The Hilltop Institute
UMBC

report

# Evaluation of the Maryland Medicaid HealthChoice Program: CY 2015 to CY 2019

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**Evaluation of the Maryland Medicaid HealthChoice Program: CY 2015 to CY 2019**

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## List of Abbreviations

| | |
|---|---|
| ACA | Affordable Care Act |
| ACCU | administrative care coordination unit |
| ACG | Adjusted Clinical Groups |
| ACIP | Advisory Committee on Immunization Practices |
| ACIS | Assistance in Community Integration Services |
| AHRQ | U.S. Agency for Healthcare Research and Quality, HHS |
| ART | antiretroviral therapy |
| ASAM | American Society of Addiction Medicine |
| ASO | administrative services organization |
| BHA | Behavioral Health Administration |
| CD4 | A test of the quantity of immune system cells used to diagnose and monitor HIV disease |
| CDC | Centers for Disease Control and Prevention |
| CHIP | Children's Health Insurance Program |
| CLR | Childhood Lead Registry |
| CMS | Centers for Medicare & Medicaid Services |
| CoCM | Collaborative Care Model |
| COMAR | Code of Maryland Regulations |
| COPD | chronic obstructive pulmonary disease |
| CY | calendar year |
| Department | Maryland Department of Health |
| DPP | Diabetes Prevention Program |
| ED | emergency department |
| EID | Employed Individuals with Disabilities |
| ET3 | Emergency Triage, Treat, and Transport |
| EPSDT | Early and Periodic Screening, Diagnosis, and Treatment |
| EQRO | external quality review organization |
| F&C | Families and Children |
| FFS | fee-for-service |
| FOBT | fecal occult blood test |

| | |
|---|---|
| FPL | federal poverty level |
| FQHC | federally qualified health center |
| FUA | Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence |
| FUM | Follow-Up After Emergency Department Visit for Mental Illness |
| FY | fiscal year |
| HbA1c | hemoglobin A1c screening |
| HCBS | home and community-based services |
| HEDIS® | Healthcare Effectiveness Data and Information Set® |
| HHS | U.S. Department of Health and Human Services |
| HPV | human papillomavirus |
| SIHIS | Statewide Integrated Health Improvement Strategy |
| HVS | Home Visiting Services |
| ICS | Increased Community Services |
| IMD | Institution for Mental Disease |
| IUD/IUS | intrauterine device or system |
| LAA | local access area |
| LBW | low birth weight |
| LE | lead entity |
| LOS | length of stay |
| MAGI | modified adjusted gross income |
| MAT | medication-assisted treatment |
| MCO | managed care organization |
| MCHP | Maryland Children's Health Program |
| MFR | Managing for Results |
| MHBE | Maryland Health Benefit Exchange |
| MHC | Maryland Health Connection |
| MHD | mental health disorder |
| MMA | Medication Management for People with Asthma |
| NCI | National Cancer Institute |
| NCQA | National Committee for Quality Assurance |

| | |
|---|---|
| NQF | National Quality Forum |
| MPC | Maryland Physicians Care |
| NPI | National Provider Identifier |
| NYU | New York University |
| OPA | Office of Population Affairs |
| OR | odds ratio |
| Pap | papanicolaou test for cervical cancer |
| PMPM | per member per month |
| PAC | Primary Adult Care program |
| PCP | primary care provider |
| PrEP | pre-exposure prophylaxis |
| POS | plan of service |
| PQI | Prevention Quality Indicator |
| QHP | qualified health plan |
| REM | Rare and Expensive Case Management |
| SAMHSA | Substance Abuse and Mental Health Services Administration |
| SBIRT | Screening, Brief Intervention, and Referral to Treatment |
| SPA | state plan amendment |
| SSI | Supplemental Security Income |
| SUD | substance use disorder |
| TANF | Temporary Assistance for Needy Families |
| VBP | value-based purchasing |
| VLBW | very low birth weight |

# Evaluation of the Maryland Medicaid HealthChoice Program: CY 2015 to CY 2019

## Executive Summary

In 1997, Maryland implemented HealthChoice—a statewide mandatory Medicaid and Children's Health Insurance Program (CHIP) managed care program—under authority of a waiver through §1115 of the Social Security Act. The provisions of the Affordable Care Act (ACA) that went into effect in 2014 marked another milestone by extending quality coverage to many more Marylanders with low income by calendar year (CY) 2019. Over 20 years after its launch, HealthChoice covers close to 90% of the state's Medicaid and Maryland Children's Health Program (MCHP) populations.[1]

The Hilltop Institute, on behalf of the Maryland Department of Health (the Department), evaluates the program annually; this evaluation covers the period from CY 2015 through CY 2019.

The goal of the HealthChoice §1115 demonstration is to improve the health status of Marylanders with low income by:

- Improving access to health care for the Medicaid population, including special populations
- Improving the quality of health services delivered
- Providing patient-focused, comprehensive, and coordinated care designed to meet health care needs by providing each member a single "medical home" through a primary care provider (PCP)
- Emphasizing health promotion and disease prevention by providing access to immunizations and other wellness services, such as regular prenatal care
- Expanding coverage to additional Marylanders with low income through resources generated by managed care efficiencies

HealthChoice is a mature managed care program that covered nearly one in four Marylanders during CY 2019. Participants choose one of the nine participating managed care organizations (MCOs), along with a PCP from their MCO's network, to oversee their medical care.

HealthChoice and fee-for-service (FFS) enrollees receive the same comprehensive benefits. This evaluation provides evidence that HealthChoice has successfully achieved its stated goals of improving coverage and access to care, providing a medical home to participants, and improving the quality of care.

[1] Maryland's Children's Health Insurance Program is known as MCHP.

HealthChoice has demonstrated improvement in providing targeted preventive screenings and ensuring that participants receive care at the appropriate level. Some of these recent successes include increasing the rates of women receiving breast cancer screenings, colorectal cancer screenings, and ambulatory care visits among children in foster care. Among individuals with HIV/AIDS, a test for the quantity of immune system cells used to diagnose and monitor HIV/AIDS—referred to as viral load testing—as well as cluster of differentiation 4 (CD4) testing rates increased, while emergency department (ED) utilization dropped. The percentage of HealthChoice participants aged 18 to 64 years with at least one inpatient hospital admission declined by .7 percentage points.

Recent developments both within Maryland and nationally will continue to affect HealthChoice. Primarily, increased enrollment starting in CY 2014 stemming from the ACA's expansion of Medicaid eligibility increased service utilization across the spectrum of somatic and behavioral health services. In addition, the state's chronic health home demonstration is improving health outcomes for individuals with chronic conditions, with a focus on behavioral health needs such as serious persistent mental illness and opioid substance use disorders (Mohamoud et al., 2021). Other programs—such as the Residential Treatment for Individuals with Substance Use Disorder (SUD) program and the Evidence-Based Home Visiting Services Pilot program—began in July 2017 and are expected to improve access, reduce costs, and improve quality. In March 2019, the Department received approval to extend coverage for the Residential Treatment for Individuals with a primary SUD and a secondary mental health disorder (MHD) to ASAM level 4.0. Access to the National Diabetes Prevention Program (National DPP) lifestyle change program was expanded to all eligible HealthChoice participants as of September 1, 2019. A request for amendment approved in April 2020 established a Collaborative Care Model (CoCM) pilot program to integrate primary care and behavioral health services to further address behavioral health needs. Coverage for CoCM services for participants from HealthChoice began in July 2020.

Program improvements are a necessary component to ensure that the growing number of participants have access to quality care. The Department is committed to working with the Centers for Medicare & Medicaid Services (CMS) and other stakeholders to identify and address necessary changes. Some of the areas targeted for improvements include improving adherence to asthma medication, diabetes care, and prenatal and birth outcomes; reducing racial and ethnic disparities; and increasing rates of follow-up care after ED visits for MHD or SUD.

## *Coverage and Access*

A major goal of the HealthChoice program is to expand coverage to residents with low income and to improve access to health care services for the Medicaid population. HealthChoice has largely succeeded in this area. Overall, program enrollment increased 20.4%—from 999,252 participants in CY 2015 to 1,202,718 participants in CY 2019.[2]

[2] These totals reflect participants enrolled as of December 31 of each respective year, thus providing a snapshot of typical program enrollment on a given day. Alternatively, the total number of participants with any period of HealthChoice enrollment during the year increased by 11.1% between CY 2014 and CY 2018.

Enrollment continued to grow during the study period as the expansion of Medicaid eligibility had ramped up over the course of 2014 and more residents realized they were eligible for Medicaid during the evaluation period. In 2014, the Department expanded Medicaid eligibility to adults under the age of 65 years with incomes up to 138% of the federal poverty level (FPL) per the ACA, which resulted in a large increase in Medicaid enrollment. In January 2014, 139,427 participants gained coverage through this expansion (The Hilltop Institute, 2017). This included more than 90,000 participants switching to full-benefit Medicaid from the former Primary Adult Care (PAC) program. Individuals covered under the ACA expansion included some participants who may have had low health literacy and were previously unaccustomed to accessing care through Medicaid, had limited experience in navigating a managed care health system, and were unfamiliar with the Medicaid benefit package. In addition, many ACA expansion participants may not have received services in the past. As of December 2019, 299,778 HealthChoice participants were enrolled under the ACA expansion.

The large influx of ACA expansion participants led to changes in overall program access and utilization measures. ACA enrollment increased by 4.1 percentage points over the evaluation period. Expansion participants had a lower rate of ambulatory care visits than the rest of the Medicaid population from CY 2015 through CY 2019, however they experienced an increase by 3.1 percentage points. The ED visit rates for ACA participants with 12 months of enrollment decreased from 38.9 in CY 2015 to 33.5 in CY 2019. Additional changes occurred in service utilization patterns during the evaluation period, including a slight increase in the number of participants who received services for a behavioral health condition.

The addition of a new MCO in CY 2017 also influenced overall program performance due to initial lower service volumes. Nonetheless, trends in service utilization indicate increased health literacy, in alignment with the overall goals of the HealthChoice demonstration program. HealthChoice facilitates access to care by requiring each MCO to have a provider network capacity of one PCP for every 200 participants. This network adequacy analysis counts the number of PCP offices included in provider networks in each county in Maryland. All jurisdictions achieved a 200:1 ratio of participants to PCPs in CY 2019.

## Care for Special Populations

HealthChoice continues to seek ways to improve the quality and access to health services for vulnerable populations, including children in foster care, Rare and Expensive Case Management (REM) participants, and racial and ethnic minorities. The Department also monitors demographic characteristics and service utilization among the ACA Medicaid expansion population.

Children in foster care showed positive trends in service utilization; however, in CY 2019, they had a 3.8 percentage point lower rate of ambulatory care service utilization and a 1.4 percentage point higher rate of ED visits compared to other children in HealthChoice.[3] The REM program experienced increases in dental care during the evaluation period, while ambulatory care

[3] Children in the subsidized adoption and guardianship programs are included in the foster children counts.

remained stable. The percentage of REM participants who had outpatient ED visits and inpatient admissions declined.

As for racial and ethnic disparities in access to care, Black and Native American children had lower rates—and Hispanic children had higher rates—of ambulatory care visits than other children did in both CY 2015 and CY 2019. Among the entire HealthChoice population, Black participants also had the highest ED utilization rates, while Asian participants had the lowest.

## *Quality of Care*

Improving the quality of services delivered to HealthChoice participants is a core aim of the program. Performance measures in this report are selected because they either measure quality of health care directly or indicate utilization and performance indirectly related to providing quality health services. Additionally, HealthChoice has two programs focusing on measuring and improving quality of care: the Value-Based Purchasing (VBP) program and the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) annual review.

The Department's priorities and analysis of population health needs may change the VBP measures as the program strives for consistency with CMS's national performance measures for Medicaid. The VBP program adjusts a portion of MCO payments according to their scores on specific measures of clinical quality outcomes. Those MCOs that exceed a performance threshold receive incentive payments. MCOs whose performance is less than the standard pay penalties. Although the MCOs demonstrated varied results across the assessed measures, the VBP program overall supports quality improvement across the HealthChoice population by basing the incentive levels on averages of all plan performance.

