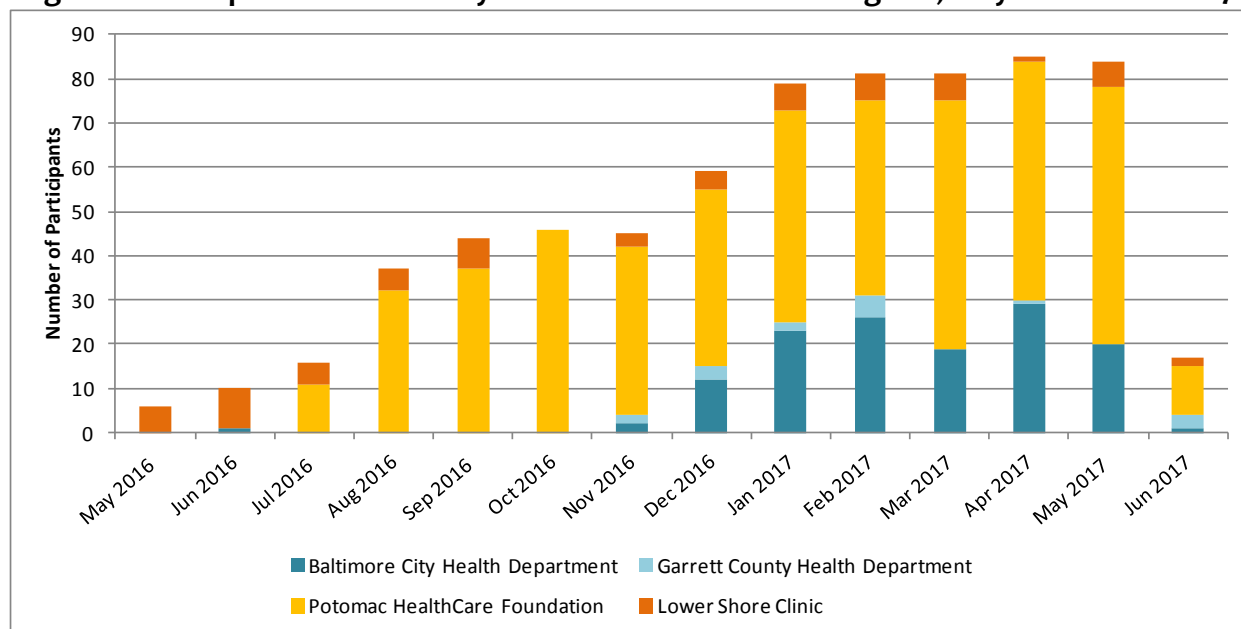


Table 2 displays the participant's reason for program completion. Please note that this table includes all 690 intervention episodes. Four participants enrolled in the same intervention twice. The majority of participants (65.8 percent) completed the program as determined by program staff. Approximately one quarter of participants (23.0 percent) decided to end enrollment prior to completing the program. A small number of participants were removed by program staff due to non-compliance (4.9 percent), could not be located after enrollment or missed appointments (0.9 percent), or had to leave the program for other reasons (e.g. death) (1.9 percent). The remaining participants (3.5 percent) had not completed the program at the time of data submission.



Table 2. Program Completion Reason by Program, May 2016 – June 2017

Program Completion Reason	Baltimore City Health Department		Garrett County Health Department		Lower Shore Clinic		Potomac Healthcare Foundation		Total	
	#	%	#	%	#	%	#	%	#	%
Completed the program as determined by program staff	133	100.0%	5	31.3%	26	39.4%	290	61.1%	454	65.8%
Participant decided to end enrollment	0	0.0%	0	0.0%	3	4.5%	156	32.8%	159	23.0%
Program staff have decided that the participant should no longer enrolled in the program due to non-compliance or other reasons	0	0.0%	2	12.5%	10	15.2%	22	4.6%	34	4.9%
Participant missed visit/scheduled interaction and could not be located by program staff	0	0.0%	0	0.0%	6	9.1%	0	0.0%	6	0.9%
Other reason caused the participant to leave the program (e.g. death, moved)	0	0.0%	0	0.0%	6	9.1%	7	1.5%	13	1.9%
Program ongoing - currently enrolled	0	0.0%	9	56.3%	15	22.7%	0	0.0%	24	3.5%
Total	133	100%	16	100%	66	100.0%	475	100.0%	690	100%

The sections below provide program-specific discussions of enrollment and program completion.