The EPSDT annual review assesses MCO performance on services to children under the age of 21. EPSDT services are a national requirement for Medicaid, and the EPSDT review measures whether all HealthChoice MCOs achieve minimum levels of performance in delivering EPSDT. The most recent review shows that the MCOs meet or exceed standards across the board.

## *Medical Home*

Another goal of the HealthChoice program is to provide patient-focused, comprehensive, and coordinated care for its participants by providing each member with a single "medical home" through a PCP. With a greater understanding of the resources available to them, HealthChoice participants should seek care for non-emergent conditions in an ambulatory care setting rather than using the ED or letting an ailment exacerbate to the extent that it could warrant an inpatient hospital admission. One method to achieve this goal is to measure whether participants can identify with and effectively navigate a medical home. During the evaluation period, the rate of potentially avoidable ED visits—an indicator of performance in this area—decreased from 45.7% in CY 2015 to 41.4% in CY 2019. The percentage of HealthChoice adults with an inpatient admission designated as potentially preventable also decreased slightly, from 0.9% in CY 2015 to 0.8% in CY 2019. The state is working with CMS to monitor several hospital quality measures, including Prevention Quality Indicator (PQI) admissions across Medicaid,

Medicare, and commercial payers under Maryland's All-Payer Model Agreement—and subsequent Total Cost of Care Model. The model places global budget limits on hospitals, which reduces hospitals' incentives to increase admissions. The Department will use these tools to continue to monitor the rate of PQI admissions and will research policies to reduce their frequency.

## *Health Promotion and Disease Prevention*

Another goal of the HealthChoice program is to prioritize health promotion and disease prevention by providing access to immunizations and other wellness services, such as regular prenatal care. The Healthcare Effectiveness Data and Information Set (HEDIS®)[4] compares HealthChoice against nationally recognized performance standards for the use of preventive care and management of chronic disease conditions (MetaStar, Inc., 2020). Over the evaluation period, measures based on service utilization varied, in part because of the influx of adults into the HealthChoice population resulting from the ACA expansion. These new participants took longer to engage in appropriate primary care treatment. The addition of a new MCO in CY 2017 also affected HealthChoice HEDIS® scores because the methodology for determining these scores calculates a simple average across the plans instead of a weighted average.

Nevertheless, many indicators showed improvement over the evaluation period. For example, breast cancer screening rates improved during the evaluation period—contributing to better preventive care for women—and has remained above the national Medicaid average since CY 2015. Rates for well-child visits, well-care visits, and immunizations were also consistently higher than national Medicaid averages. Blood lead screening rates for children aged 12 to 23 months and 24 to 35 months also improved.

Although the percentage of women in HealthChoice who received a cervical cancer screening declined from 65.1% in CY 2015 to 63.8% in CY 2019, the rate continues to be above the national HEDIS® mean. Declines in the outcome of cervical pre-cancer are observed with widespread vaccinations for human papillomavirus (HPV) (McClung et al., 2019). Adolescents who received two HPV vaccine doses between their 9$^{th}$ and 13$^{th}$ birthdays increased from 22.7% in CY 2015 to 34.8% in CY 2019. Colorectal screening rates increased from 35.0% in CY 2015 to 41.5% in CY 2019 and is expected to continue to increase as ACA expansion participants have longer enrollment periods.

The percentage of pregnant women who received prenatal services in a timely manner increased by 3.8 percentage points from CY 2015 to CY 2019, and HealthChoice outperformed the national HEDIS® mean throughout the evaluation period.

The HealthChoice program also prioritizes management of chronic conditions such as asthma, diabetes, HIV/AIDS, and behavioral health diagnoses. Among measures of the quality of care for chronic conditions, the percentage of participants with asthma who remained on asthma controller medication for at least half of their treatment period rose from 56.9% in CY 2015 to

[4] HEDIS® is a registered trademark of the National Committee for Quality Assurance (NCQA).

61.6% in CY 2019. When compared to participants who remained on their asthma medication for less than half of their treatment period, those who remained on their medication for at least half of their treatment period were 14.1% less likely to have an asthma-related ED visit that year and 13.6% less likely to have an asthma-related ED visit the following year.

The rate of hemoglobin A1c (HbA1c) screenings among participants with diabetes decreased slightly by 0.5 percentage points but remained close to the national HEDIS® mean. The percentage of participants with diabetes who received an eye exam decreased by 5.5 percentage points between CY 2015 and CY 2019. The decrease may be a result of the removal of this measure from the VBP incentive program in CY 2015. During the evaluation period, inpatient and ED utilization decreased by 3.2 and 6.0 percentage points, respectively, among HealthChoice participants with diabetes, while ambulatory care utilization remained stable. Although receipt of just the HbA1c screening or the eye exam was associated with an increased likelihood of experiencing a diabetes related ED visit, receipt of both screenings mitigated the overall likelihood of having a diabetes related ED visit.

Participants with HIV/AIDS maintained stable ambulatory care service utilization and CD4 cell count testing rates during the evaluation period. Viral load testing and antiretroviral therapy (ART) increased by 3.6 and 3.9 percentage points, respectively. ED utilization by this population decreased by 5.2 percentage points during the evaluation period.

The percentage of participants with a behavioral health diagnosis increased from 15.8% in CY 2015 to 18.2% in CY 2019. Utilization of ambulatory care services increased by 2.6% during the evaluation period among HealthChoice participants with a behavioral health diagnosis, while inpatient and ED utilization decreased by 2.4 and 4.6 percentage points, respectively.

## *Demonstration Programs*

Another goal of the HealthChoice program is to use §1115 demonstration authority to test emerging practices through innovation and pilot programs to better serve participants. As part of its waiver renewal in 2016, the Department proposed the following new innovative programs: Residential Treatment for Individuals with SUD; the Evidence-Based Home Visiting Services (HVS) and Assistance in Community Integration Services (ACIS) community health pilots; and dental services for former foster care individuals.

With CMS approval, Maryland Medicaid participants aged 21 years and over with SUDs can now receive residential treatment services—up to two (2) 30-day stays—in institutions for mental disease (IMDs). Given the current opioid epidemic, this is particularly important as it allows the state to expand access across the care continuum. From July 1, 2017, to June 30, 2018 (fiscal year [FY] 2018), 8,747 participants received these services under the waiver. This increased to 10,792 participants in FY 2019 followed by a decrease to 9,819 participants in FY 2020.[5] Amendments to the §1115 waiver beginning in January 2019 included coverage of more

[5] FY 2019 was updated to include level 3.1. FY 2020 data may have been influenced by the COVID-19 pandemic.

intensive IMD services at ASAM Level 4.0 for Medicaid adults who have a primary SUD and a secondary MHD, for up to 15 days per month.

Beginning in January 2017, Maryland initiated coverage of dental services for former foster care participants through the age of 26. Of former foster youth enrolled for at least 320 days in CY 2017, over 21% had at least one dental visit; this increased to close to 26% in CY 2019. The Department anticipates that these rates will continue to increase over time. In 2019, the Department received approval for an adult dental pilot to provide dental services to adults between the ages of 21 and 64 who are eligible for both Medicaid and Medicare.

The National DPP lifestyle change program was authorized for HealthChoice members beginning September 1, 2019, deemed HealthChoice DPP. By participating in HealthChoice DPP, HealthChoice members who are considered at risk for developing type 2 diabetes engage with certified DPP providers to learn skills and set goals to reduce risk of type 2 diabetes and to improve their overall health. Hilltop uses Medicaid claims and encounters data to provide the Department with periodic service utilization reports that track, among other things, current and cumulative DPP enrollment. More data are needed to conduct a formal evaluation of the program.

Additionally, in partnership with the Department and HealthChoice MCOs, Hilltop has developed an algorithm that MCOs can use to search their electronic medical records and identify members who meet eligibility criteria for HealthChoice DPP. This algorithm has been provided to the MCOs; as of spring 2021, it was being tested and refined.

The Department also renewed the Increased Community Services (ICS) program and the Family Planning program from previous waiver periods. The ICS program allows certain adults with physical disabilities to remain in the community as an alternative to institutional care. The majority of the ICS quality measures had 100 percent compliance from implementation through CY 2019.

The HealthChoice waiver allows the Department to provide a limited benefit package of family planning services to eligible women. The program covers medical services related to family planning, including office and clinic visits, physical examinations, certain laboratory services, treatments for sexually transmitted infections, family planning supplies, permanent sterilization and reproductive health counseling, education, and referrals. The Department has expanded eligibility under its Family Planning Program to lift the age limit and open coverage to include men, effective July 1, 2018.

Lastly, Maryland received approval for an amendment to the state's §1115 HealthChoice Demonstration Waiver on April 16, 2020, to establish and implement the CoCM pilot program. The CoCM program integrates primary care and behavioral health services for HealthChoice participants who have experienced a behavioral health need (either a mental health condition or SUD) but have not received effective treatment. Coverage for CoCM services provided to HealthChoice participants began in July 2020.

**Evaluation of the Maryland Medicaid HealthChoice Program: CY 2015 to CY 2019**

# Section I. Introduction

In 1997, Maryland implemented HealthChoice—a statewide mandatory Medicaid and Children's Health Insurance Program (CHIP) managed care program—as a waiver of standard federal Medicaid rules, under authority of §1115 of the Social Security Act. The Centers for Medicare & Medicaid Services (CMS) approved subsequent waiver renewals in 2005, 2007, 2010, 2013, and 2016. The Maryland Department of Health (the Department) continually monitors HealthChoice performance on a variety of measures across the demonstration's goals, culminating in an annual evaluation.

This report—the 2021 annual evaluation—includes data from calendar year (CY) 2015 through CY 2019. The following sections provide a brief overview of the HealthChoice program and recent program updates before addressing these goals:

- Improve access to health care for the Medicaid population
- Improve the quality of health services delivered
- Provide patient-focused, comprehensive and coordinated care through the provision of a medical home
- Emphasize health promotion and disease prevention
- Expand coverage through resources generated through managed care efficiencies

This report is a collaborative effort between the Department and The Hilltop Institute at the University of Maryland, Baltimore County (UMBC).

## *Overview of the HealthChoice Program*

As of the end of CY 2019, close to 90% of the state's Medicaid and Maryland Children's Health Program (MCHP) populations were enrolled in HealthChoice. HealthChoice participants choose a managed care organization (MCO) and a primary care provider (PCP) from their MCO's network to oversee their medical care. Participants who do not select an MCO or a PCP are assigned to one automatically. The groups of Medicaid-eligible individuals who enroll in HealthChoice MCOs include the following:

- Families with low income that have children
- Families that receive Temporary Assistance for Needy Families (TANF)
- Children younger than 19 years who are eligible for MCHP
- Children in foster care and, starting in CY 2014, individuals up to age 26 who were previously in foster care
- Starting in CY 2014, adults under the age of 65 with income up to 138% of the federal poverty level (FPL)

- Women with income up to 264% of the FPL who are pregnant or less-than-60-days postpartum
- Individuals receiving Supplemental Security Income (SSI) who are under 65 and ineligible for Medicare

Not all Maryland Medicaid participants are eligible for the HealthChoice managed care program. Groups that are ineligible for enrollment in the managed care program include the following:

- Medicare beneficiaries
- Individuals aged 65 years and older[6]
- Individuals in a "spend-down" eligibility group who are only eligible for Medicaid for a limited time
- Individuals who require more than 90 days of long-term care services and are subsequently disenrolled from HealthChoice
- Individuals who are continuously enrolled in an institution for mental disease (IMD) for more than 30 days
- Residents of an intermediate care facility for individuals with intellectual disabilities
- Individuals enrolled in the Model Waiver or the Employed Individuals with Disabilities (EID) program

There are additional populations covered under the HealthChoice waiver who do not enroll in HealthChoice MCOs, including individuals in the Family Planning and the Rare and Expensive Case Management (REM) programs. The Family Planning program is a limited-benefit program under the waiver. The REM program allows HealthChoice-eligible individuals with certain rare and expensive diagnoses to receive care on a fee-for-service (FFS) basis. REM is discussed in more detail in Section III of this report, and Family Planning is discussed in Section VII.

HealthChoice participants receive the same comprehensive benefits as those available to Maryland Medicaid participants through the FFS system. MCOs were responsible for coverage of most medical services during 2019, including the following:

- Inpatient and outpatient hospital care
- Physician care
- Federally qualified health center (FQHC) or other clinic services
- Laboratory and X-ray services
- Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) services for children under 21

[6] Individuals aged 65 and older can be enrolled in a HealthChoice MCO if covered as a parent or caretaker.

- Prescription drugs, except for behavioral health and HIV/AIDS drugs
- Durable medical equipment and disposable medical supplies
- Home health care
- Vision services, including corrective lens and hearing aids for children under 21 (although not required by regulation, some MCOs cover adults for limited vision, hearing, and dental benefits)
- Dialysis
- The first 90 days of long-term care services

The following services are not covered by the MCOs and instead are covered by the Medicaid FFS system:

- Specialty mental health care and substance use disorder (SUD) treatment services[7]
- Dental care for children, pregnant women, and adults in the REM program
- Health-related services and targeted case management services provided to children when the services are specified in the child's Individualized Education Plan or Individualized Family Service Plan
- Therapy services (occupational, physical, and speech) for children
- Personal assistance services offered under the Community First Choice program
- Viral load testing services, genotypic, phenotypic, or other HIV/AIDS drug resistance testing for the treatment of HIV/AIDS
- HIV/AIDS and behavioral health drugs
- Services covered under 1915(c) home and community-based services (HCBS) waivers[8]

## Program Updates

The Department implemented the following changes to the HealthChoice program during the evaluation period:

- From the inception of the HealthChoice program in 1997, mental health services were carved out of the benefit package, while services for individuals with SUDs were provided by the MCOs. The Department combined mental health and SUD services in an integrated carve-out on January 1, 2015. Under the carve-out, an administrative services organization (ASO) administers and reimburses all specialty mental health and SUD

[7] SUD services were carved out of the MCO benefit package on January 1, 2015. Mental health services have never been included in the MCO benefit package.
[8] Services covered under the 1915(c) HCBS waivers include assisted living, medical day care, family training, case management, senior center plus, dietitian and nutritionist services, and behavioral consultation.

services for Medicaid participants on an FFS basis, under the oversight of the Medicaid program and the Behavioral Health Administration (BHA).

- In 2013, the Department implemented a §2703 Chronic Health Home program, serving adults diagnosed with a serious and persistent mental illness, children diagnosed with a serious emotional disturbance, and individuals diagnosed with an opioid SUD who are at risk for another chronic condition based on tobacco, alcohol, or other non-opioid substance use. As of May 1, 2020, the Department had approved 104 Chronic Health Home site applications, with 10,473 (9,446 adults, 1,027 children/youth) enrolled participants. The Health Home sites include 70 psychiatric rehabilitation programs, 12 mobile treatment providers, and 22 opioid treatment programs. Overall, ED utilization rates and inpatient admissions declined the longer participants were enrolled. See Mohamoud et al. (2021) for more detail.
- Under the ACA, Maryland expanded coverage through the Medicaid program to two new populations:
  - Individuals with income up to 138% of the FPL. Over the course of the expansion's first year (CY 2014), 283,716 adults received Medicaid coverage through this expansion. This included more than 90,000 former Primary Adult Care (PAC) program participants who automatically transferred into expansion coverage.[9] As of December 2019, there were 299,778 individuals enrolled in the ACA expansion.[10]
  - Former foster care children up to the age of 26 years.

The Department is now including several initiatives for innovative programs that were recently approved for the CY 2017 to CY 2021 waiver period. See Section VII for additional information on the following initiatives:

- Residential Treatment for Individuals with SUDs aged 21 through 64 years in IMDs
- Two community health pilot programs
  - Evidence-Based Home Visiting Services (HVS)
  - Assistance in Community Integration Services (ACIS)
- Dental benefits for former foster youth between the ages of 21 and 26 years
- Adult dental pilot program to provide dental services to adults between the ages of 21 and 64 years
- Increased Community Services (ICS)
- Family Planning program

[9] The PAC program offered a limited benefit package to adults with low income, covering primary care visits, certain outpatient mental health and substance use disorder services, ED services, and prescription drugs.
[10] Total ACA Expansion enrollment as of December 2019.

The Department, in collaboration with the Center for Medicare and Medicaid Innovation (CMMI), established Maryland's Statewide Integrated Health Improvement Strategy (SIHIS) (Maryland Department of Health, 2020a). To develop the SIHIS proposal, workgroups led by the Department, the Opioid Operational Command Center (OOCC), and the Health Services Cost Review Commission (HSCRC) collaborated to gather stakeholder input to establish the goals, measures, milestones, and targets. Maryland's proposal has been approved and includes a detailed plan to achieve "progress milestones and population health outcome targets across all three domains by the end of 2026" (Maryland Department of Health, 2020b, p. 1).

The goals of the SIHIS were established to improve in the three domains of Maryland's health care system: hospital quality, care transformation across the system, and total population health. Reducing avoidable admissions and readmissions is a top priority under hospital quality. Under the third domain, diabetes, opioid use, and maternal and child health were selected as priority areas, with the identified goals of improving BMI, improving overdose mortality rates, reducing severe maternal morbidity rates, and decreasing asthma related emergency department (ED) visits rates for ages 2 to 17.

Proposed CY 2021 milestones are important building blocks necessary to progress toward the 2023 and 2026 targets. If delays because of COVID-19 hinder progress toward the 2023 and 2026 goals, the state would revisit its SIHIS goals, measures, and targets with CMMI in the first quarter of 2022.

## Section II. Methodology

Because of the varying evaluation measures, Hilltop used different methodologies deemed appropriate to evaluate the HealthChoice outcomes being measured. For measuring trends in counts or percentages of enrollment and service utilization among demographic and clinical subgroups, Hilltop used the data contained in its warehouse for CY 2015-2019 from the Maryland Medicaid Management Information System (MMIS2) to identify enrollees, their FFS claims and MCO encounters, the types of services used, and the diagnoses treated. These measures are expressed as five-year trends in the frequency of persons enrolled or treated, within each of various groups of detailed interest.

For standardized definitions of particular clinical, pharmaceutical, and health utilization measures, Hilltop used HEDIS® proprietary software from Cognizant, an NCQA-certified software vendor, to define and classify according to standard NCQA measures, beginning with data from CY 2017.

Hilltop developed programming to create person- and visit-level summaries of the two HEDIS® measures: Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence (FUA) and Follow-Up After Emergency Department Visit for Mental Illness (FUM). Hilltop also developed programming to create person-level data sets for HEDIS® medication adherence measures (i.e., asthma, diabetes, schizophrenia, and depression) and prenatal care.

### *Regression Analysis*

To evaluate the effects of HealthChoice service delivery on outcomes such as a hospitalization or ED visit, a trend analysis would not be sufficient. Numerous factors besides health care treatment—such as age, sex, race, geographic location, and pre-existing health conditions—affect outcomes. To separate these other factors when estimating whether adherence to HEDIS® guidelines is associated with improved outcome measures, Hilltop used a set of statistical techniques known as multivariable regression analysis. Because most of the outcomes of interest in this evaluation are discrete choices—e.g., whether a person has an ED visit—Hilltop used multivariate regression techniques known as logistic regressions and multinomial regressions.

Logistic regressions are used to analyze relationships when the dependent (outcome) variable has only two discrete outcomes. Multinomial logistic regressions are used when the dependent variable has more than two discrete outcomes (e.g., low, normal, and high). The variables that are being measured for their associations with the outcome variable are called independent variables. Independent variables can themselves be discrete (such as race, sex, or region), ordinal (such as rankings from best to worst), interval (such as amounts of a service), or ratio-level (such as a percentage). The coefficients on independent variables produced by logistic regressions are thereafter translated into odd ratios (ORs), which represents the odds that an outcome will occur (given a particular level of one of these variables changing) compared to the odds of the outcome occurring in the absence of those variables. For example, in a group of people whose outcome variable is an ED visit, if the OR for females is 0.90, then females have

10% lower odds (or are 10% less likely) to incur an ED visit in this sample when compared to males (i.e., Female=0).

While constructing these regression analyses, Hilltop created programming to identify Medicaid participants who met HEDIS® measures populations and their relationship with the following outcomes of interest:

- Receipt of prenatal care in the first trimester, and infant birth weight
- Adherence to antipsychotic medication management for individuals with schizophrenia and schizophrenia-related ED visits or inpatient admissions
- Adherence level of asthma-controller medication, and inpatient admissions and ED visits for asthma
- Receipt of diabetes HbA1c blood or eye screenings, and inpatient admission and ED visit for diabetes

## *Methodological Limitations*

Regression analyses and other measures used in this evaluation do not establish whether the independent variables measured cause the outcome variable. Multiple regressions measure the associations between the independent variables and the outcome variables, assuming that other conditions are met, such as avoiding selection of the more likely outcomes through non-random selection or inappropriate comparison groups. Nonetheless, the strength of the association between independent and outcome variables can be measured by the estimated confidence intervals around the parameter or estimates. A narrower confidence interval indicates that the estimated parameter is more likely to be close to the center of that confidence interval than in the case of a broader confidence interval.

## Section III. Improve Access to Care for the Medicaid Population

The HealthChoice demonstration depends on managed care programs improving access to care for participants. This section measures Maryland's progress toward improving access to care by examining enrollment, network adequacy, and utilization. This section also measures the HealthChoice programs that improve access to care for special populations—including children in foster care and individuals in the REM population—and addresses racial and ethnic disparities in health care and service utilization.

### *Enrollment*

#### HealthChoice Enrollment

One way to measure the population served by HealthChoice is to count the number of individuals with any period of enrollment during a given calendar year, including individuals who may not have been enrolled for the entire year. Another method is to count individuals enrolled at a particular point in time (e.g., enrollment as of December 31). Program enrollment on a given day is smaller than the number of enrollees served over the course of a year as individuals move in and out of Medicaid eligibility. Unless otherwise stated, the enrollment data in this section of the report use the point-in-time methodology to reflect enrollment as of December 31 of the measurement year.[11] Occasionally, measures will specify that they include persons enrolled at any time during the year.

Table 1 displays demographic characteristics of the HealthChoice population for those with any period of enrollment in CY 2015 through CY 2019. The total number of participants increased by 5.6% during the evaluation period. The distribution of all demographic characteristics except for race/ethnicity remained relatively consistent throughout the evaluation period. The number of participants who reported their race as "Other" increased by 83.1% from CY 2015 to CY 2019, most likely due to changes in race reporting requirements in CY 2014.

[11] Enrollment data are presented for individuals aged 0 through 64 years. Age is calculated as of December 31 of the measurement year.