Baltimore City Health Department

The Baltimore City Health Department enrolled 133 participants into program during the measurement period. Staff reported that all participants who were referred to the program completed the process outlined for participants. Enrollment ranged from 1 to 198 days, with an average of 23 days. The Baltimore City Health Department estimated that participants would be



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involved in the program for approximately 30 days, and nearly 70 percent of participants completed the program within this timeframe

Two participants had enrollment periods of 113 and 198 days, respectively, which far exceeded the average enrollment period. Hilltop staff contacted the Baltimore City Health Department and Health Care Access Maryland to confirm the accuracy of the data for these participants.

Garrett County Health Department

The Garrett County Health Department enrolled 16 participants, with 5 completing the program, and 2 ending enrollment due to non-compliance or other reasons. Nine participants were enrolled in the intervention when data were submitted in July 2017. The Garrett County Health Department defined successful completion of the program as when the participant transitions from multiple outpatient visits per week to one visit per week. The date of discharge corresponds to the date in the participant's treatment plan when only one session of outpatient therapy is scheduled per week.

The Garrett County Health Department estimated that participants would be enrolled for approximately 30 days. Among the seven participants completing the program, two participants were enrolled for 30 days or less. The remaining five participants were enrolled for more than 30 days. Involvement in the program ranged from 8 to 134 days among those who completed the program, with an average of approximately 9 weeks (66 days).

Lower Shore Clinic

The Lower Shore Clinic enrolled 62 unique participants. Four participants enrolled in the program twice. At the time of data submission in July 2017, 51 enrollment episodes had been completed, and 15 participants were currently enrolled. The program was completed by 39.4 percent of participants. Ten participants were removed from the program by staff due to non-compliance, and six missed visits or could not be located by program staff. Lastly, three participants ended their participation, and an additional six participants had other reasons for leaving the program (e.g. death, moved).

The Lower Shore Clinic estimated that the average length of the intervention would be 90 days, and 22 of the 53 participants completed the program within that timeframe. The length of enrollment ranged from 3 to 344 days, with an average of 113 days. Three participants were enrolled for more than twice the average (256 to 344 days). When these outliers were removed, the average length of enrollment decreased to 101 days.

Potomac Healthcare Foundation

During the measurement period, the Potomac Healthcare Foundation enrolled 475 participants. Among the participants who completed the program, 290 (61.1 percent) completed the entire



program as determined by program staff. There were 156 (32.8 percent) participants who decided to end their enrollment without completing the program, and 22 (4.6 percent) were removed from the program by staff due to non-compliance or other reasons. The remaining seven (1.5 percent) participants ended enrollment for other reasons prior to completion.

The average length of enrollment was 13 days, ranging from 1 to 28 days. The Potomac Healthcare Foundation estimated that its intervention would last approximately 30 days, and all participants who completed the program did so within that timeframe.

Demographics

Table 3 presents the demographics for participants by program. It includes the participant's age, race/ethnicity, sex, and region of residence. While a total of 686 unique participants were enrolled, 11 participants could not be matched to the MMIS2. These 11 participants are excluded from this portion of the analysis, reducing the number of participants to 675.



**Table 3. Demographic Characteristics of CHRC Program Participants, by Program,
May 2016 – June 2017**

Demographic Characteristics	Baltimore City Health Department		Garrett County Health Department		Lower Shore Clinic		Potomac Healthcare Foundation		Total	
	#	%	#	%	#	%	#	%	#	%
Age Group (Years)										
14 -20	34	26.4%	1	6.3%	1	1.8%	2	0.4%	38	5.6%
21-39	92	71.3%	11	68.8%	12	21.8%	283	59.6%	398	59.0%
40-64	3	2.3%	4	25.0%	31	56.4%	189	39.8%	227	33.6%
65+	0	0.0%	0	0.0%	11	20.0%	1	0.2%	12	1.8%
Race/Ethnicity										
Asian	3	2.3%	0	0.0%	0	0.0%	4	0.8%	7	1.0%
Black	87	67.4%	0	0.0%	16	29.1%	150	31.6%	253	37.5%
White	9	7.0%	14	87.5%	35	63.6%	220	46.3%	278	41.2%
Hispanic	6	4.7%	0	0.0%	0	0.0%	0	0.0%	6	0.9%
Native American	0	0.0%	0	0.0%	0	0.0%	3	0.6%	3	0.4%
Other/Unknown	24	18.6%	2	12.5%	5	9.1%	98	20.6%	129	19.1%
Sex										
Female	129	100.0%	5	31.3%	32	58.2%	1	0.2%	167	24.7%
Male	0	0.0%	11	68.8%	23	41.8%	474	99.8%	508	75.3%
Region										
Baltimore City	119	92.2%	0	0.0%	0	0.0%	166	34.9%	285	42.2%
Baltimore Suburban	7	5.4%	0	0.0%	1	1.8%	206	43.4%	214	31.7%
Eastern Shore	2	1.6%	0	0.0%	52	94.5%	12	2.5%	66	9.8%
Washington Suburban	0	0.0%	0	0.0%	1	1.8%	20	4.2%	21	3.1%
Southern Maryland	1	0.8%	0	0.0%	0	0.0%	6	1.3%	7	1.0%
Western Maryland	0	0.0%	16	100.0%	0	0.0%	63	13.3%	79	11.7%
Out of State	0	0.0%	0	0.0%	1	1.8%	2	0.4%	3	0.4%
Total	129	100%	16	100%	55	100%	475	100%	675	100%