**Table 1. HealthChoice Population (Any Period of Enrollment) by Demographics, CY 2015 and CY 2019**

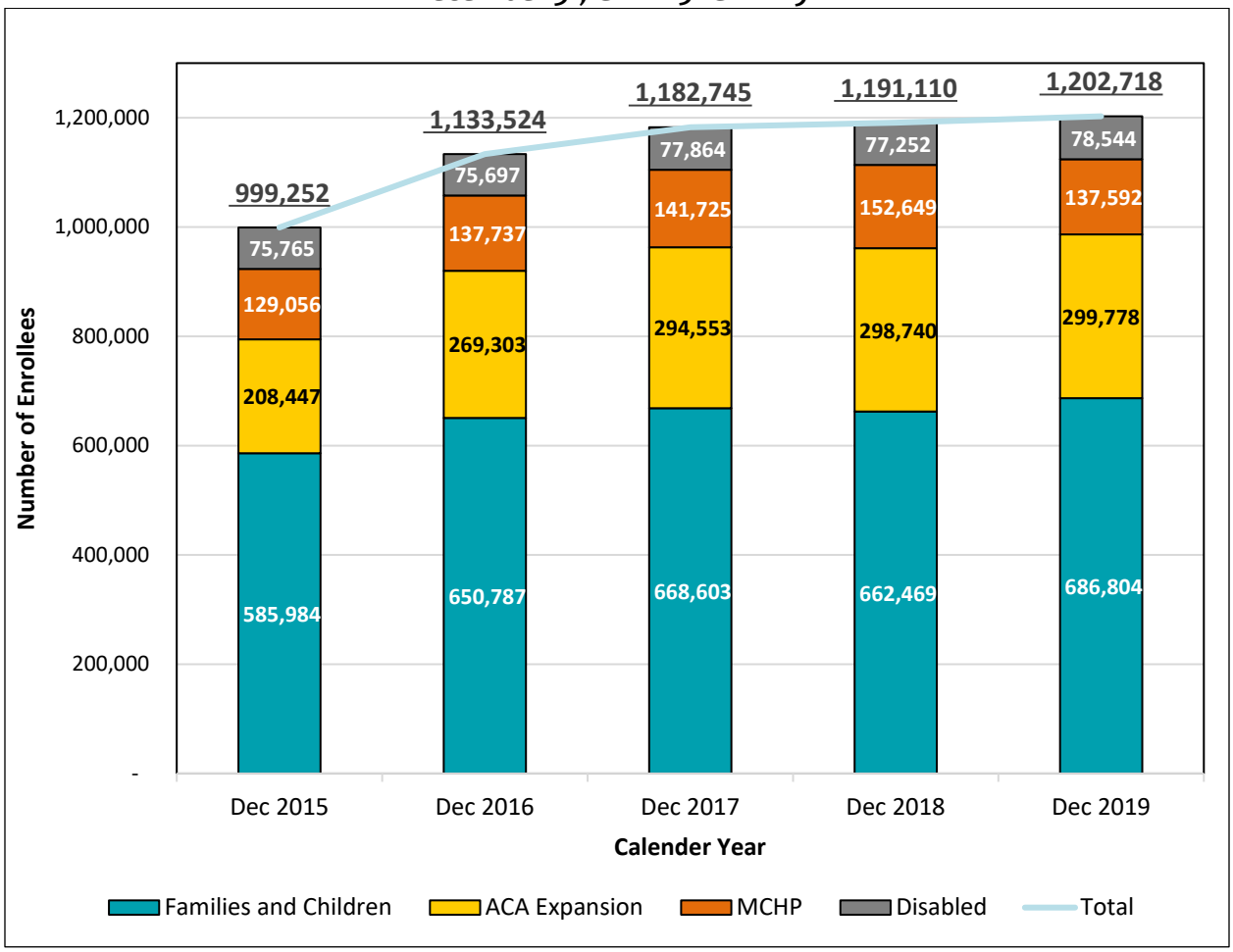
| Demographic Characteristic | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | # of Participants | % of Total | # of Participants | % of Total |
| **Sex** | | | | |
| **Female** | 709,860 | 54.4% | 738,586 | 53.6% |
| **Male** | 594,037 | 45.6% | 638,907 | 46.4% |
| **Total** | **1,303,897** | **100%** | **1,377,493** | **100%** |
| **Age Group (Years)** | | | | |
| **0–<1** | 36,034 | 2.8% | 35,920 | 2.6% |
| **1–2** | 78,655 | 6.0% | 77,233 | 5.6% |
| **3–5** | 111,491 | 8.6% | 113,363 | 8.2% |
| **6–9** | 151,028 | 11.6% | 145,489 | 10.6% |
| **10–14** | 154,884 | 11.9% | 180,512 | 13.1% |
| **15–18** | 110,113 | 8.4% | 118,243 | 8.6% |
| **19–20** | 46,174 | 3.5% | 51,600 | 3.7% |
| **21–39** | 345,760 | 26.5% | 377,114 | 27.4% |
| **40–64** | 269,758 | 20.7% | 278,019 | 20.2% |
| **Total** | **1,303,897** | **100%** | **1,377,493** | **100%** |
| **Race/Ethnicity** | | | | |
| **Asian** | 58,077 | 4.5% | 62,445 | 4.5% |
| **Black** | 584,775 | 44.8% | 566,300 | 41.1% |
| **White** | 381,336 | 29.2% | 360,123 | 26.1% |
| **Hispanic** | 123,785 | 9.5% | 105,872 | 7.7% |
| **Native American** | 3,708 | 0.3% | 4,032 | 0.3% |
| **Other*** | 152,216 | 11.7% | 278,721 | 20.2% |
| **Total** | **1,303,897** | **100%** | **1,377,493** | **100%** |
| **Region**** | | | | |
| **Baltimore City** | 241,091 | 18.5% | 241,141 | 17.5% |
| **Baltimore Metro** | 377,518 | 29.0% | 407,957 | 29.6% |
| **Eastern Shore** | 120,548 | 9.2% | 126,577 | 9.2% |
| **Southern Maryland** | 66,561 | 5.1% | 69,660 | 5.1% |
| **Washington Metro** | 390,911 | 30.0% | 418,203 | 30.4% |
| **Western Maryland** | 105,300 | 8.1% | 112,932 | 8.2% |
| **Out of State** | 1,968 | 0.2% | 1,023 | 0.1% |
| **Total** | **1,303,897** | **100%** | **1,377,493** | **100%** |

*"Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

**Regions are defined as the following: Baltimore City (only), Baltimore Metro (Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties), Eastern Shore (Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties), Southern Maryland (Calvert, Charles, and St. Mary's Counties), Washington Metro (Montgomery and Prince George's Counties) and Western Maryland (Allegany, Frederick, Garrett, and Washington Counties).

Figure 1 displays HealthChoice enrollment by coverage category from CY 2015 through CY 2019.[12] Since CY 2015, the overall HealthChoice population has grown by 20.4%. Enrollment grew each year, with the largest increase seen between CY 2015 and 2016.[13]

**Figure 1. HealthChoice Enrollment by Coverage Category as of December 31, CY 2015–CY 2019***




*Enrollment counts in Figure 1 include participants aged 0-64 years who are enrolled in a HealthChoice MCO.

[12] The F&C category is families, children, and pregnant women.

[13] Data for each year were updated to reflect a change in how coverage groups were categorized and to add a category for participants enrolled in ACA expansion coverage groups. See Appendix for an explanation of which Medicaid coverage groups are included in each category.

## Enrollment Growth

As of December 2019, national enrollment in Medicaid and CHIP was 71.1 million (Kaiser Family Foundation, n.d.a). In fiscal year (FY) 2020, overall enrollment increased slightly by 0.8% (Rudowitz et al., 2019). The national enrollment growth has continued to slow partly because of the tapering of the ACA enrollment. Between the summer of 2013 and the end of 2019, Maryland experienced the eighth highest growth rate in Medicaid and CHIP enrollment out of the 48 states and the District of Columbia that reported data (Kaiser Family Foundation, n.d.a). In 2013, before the ACA expansion, 10% of Maryland residents were uninsured. The growth in Medicaid enrollment contributed to a decline in Maryland's uninsured rate from 6.7% in CY 2015 to 5.9% in CY 2019 (Kaiser Family Foundation, n.d.b). Table 2 shows the percentage of Maryland's population enrolled in HealthChoice between CY 2015 and CY 2019. Almost all new Maryland Medicaid participants are enrolled in managed care.

**Table 2. HealthChoice Enrollment as a Percentage of the Maryland Population, CY 2015–CY 2019**

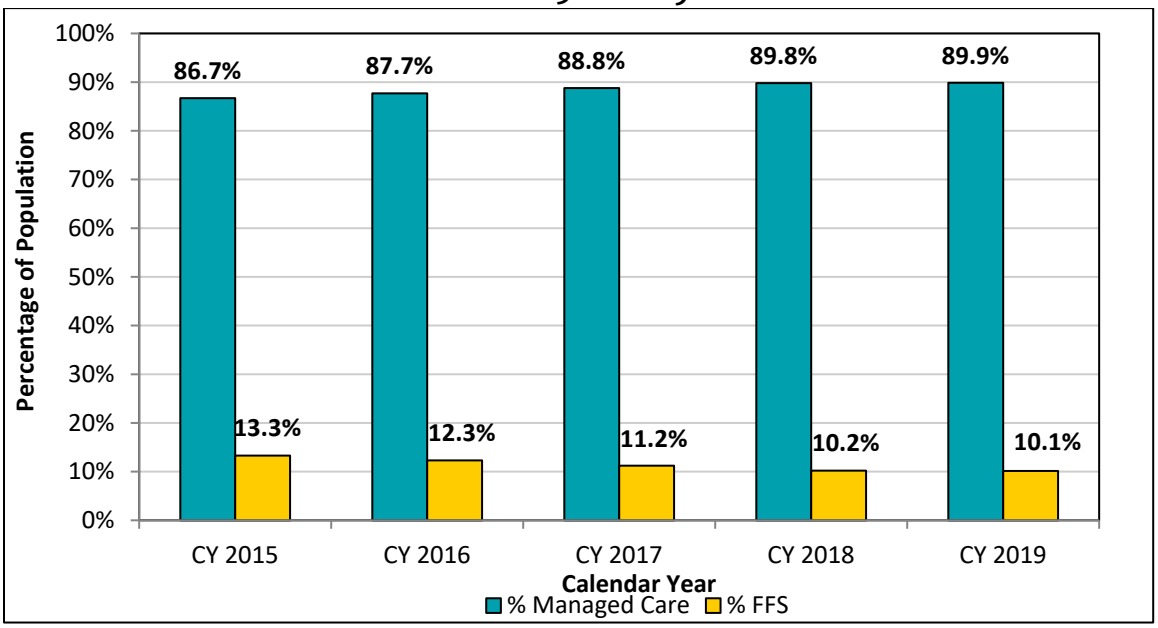
| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Maryland Population* | 6,000,561 | 6,024,752 | 6,052,177 | 6,042,718 | 6,045,680 |
| **Individuals Enrolled in HealthChoice for Any Period of Time During the Year** | | | | | |
| HealthChoice Population | 1,304,492 | 1,285,807 | 1,355,443 | 1,389,716 | 1,377,493 |
| % of Population in HealthChoice | 21.7% | 21.3% | 22.4% | 23.0% | 22.8% |
| **Individuals Enrolled in HealthChoice as of December 31** | | | | | |
| HealthChoice Population | 999,252 | 1,133,524 | 1,182,745 | 1,191,110 | 1,202,718 |
| % of Population in HealthChoice | 16.7% | 18.8% | 19.5% | 19.7% | 19.9% |

*Data source: U.S. Census Bureau, Population Division. Annual Estimates of the Resident Population: April 1, 2010, to July 1, 2019. Retrieved from https://www.census.gov/quickfacts/fact/table/MD,US/PST045218

## Managed Care Enrollment

Since its inception, HealthChoice was expected to enroll a high percentage of Medicaid participants into managed care. Figure 2 compares Medicaid managed care and FFS enrollment. Between CY 2015 and CY 2019, managed care enrollment remained consistently above 86.0%, with the highest rate of 89.9% in CY 2019.

**Figure 2. Percentage of Medicaid[14] Participants in Managed Care Compared to FFS, CY 2015–CY 2019**




Due to a change in the system for eligibility redetermination in CY 2015, the Department began monitoring HealthChoice participants to ensure that they did not have a gap or interruption in Medicaid coverage as a result of this change. Table 3 displays the number and percentage of HealthChoice participants with a gap in Medicaid enrollment of one or more days during the calendar year from CY 2016 through CY 2019, as well as whether the gap lasted longer than 180 days (i.e., over 6 months).[15] Participants who reenrolled within 120 days are enrolled into their previous MCO. Participants who reenrolled after 121 days or more are auto-assigned to an MCO. The percentage of HealthChoice participants with at least one gap in coverage remained stable between CY 2016 and CY 2018 at around 8.0% but decreased to 5.8% in CY 2019. Among participants with a gap in coverage in CY 2019, 72.5% had a gap of 180 days or less, and 27.5% had a gap of 181 days or more. Compared to previous years, CY 2019 had fewer gaps overall, but a greater share of those gaps extended beyond 180 days.

**Table 3. Number of HealthChoice Participants with a Gap in Medicaid Coverage, by Length of Gap, CY 2016–CY 2019**

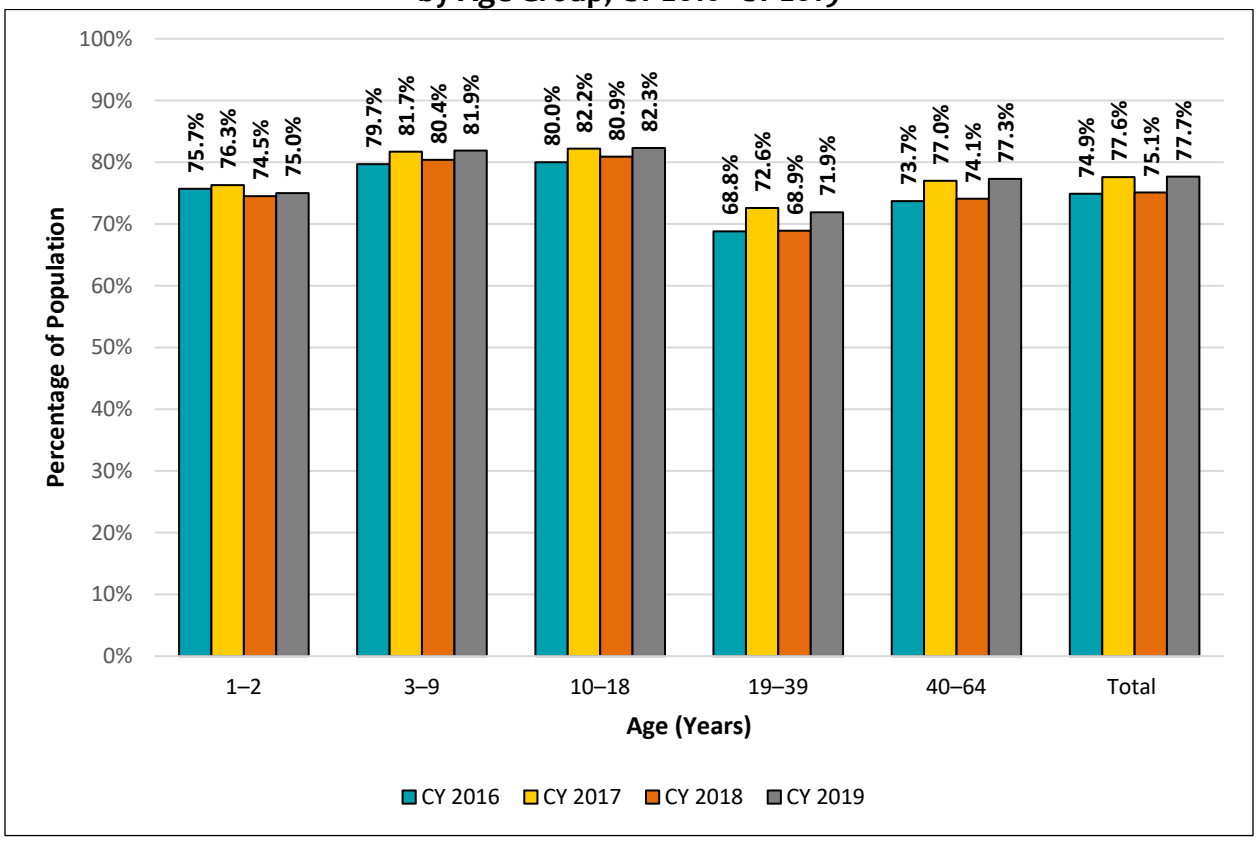
| Calendar Year | Total | At Least One Gap in Medicaid Coverage | | Length of Coverage Gap | | | |
|---|---|---|---|---|---|---|---|
| | | | | 180 Days or Less | | 181 Days or More | |
| | | # | % | # | % | # | % |
| **2016** | 1,285,347 | 107,214 | 8.3% | 83,997 | 78.3% | 23,217 | 21.7% |
| **2017** | 1,355,225 | 113,309 | 8.4% | 88,965 | 78.5% | 24,344 | 21.5% |
| **2018** | 1,389,716 | 113,801 | 8.2% | 87,976 | 77.3% | 25,825 | 22.7% |
| **2019** | 1,377,493 | 79,624 | 5.8% | 57,746 | 72.5% | 21,878 | 27.5% |

[14] "Medicaid" is representative of both Medicaid and MCHP.

[15] Evaluation of this measure began in CY 2016 because a change in the system for eligibility determinations in CY 2015 resulted in a large amount of people dropping out of Medicaid.

Figure 3 shows the percentage of HealthChoice participants who maintained eligibility and thus were continuously enrolled for all 12 months during the calendar year, without interruptions, by age group, from CY 2016 through CY 2019. Participants with continuous enrollment increased by 2.8 percentage points. Participants aged 1 to 2 years were the only age group to experience a decrease in continuous enrollment (by 0.7 percentage points).

**Figure 3. Percentage of HealthChoice Participants with Continuous Medicaid Enrollment, by Age Group, CY 2016–CY 2019**




## Enrollment and MCO Selection through the Maryland Health Connection

Maryland Health Connection (MHC) is the state's official health insurance marketplace, where consumers can apply for and enroll in qualified health plans (QHPs) and income-based Medicaid/MCHP (referred to as modified adjusted gross income, or MAGI). The MHC portal provides a single, streamlined application process for both programs. Consumers who indicate interest in insurance affordability programs on the application are screened for eligibility for Medicaid/MCHP and financial assistance for QHPs. While the majority of HealthChoice participants' eligibility is determined through MHC, MHC only processes those who are eligible for MAGI-based Medicaid. It does not include non-MAGI enrollment, which is processed through a different system, and thus is an undercount of total enrollment. In partnership with the Maryland Health Benefit Exchange (MHBE), the entity that oversees MHC, the Department continues to upgrade the functionality of MHC to improve the enrollment experience and enhance access to care. For example, since Medicaid participant applications can be

redetermined using administrative data, the majority of participants are automatically renewed, facilitating seamless coverage.

## *Network Adequacy*

Another method of measuring enrollee access to care is to examine provider network adequacy. This section of the report examines PCP and specialty provider networks.

### PCP Network Adequacy

HealthChoice requires every participant to have a PCP, and each MCO must have enough PCPs to serve its enrolled population. HealthChoice regulations require each MCO to have a ratio of 1 PCP to every 200 participants within each of the 40 local access areas (LAAs) in the state that they serve to consider the network coverage to be adequate.[16] The Department assesses network adequacy periodically throughout the year and works with the MCOs to resolve capacity issues. In the case of any issues, the Department discontinues new enrollment for that MCO in the affected region until it increases provider contracts to an adequate level.

Table 4 shows PCP network adequacy as of December 2019. The network adequacy analysis counted the number of PCP offices included in provider networks in each county in Maryland. In CY 2019, all jurisdictions achieved a 200:1 ratio of participants to PCPs.

**Table 4. PCP Capacity, by County, December 2019[17]**

| County | Number of PCP Offices | Capacity at 200:1 | Total Dec 2019 Enrollment | Excess Capacity |
|---|---|---|---|---|
| | | | | Difference 200:1 Ratio |
| **Allegany** | 127 | 25,400 | 17,778 | 7,622 |
| **Anne Arundel** | 837 | 167,400 | 84,277 | 83,123 |
| **Baltimore City** | 2075 | 415,000 | 215,000 | 200,000 |
| **Baltimore County** | 1620 | 324,000 | 174,371 | 149,629 |
| **Calvert** | 141 | 28,200 | 12,452 | 15,748 |
| **Caroline** | 91 | 18,200 | 10,371 | 7,829 |
| **Carroll** | 239 | 47,800 | 19,392 | 28,408 |
| **Cecil** | 160 | 32,000 | 22,852 | 9,148 |
| **Charles** | 216 | 43,200 | 28,492 | 14,708 |
| **Dorchester** | 87 | 17,400 | 10,903 | 6,497 |
| **Frederick** | 298 | 59,600 | 35,821 | 23,779 |

[16] COMAR 10.67.05.05(B).

[17] Providers were identified by their license numbers. If a license number was unavailable, then the provider's national provider identifier (NPI) was used. If a provider had more than one office location in a county, only one office was counted. If a provider had multiple office locations among different counties, one office was counted in each county. PCPs in Washington, DC were not included in the analysis. Although the regulations apply to a single MCO, this analysis aggregated data from all nine MCOs.

| County | Number of PCP Offices | Capacity at 200:1 | Total Dec 2019 Enrollment | Excess Capacity |
|---|---|---|---|---|
| | | | | Difference 200:1 Ratio |
| **Garrett** | 65 | 13,000 | 6,934 | 6,066 |
| **Harford** | 347 | 69,400 | 39,145 | 30,255 |
| **Howard** | 451 | 90,200 | 39,005 | 51,195 |
| **Kent** | 30 | 6,000 | 4,135 | 1,865 |
| **Montgomery** | 1328 | 265,600 | 157,622 | 107,978 |
| **Prince George's** | 1029 | 205,800 | 203,514 | 2,286 |
| **Queen Anne's** | 95 | 19,000 | 7,120 | 11,880 |
| **Somerset** | 58 | 11,600 | 7,396 | 4,204 |
| **St. Mary's** | 180 | 36,000 | 19,741 | 16,259 |
| **Talbot** | 171 | 34,200 | 7,089 | 27,111 |
| **Washington** | 240 | 48,000 | 37,562 | 10,438 |
| **Wicomico** | 201 | 40,200 | 29,784 | 10,416 |
| **Worcester** | 124 | 24,800 | 11,272 | 13,528 |
| **Total (in MD)** | **10,210** | **2,042,000** | **1,202,028** | **839,972** |
| **Other** | 490 | | | |
| **Washington, D.C.** | 1,065 | | | |

### Specialty Care Provider Network Adequacy

In addition to ensuring PCP network adequacy, the Department requires MCOs to provide all medically necessary specialty care. If an MCO does not have the appropriate in-network specialist needed to meet an enrollee's medical needs, then it must arrange for care with an out-of-network specialist and compensate the provider. Regulations for specialty care access require each MCO to have an in-network contract with at least one provider statewide in 14 major medical specialties.[18] These medical specialties include allergy, cardiology, dermatology, endocrinology, otolaryngology (ENT), gastroenterology, infectious disease, nephrology, neurology, ophthalmology, orthopedics, pulmonology, surgery, and urology. Additionally, for each of the 10 specialty care regions throughout the state that an MCO serves, an MCO must include at least one in-network specialist in each of the eight core specialties: cardiology, otolaryngology, gastroenterology, neurology, ophthalmology, orthopedics, surgery, and urology.

## *Utilization*

With the continued increase in HealthChoice enrollment, it is important to maintain access to care. This section of the report examines service utilization related to ambulatory care, ED visits, and inpatient admissions. Unless otherwise stated, all measures in this section are calculated for

[18] COMAR 10.67.05.05-1.

HealthChoice participants with any period of enrollment in HealthChoice during the calendar year.

### Ambulatory Care Visits

The Department monitors ambulatory care utilization as a measure of access to care. When properly accessing care, HealthChoice participants should receive care in an ambulatory care setting rather than use the ED for a non-emergent condition or allow a condition to exacerbate to the extent that it requires an inpatient admission. For this analysis, an ambulatory care visit is defined as contact with a doctor, nurse practitioner, or physician assistant in a clinic, physician's office, or hospital outpatient department by an individual enrolled in HealthChoice at any time during the measurement year. The definition excludes outpatient ED visits, hospital inpatient services, home health services, X-rays, and laboratory services.

Figure 4 presents the percentage of HealthChoice participants with an ambulatory care visit during the calendar year by age group. Between CY 2015 and CY 2019, children under the age of 3 had the highest ambulatory care visit rate, while participants aged 19 to 39 years had the lowest rate. Although ambulatory care visit rates remained stable for children under the age of 10 from CY 2015 to CY 2019, there was a range of a 3.3 and 4.3 percentage point increase among participants aged 10 years and older.