Age

Age was calculated as of December 31, 2016. The age range of all participants was 14 to 82 years.³ Overall, 59.0 percent of participants were aged 21 to 39 years, and 33.6 percent were aged 40 to 64 years. Only about 6 percent of participants were aged 14 to 20 years, and less than 2 percent of participants were 65 or older. The average age among all 675 participants was 36 years.

Race/Ethnicity

The race/ethnicity information included in MMIS2 is based on the participant's self-report, or how the participant self-identified on the Medicaid eligibility application. An Other/Unknown category indicates that the individual either did not report race/ethnicity or considered themselves as biracial, multiracial, or another option.

Among all participants, 41.2 percent were White, 37.5 percent were Black and less than 3 percent were Asian, Hispanic, or Native American. A large number of participants, about 19 percent, had a race/ethnicity designated as Other/Unknown. As seen in Table 3, there were some differences in the racial/ethnic distribution by program, which are discussed in the program-specific sections included below.

Sex

Overall, 75 percent of the participants were male. The distribution of participants by sex was largely dependent on program type. The Baltimore City Health Department program enrolled only female participants, and the Potomac Healthcare Foundation enrolled almost exclusively male participants. The remaining two programs had a more equal distribution of male and female participants.

Region of Residence

As expected, the participants' region of residence in the MMIS2 corresponded with the area covered by each of the programs. All but three participants had Maryland addresses. Among those who were out-of-state, two were from the Potomac Healthcare Foundation, and one was from the Lower Shore Clinic.

³ The date of birth from MMIS2 was used to calculate age in this report. There were 11 participants from Potomac Healthcare Foundation whose birthdates provided by the site differed from the ones found in MMIS2. Differences between the two dates varied from a few days to 30 years. These differences may be due to typographical errors or data integrity issues.



A detailed description of the participants' demographics in each of the programs is provided below.

Baltimore City Health Department

Participants enrolled in the Baltimore City Health Department program were generally younger compared with those enrolled in the other programs, with an average age of 25 years. Participants' ages ranged from 14 to 45 years. About two-thirds of the participants from the Baltimore City Health Department were Black; a larger proportion of the participants were also either Hispanic (4.7 percent) or Asian (2.3 percent), in contrast to all other programs where the largest proportion of participants were White. The Baltimore City Health Department was the only site that enrolled Hispanic participants. As expected, all participants were female, and nearly all (92.2 percent) resided in Baltimore City. The remaining participants were residents of the Baltimore Suburban region, the Eastern Shore, or Southern Maryland.

Garrett County Health Department

Participants in the Garrett County Health Department program had an average age of 33 years, which is just below the overall average age. Participants' ages ranged from 20 to 57 years. All but two participants from the program were White. The majority of participants were male; with 11 males and 5 females enrolled in the program. All participants were residents of Western Maryland.

Lower Shore Clinic

Participants enrolled in the Lower Shore Clinic's program were generally older, with an average age of 52 years. Participants' ages ranged from 20 to 82 years. Most participants (63.6 percent) from the program were White, and about one-third (29.1 percent) were Black. The race/ethnicity for remaining participants is Other/Unknown (9.1 percent). A majority of participants were female (58.2 percent). About 95 percent of participants were residents of the Eastern Shore, and there was a single participant from each of the following regions: Baltimore Suburban, Washington Suburban, and Out of State.