**Figure 4. Percentage of the HealthChoice Population Who Had an Ambulatory Care Visit, by Age Group, CY 2015–CY 2019**

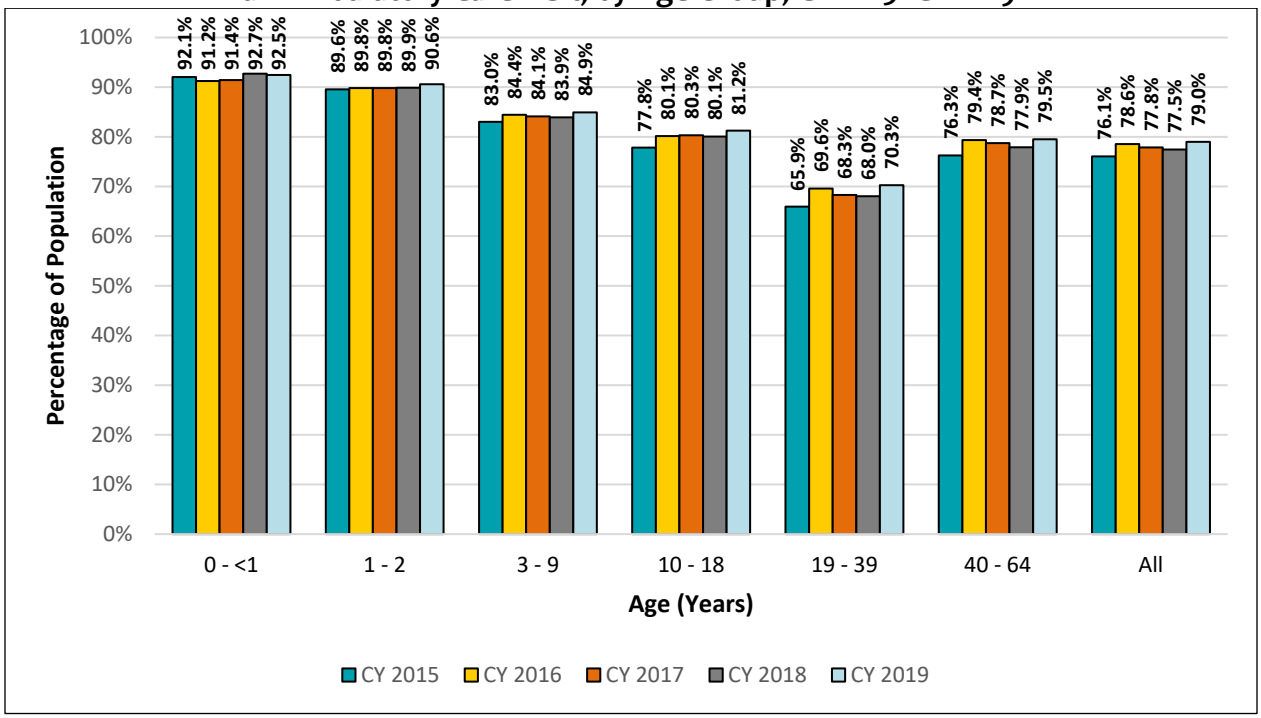


Figure 5 presents ambulatory care use by coverage category. The ACA expansion participants accessed ambulatory care services at lower rates than participants in other coverage categories, but the rate of ambulatory care visits increased by 3.1 percentage points during the evaluation period. ACA expansion participants constitute more than 25% of the HealthChoice population, so their utilization affects the trend for the entire population.

**Figure 5. Percentage of the HealthChoice Population Who Had an Ambulatory Care Visit, by Coverage Category, CY 2015–CY 2019**

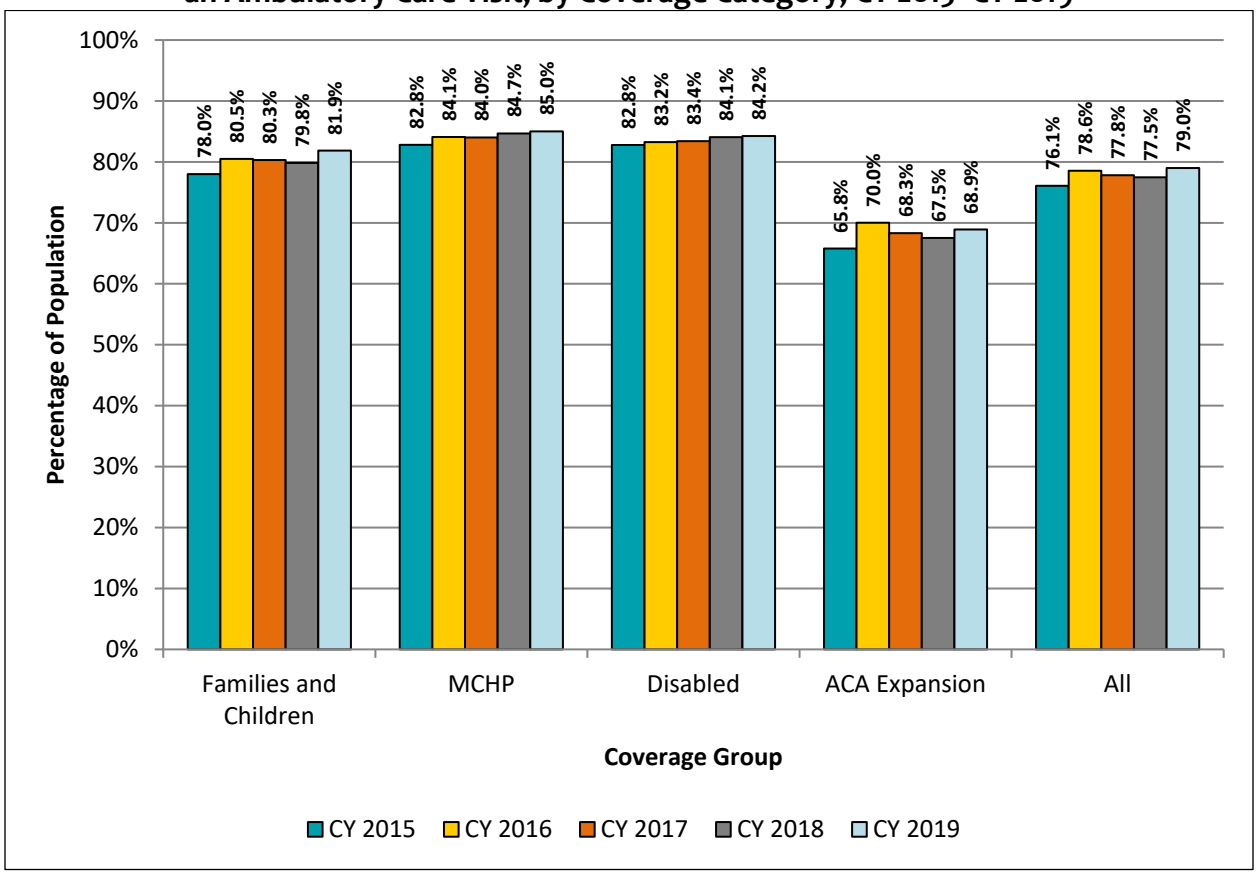
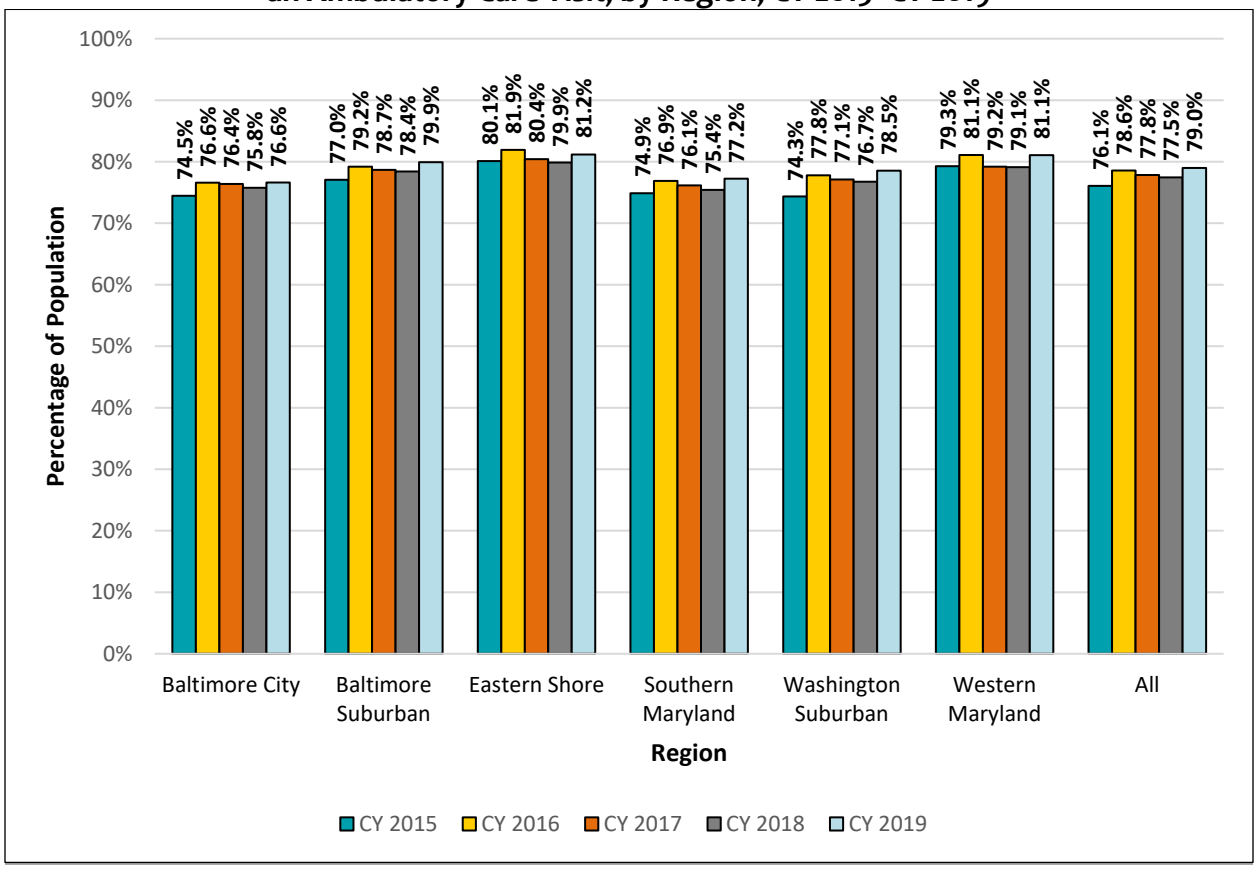


Figure 6 presents the percentage of the HealthChoice population with an ambulatory care visit by region between CY 2015 and CY 2019. Ambulatory care utilization was similar across all regions during the evaluation period. Residents of the Eastern Shore region had the highest rate of ambulatory care use, followed by Western Maryland.

**Figure 6. Percentage of the HealthChoice Population Who Had an Ambulatory Care Visit, by Region, CY 2015–CY 2019**




## ED Utilization

As noted earlier, one of the goals of the HealthChoice program is to treat more conditions in an ambulatory care setting rather than in the ED. Based on the premise that a managed care system promotes ambulatory and preventive care, the need for emergency services should decline. To assess overall ED utilization, the Department measures the percentage of individuals with any period of enrollment who visited an ED at least once during the calendar year. Unless otherwise noted, ED utilization measures in this report exclude ED visits that resulted in an inpatient hospital admission.

Figure 7 presents the percentage of HealthChoice participants with ED use by age group. The percentage with an outpatient ED visit decreased between CY 2015 and CY 2019 for all age groups. The largest declines were observed in the age groups of 1 to 2 years and 10 to 18 years.

**Figure 7. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Age Group, CY 2015–CY 2019**

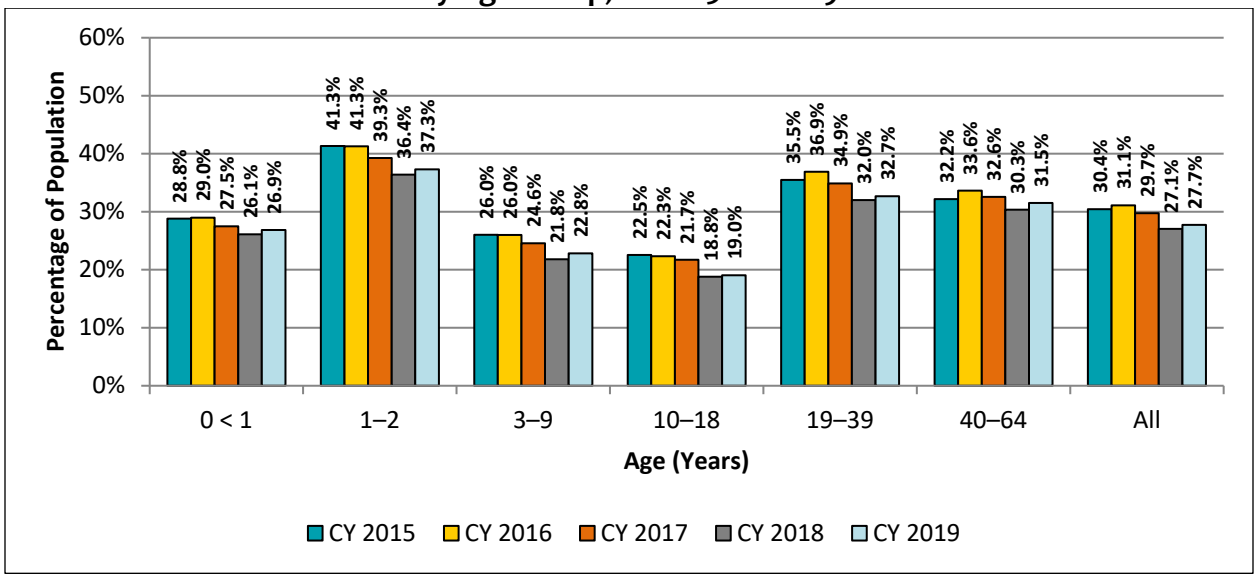



Figure 8 shows ED use by coverage category. Overall, the outpatient ED visit rate among all HealthChoice participants declined from CY 2015 to CY 2019. Among the coverage categories, participants with disabilities were the most likely to utilize ED services, although they still experienced a decrease: from 43.4% in CY 2015 to 39.5% in CY 2019.

**Figure 8. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Coverage Category, CY 2015–CY 2019**

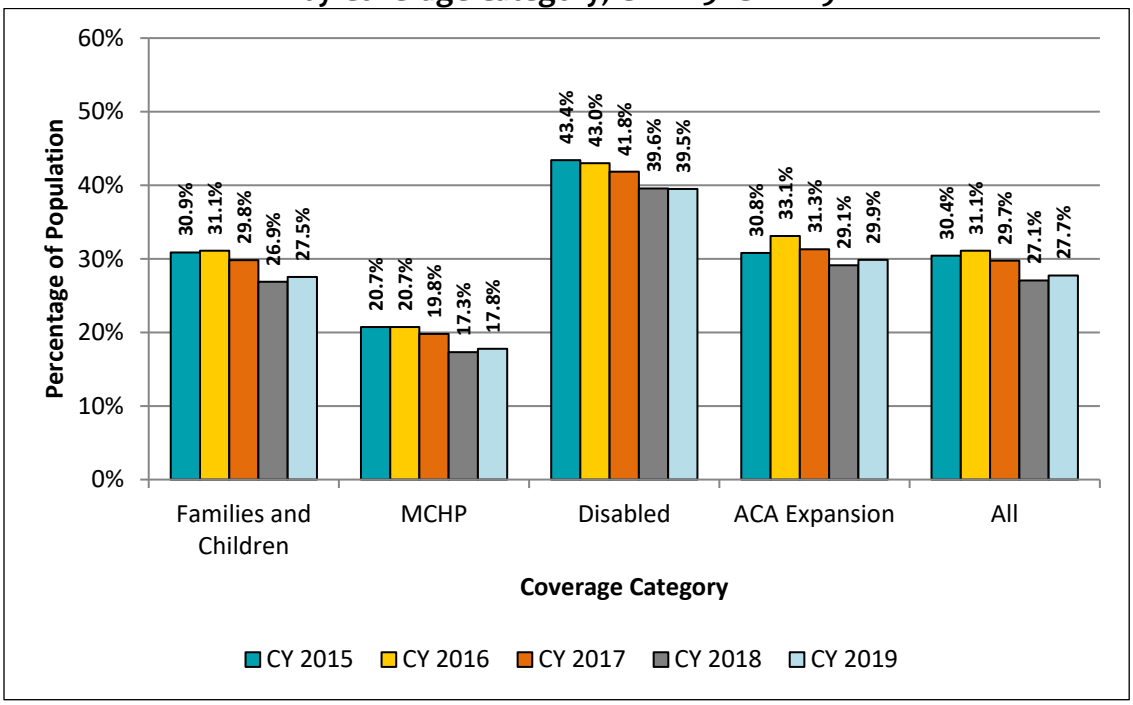


Figure 9 shows the percentage of HealthChoice participants with an ED visit by region between CY 2015 and CY 2019. Participants living in Baltimore City used ED services at the highest rates throughout the evaluation period; however, the rates fell by 3.1 percentage points from CY 2015 to CY 2019. In other regions, rates also declined, ranging from a reduction of 1.5 percentage points in the Eastern Shore to 3.7 percentage points in Southern Maryland.

**Figure 9. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Region, CY 2015–CY 2019**

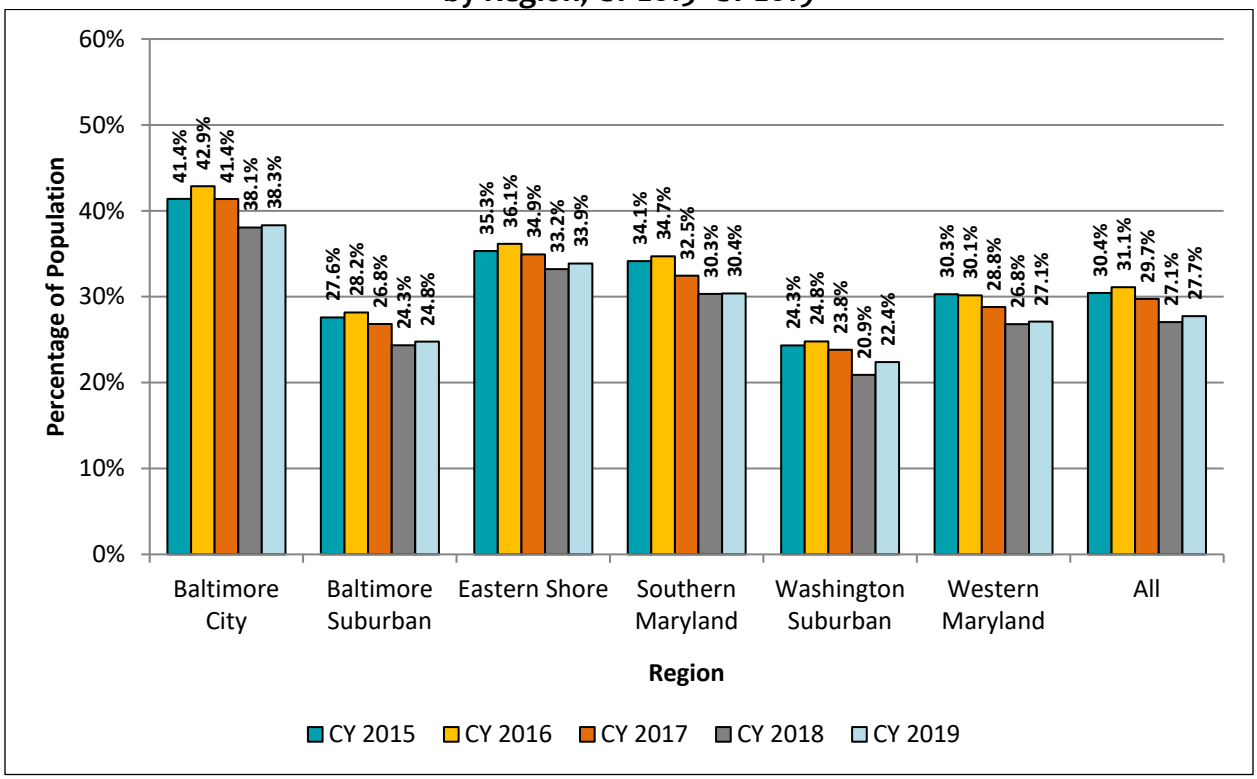


Table 5 presents the number and percentage of HealthChoice participants aged 0 to 64 years with an outpatient ED visit, by age group, during CY 2015 and CY 2019. The percentage of participants with an ED visit decreased in each age group from CY 2015 to CY 2019, with the largest decline of 4% in one- to two-year-olds. The average number of ED visits is also shown per user, meaning the average number of ED visits for each participant that had at least one ED visit, remained steady.

**Table 5. Percentage of HealthChoice Participants Who Had an Outpatient ED Visit and Average Number of Visits per User, by Age Group, CY 2015 and CY 2019**

| Age (Years) | Outpatient ED Visits | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CY 2015 | | | | CY 2019 | | | |
| | # of Participants | # with Visit | % with Visit | Average # Visits by User | # of Participants | # with Visit | % with Visit | Average # Visits by User |
| **0 < 1** | 36,034 | 10,376 | 28.8% | 1.7 | 35,920 | 9,648 | 26.9% | 1.7 |
| **1–2** | 78,655 | 32,519 | 41.3% | 1.9 | 77,233 | 28,823 | 37.3% | 1.8 |
| **3–9** | 262,519 | 68,325 | 26.0% | 1.5 | 258,852 | 59,089 | 22.8% | 1.5 |
| **10–18** | 264,997 | 59,755 | 22.5% | 1.6 | 298,755 | 56,889 | 19.0% | 1.6 |
| **19–39** | 391,934 | 139,095 | 35.5% | 2.4 | 428,714 | 140,013 | 32.7% | 2.2 |
| **40–64** | 269,758 | 86,820 | 32.2% | 2.4 | 278,019 | 87,603 | 31.5% | 2.3 |
| **All** | **1,303,897** | **396,890** | **30.4%** | **1.9** | **1,377,493** | **382,065** | **27.7%** | **1.9** |

### ED Visits with Inpatient Admission

Table 6 presents the number and percentage of HealthChoice participants who had an ED visit that resulted in an inpatient admission, by demographic characteristics, in CY 2015 and CY 2019. The overall percentage of participants with an ED visit that resulted in an inpatient admission remained stable from CY 2015 to CY 2019.

In CY 2019, Baltimore City had the highest percentage (5.5%) of participants with an ED visit that resulted in an inpatient hospitalization. Among coverage groups, those who were disabled had the highest percentage (11.9%) of ED visits that resulted in an inpatient admission.