Potomac Healthcare Foundation

Participants from the Potomac Healthcare Foundation had an average age of 37 years, which is just above the overall average age among all participants. Participants' ages ranged from 20 to 65 years. About 46 percent of participants were White, and another 32 percent were Black. This was the only program that enrolled Native American participants. There were three Native American participants, and four Asian participants. Most participants were residents of Suburban Baltimore (43.4 percent); the remaining participants lived in Baltimore City (34.9 percent), Western Maryland (13.3 percent), Washington Suburban (4.2 percent), Eastern Shore (2.5 percent), Southern Maryland (1.3 percent), or Out of State (0.4 percent).



Medicaid Eligibility

A majority of participants enrolled in each CHRC program were eligible for Medicaid. Table 4 displays the number of CHRC participants who were eligible for Medicaid at the time of enrollment into the CHRC program and for the complete intervention period. At the time of enrollment, 95.3 percent of CHRC program participants (n=654) were eligible for Medicaid. A total of 632 participants had continuous enrollment in Medicaid during their enrollment in the CHRC program.

Table 4. Medicaid Eligibility at Program Enrollment and Continuous Enrollment, by Program Type, May 2016 to June 2017

Program	Total Enrolled in Program	Eligible for Medicaid at Program Start	Eligible for Medicaid at Program Completion*
Baltimore City Health Department	133	121	121
Garrett County Health Department	16	16	7
Lower Shore Clinic	62	44	31
Potomac Healthcare Foundation	475	473	473
Total	686	654	632

*The 19 participants who did not complete the program by July 2017 are not included.

As noted above, Hilltop was unable to locate MMIS2 records for 11 participants. This suggests that the participants were not enrolled in Medicaid in approximately the last five years. There were 17 participants without any Medicaid eligibility from January 2016 to August 2017. Four participants enrolled in Medicaid after joining the CHRC program, or after their involvement in the CHRC program ended.

Participants without Medicaid eligibility may have been uninsured, enrolled with a commercial payer, or eligible for Medicare only. Alternatively, the participant may have been enrolled in Medicaid using a different first and/or last name, making it difficult to link the information provided by the site with the MMIS2 data.

Participants who are enrolled in Medicaid obtain eligibility through a number of different mechanisms. The majority of Medicaid participants are enrolled through HealthChoice, Maryland's statewide mandatory Medicaid managed care program. A second possible entry into Medicaid is dual enrollment in Medicare and Medicaid. Lastly, there are Maryland Medicaid participants who are not eligible for managed care and are thus enrolled in FFS Medicaid.

Table 5 presents each participant's Medicaid coverage type at enrollment into the CHRC program. The majority of participants (88.8 percent) were enrolled in Medicaid managed care through the HealthChoice program. Among those not eligible for managed care, 6.7 percent were



enrolled in a FFS coverage group. The remaining 4.4 percent of participants were dually eligible for both Medicare and Medicaid.

Table 5. Medicaid Coverage Type of CHRC Program Participants, by Program Type, May 2016 to June 2017

Coverage Type	Baltimore City Health Department		Garrett County Health Department		Lower Shore Clinic		Potomac Healthcare Foundation		Total	
	#	%	#	%	#	%	#	%	#	%
HealthChoice	113	93.4%	13	81.3%	18	40.9%	437	92.4%	581	88.8%
FFS Non-Dual	6	5.0%	2	12.5%	4	9.1%	32	6.8%	44	6.7%
Dually Eligible	2	1.7%	1	6.3%	22	50.0%	4	0.8%	29	4.4%
Total	121	100%	16	100%	44	100%	473	100%	654	100%

Under the Affordable Care Act (ACA), Maryland elected to expand Medicaid eligibility for adults under the age of 65 years with income up to 138 percent of the federal poverty level (FPL). Table 6 presents the number and percentage of participants who were enrolled in an ACA coverage group. More than half of participants were enrolled in an ACA coverage group.

Table 6. Number and Percentage of CHRC Program Participants Enrolled in an ACA Coverage Group at Enrollment, by Program Type, May 2016 to July 2017

Program	ACA Coverage Group		Total Enrollment in Medicaid
	Number	Percent	
Baltimore City Health Department	7	5.8%	121
Garrett County Health Department	7	43.8%	16
Lower Shore Clinic	7	15.9%	44
Potomac Healthcare Foundation	346	73.2%	473
Total	367	56.1%	654

The enrollment distribution among CHRC program participants is similar to findings at the state level. In CY 2015, 83.4 percent of Maryland Medicaid participants were enrolled in HealthChoice compared to 16.6 percent in a FFS coverage group⁴.

⁴ The Hilltop Institute (2017). Evaluation of the HealthChoice Program CY 2011 to CY 2015. [https://mmcp.health.maryland.gov/Documents/2017%20HealthChoice%20Evaluation%20\(CY%202011-CY%202015\).pdf](https://mmcp.health.maryland.gov/Documents/2017%20HealthChoice%20Evaluation%20(CY%202011-CY%202015).pdf)



Baltimore City Health Department

Ninety-one percent (121 participants) of Baltimore City Health Department participants were enrolled in Medicaid at the time of CHRC program enrollment. All participants in Medicaid at the start of their program remained continuously enrolled for the entire program period. Nearly all participants were enrolled in the HealthChoice program (93.4 percent).

Garrett County Health Department

All Garrett County Health Department participants were enrolled in Medicaid at the initiation of the CHRC program. Among the seven participants who completed the program, all were continuously enrolled in Medicaid for the entire period.

A majority of participants were enrolled in the HealthChoice program (13 participants), and over half of these participants (7) were enrolled in an ACA coverage group. Two participants were enrolled in a FFS coverage group, and one participant was dually eligible for Medicare and Medicaid.

Lower Shore Clinic

The Lower Shore Clinic had the lowest percentage of participants who were enrolled in Medicaid at the start of the CHRC intervention. At CHRC program enrollment, 71.0 percent of participants were enrolled Medicaid. Thirty-one participants (50.0 percent) were enrolled in Medicaid for the entire intervention period.

The profile of Medicaid coverage among the Lower Shore participants differed from the other programs, with less than half enrolled in HealthChoice (40.9 percent). The majority were enrolled in a FFS coverage group, with 50.0 percent being dually eligible for Medicare and Medicaid.

Please note that four participants enrolled at the Lower Shore clinic for two intervention episodes. During these episodes, the four participants were continuously enrolled in Medicaid coverage in the same coverage group.

Potomac Healthcare Foundation

Nearly all Potomac Healthcare Foundation participants (99.6 percent) were enrolled in Medicaid; only two participants who were not enrolled. Over 92 percent of Potomac Healthcare Foundation's participants were enrolled in HealthChoice, with 73.2 percent obtaining Medicaid eligibility through an ACA coverage group. A small percentage of participants were enrolled in a FFS coverage group, and less than one percent were dually eligible for Medicaid and Medicare.



Discussion and Next Steps

The four CHRC-sponsored programs selected for Hilltop's evaluation have enrolled 686 participants since May 2016. A majority of participants (65.8 percent) completed the intervention as determined by program staff. The average length of each intervention for each program corresponded to the estimate provided by the site. The demographic characteristics of participants varied across programs, which reflect the diverse target populations enrolled in each program.

A large proportion of participants enrolled in the four CHRC programs were enrolled in Medicaid, with a majority enrolled in the state's managed care program. Overall, a small number of participants were dually eligible for Medicare and Medicaid. The dually eligible participants were concentrated in one program—half of the participants enrolled in the Lower Shore Clinic's program were dually eligible. Among the dually eligible, Medicare is the primary payer for many healthcare services, and Medicaid benefits are only used when a service is not covered by Medicare. Hilltop will only be able to examine healthcare services and costs that are paid by Medicaid. A small number of participants were enrolled in limited benefit Medicaid coverage, such as undocumented immigrants who are only eligible for emergency services. The limited services available to these participants would also influence service use and total costs.

There were no issues reported by the sites or CHRC staff related to data collection or transmission. Hilltop reviewed the data for completeness and partnered with each site to address data entry errors or missing responses prior to the analysis. Hilltop was successful in matching 98.4 percent of CHRC participants to a corresponding Medicaid eligibility record in the MMIS2. While many matches between the two datasets were completed easily through the use of the participant's Medicaid identification number, there were several cases where the Medicaid ID number was not provided, or there was a typographical error in the participant's date of birth, name, or Medicaid identification number prohibiting a match between datasets. These errors were manually corrected to allow for a match to be made.

Hilltop is scheduled to receive the third data transmission from participating sites in January 2018. In June 2018, Hilltop will provide a final evaluation that includes utilization and cost data as described in the evaluation plan submitted in November 2016. In addition, Hilltop will continue to maintain and update all IRB approvals as required.



Appendix A – Data Collection Template

Table A1. Data Collection Template for CHRC Program Evaluation Sites

Medicaid ID	First Name	Last Name	DOB	Date of Enrollment	Date of Discharge	Reason for Discharge





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