**Table 6. Percentage of the HealthChoice Population Who Had an ED Visit that Resulted in an Inpatient Admission, by Demographic and Coverage Category, CY 2015 and CY 2019**

| Demographic and Coverage Characteristics | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | # ED Visit with Inpatient Admission | % ED Visit with Inpatient Admission | Total Participants | # ED Visit with Inpatient Admission | % ED Visit with Inpatient Admission |
| **Age Group (Years)** | | | | | | |
| **<1** | 36,034 | 1,389 | 3.9% | 35,920 | 1,372 | 3.8% |
| **1–2** | 78,655 | 1,952 | 2.5% | 77,233 | 1,698 | 2.2% |
| **3–9** | 262,519 | 2,305 | 0.9% | 258,852 | 1,881 | 0.7% |

| Demographic and Coverage Characteristics | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | # ED Visit with Inpatient Admission | % ED Visit with Inpatient Admission | Total Participants | # ED Visit with Inpatient Admission | % ED Visit with Inpatient Admission |
| **10–18** | 264,997 | 2,712 | 1.0% | 298,755 | 2,716 | 0.9% |
| **19–39** | 391,934 | 18,307 | 4.7% | 428,714 | 19,582 | 4.6% |
| **40–64** | 269,758 | 21,739 | 8.1% | 278,019 | 21,929 | 7.9% |
| **Total** | **1,303,897** | **48,404** | **3.7%** | **1,377,493** | **49,178** | **3.6%** |
| **Region*** | | | | | | |
| **Baltimore City** | 241,091 | 13,837 | 5.7% | 241,141 | 13,295 | 5.5% |
| **Baltimore Suburban** | 377,518 | 13,639 | 3.6% | 407,957 | 14,333 | 3.5% |
| **Eastern Shore** | 120,548 | 3,904 | 3.2% | 126,577 | 4,143 | 3.3% |
| **Southern Maryland** | 66,561 | 2,711 | 4.1% | 69,660 | 2,937 | 4.2% |
| **Washington Suburban** | 390,911 | 10,232 | 2.6% | 418,203 | 10,477 | 2.5% |
| **Western Maryland** | 105,300 | 3,962 | 3.8% | 112,932 | 3,939 | 3.5% |
| **Out of State** | 1,968 | 119 | 6.0% | 1,023 | 54 | 5.3% |
| **Total** | **1,303,897** | **48,404** | **3.7%** | **1,377,493** | **49,178** | **3.6%** |
| **Managed Care Organization** ,†** | | | | | | |
| **Aetna** | N/A | | | 36,226 | 1,431 | 4.0% |
| **Amerigroup** | 321,851 | 10,532 | 3.3% | 313,254 | 9,282 | 3.0% |
| **Jai Medical Systems** | 29,692 | 2,045 | 6.9% | 30,412 | 1,960 | 6.4% |
| **Kaiser** | 37,587 | 916 | 2.4% | 83,727 | 1,870 | 2.2% |
| **Maryland Physicians Care** | 243,050 | 9,793 | 4.0% | 242,928 | 9,811 | 4.0% |
| **MedStar** | 91,474 | 4,018 | 4.4% | 105,911 | 4,451 | 4.2% |
| **Priority Partners** | 302,930 | 10,471 | 3.5% | 341,545 | 12,269 | 3.6% |
| **UnitedHealthcare** | 236,759 | 8,936 | 3.8% | 167,542 | 5,714 | 3.4% |
| **Univ of MD Health Partners** | 40,554 | 1,693 | 4.2% | 55,948 | 2,390 | 4.3% |
| **Total** | **1,303,897** | **48,404** | **3.7%** | **1,377,493** | **49,178** | **3.6%** |
| **Medicaid Coverage Category**** | | | | | | |
| **Families and Children** | 755,600 | 17,571 | 2.3% | 765,243 | 17,275 | 2.3% |
| **MCHP** | 160,193 | 1,182 | 0.7% | 163,935 | 1,156 | 0.7% |
| **Disabled** | 88,636 | 11,670 | 13.2% | 87,003 | 10,379 | 11.9% |
| **ACA Expansion** | 299,553 | 17,985 | 6.0% | 361,312 | 20,368 | 5.6% |
| **Total** | **1,303,897** | **48,408** | **3.7%** | **1,377,493** | **49,178** | **3.6%** |

*Regions are defined as the following: Baltimore City (only), Baltimore Metro (Anne Arundel, Baltimore, Carroll, Harford, and Howard Counties), Eastern Shore (Caroline, Cecil, Dorchester, Kent, Queen Anne's, Somerset, Talbot, Wicomico, and Worcester Counties), Southern Maryland (Calvert, Charles, and St. Mary's Counties), Washington Metro (Montgomery and Prince George's Counties) and Western Maryland (Allegany, Frederick, Garrett, and Washington Counties).
**Participants were assigned to their last recorded MCO and Medicaid coverage category of the calendar year.
†MCO data are shown for total enrollment and not adjusted for enrollees' risk distribution.

## Inpatient Admissions

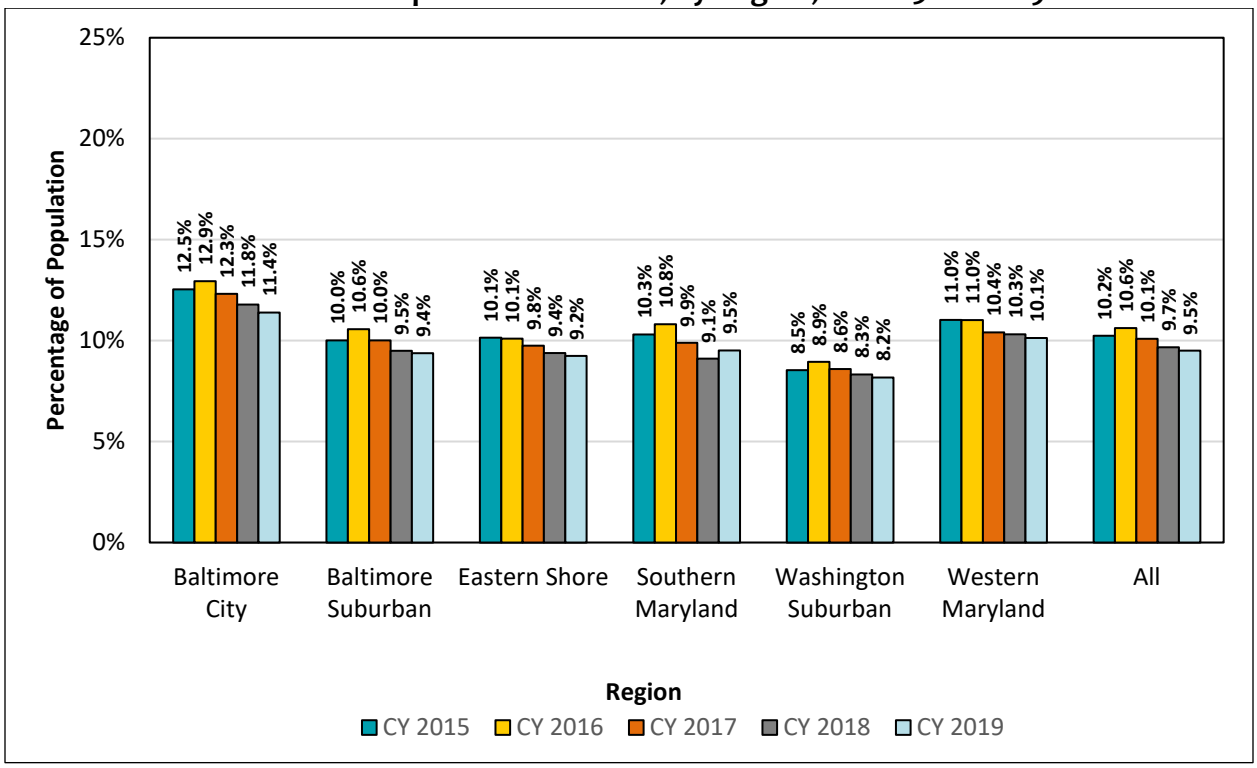
One measure for assessing inpatient utilization is to calculate the percentage of participants aged 18 to 64 years with any period of HealthChoice enrollment who had an inpatient admission during the calendar year. Another measure for assessing inpatient utilization is to calculate the average total number of inpatient hospital days or average length of stay (LOS), by days. Table 7 presents HealthChoice participants with at least one inpatient hospital admission, by age group, and the average length of stay by participant. Participants aged 18 to 40 years had a lower rate of both inpatient admissions and average LOS compared to participants aged 41 to 64 years. Both age groups remained stable in inpatient admissions and LOS during the evaluation period.

**Table 7. Percentage of HealthChoice Participants Aged 18–64 Years Who Had an Inpatient Admission and Average LOS, by Age Group, CY 2015 and CY 2019**

| Age Group | All Inpatient Admissions | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CY 2015 | | | | CY 2019 | | | |
| | Total Participants | # with Inpatient Admission | % with Inpatient Admission | Average LOS (Days) by Participant | Total Participants | # with Inpatient Admission | % with Inpatient Admission | Average LOS (Days) by Participant |
| **18–40** | 429,796 | 43,402 | 10.1% | 0.6 | 471,271 | 43,483 | 9.2% | 0.6 |
| **41–64** | 257,828 | 27,003 | 10.5% | 1.1 | 263,736 | 26,380 | 10.0% | 1.2 |
| **Total** | **687,624** | **70,405** | **10.2%** | **0.9** | **735,007** | **69,863** | **9.5%** | **0.9** |

Figure 10 displays the percentages of HealthChoice participants aged 18 to 64 years with an inpatient admission by region. Between CY 2015 and CY 2019, inpatient admission rates decreased across all regions. The Washington Suburban region had the lowest admission rate during the evaluation period, with 8.2% in CY 2019 as compared to 8.5% in CY 2015. The greatest decline was observed in Baltimore City, which decreased by 1.1 percentage points. Baltimore City and Western Maryland are the only regions whose admission rates remained above 10% throughout the evaluation period.

**Figure 10. Percentage of HealthChoice Participants Aged 18–64 Years Who Had an Inpatient Admission, by Region, CY 2015–CY 2019**




## *Care for Special Populations*

Another goal of the HealthChoice program is to improve the quality of health services and access to care for special populations. This section of the report assesses services provided to children in foster care, the REM program, access to care stratified by race and ethnicity, and the demographics and health care utilization of the ACA expansion. Unless otherwise stated, all measures in this section are calculated for HealthChoice participants with any period of enrollment during the calendar year.

### Children in Foster Care

This section of the report examines service utilization for children in foster care with any period of enrollment in HealthChoice during the calendar year.[19] It also compares service utilization for children in foster care with other HealthChoice children. Unless otherwise specified, the measures presented here are for foster care children from birth through 21 years.

Table 8 displays HealthChoice children in foster care by age group for CY 2015 and CY 2019. Across the evaluation period, children aged 10 to 21 years made up the largest proportion of HealthChoice children in foster care (67.0% in CY 2015 and 66.2% in CY 2019).

[19] Children in the subsidized adoption and guardianship programs are included in the foster children counts.

**Table 8. HealthChoice Children in Foster Care, by Age Group, CY 2015 and CY 2019**

| Age Group (Years) | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | Number of Participants | Percentage of Total | Number of Participants | Percentage of Total |
| **0 to <1** | 230 | 1.5% | 206 | 1.4% |
| **1–2** | 841 | 5.6% | 846 | 5.7% |
| **3–5** | 1,428 | 9.5% | 1,552 | 10.5% |
| **6–9** | 2,482 | 16.4% | 2,415 | 16.3% |
| **10–14** | 3,629 | 24.0% | 3,687 | 24.8% |
| **15–18** | 3,815 | 25.3% | 3,645 | 24.6% |
| **19–21** | 2,673 | 17.7% | 2,496 | 16.8% |
| **Total** | **15,098** | **100.0%** | **14,847** | **100.0%** |

Table 9 shows the percentage of HealthChoice children in foster care, by service received and age group. Between CYs 2015 and 2019, the percentage of children in foster care who did not receive any services declined. However, as participants aged, the percentage of foster children with an ambulatory care visit fell by 31 in CY 2015 and 29 percentage points in CY 2019. Outpatient ED visits were highest among children younger than 2 and older than 19 years in both CY 2015 and CY 2019. Except among those younger than two years, inpatient admission rates declined across the measurement period.

**Table 9. Percentage of HealthChoice Children in Foster Care, by Service and Age Group, CY 2015 and CY 2019**

| Age Group (Years) | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | Number of Participants | Percentage of Total | Total Participants | Number of Participants | Percentage of Total |
| **No Medicaid Service** | | | | | | |
| **0 to <1** | 230 | * | * | 206 | * | * |
| **1–2** | 841 | * | * | 846 | * | * |
| **3–5** | 1,428 | 139 | 9.7% | 1,552 | 131 | 8.4% |
| **6–9** | 2,482 | 302 | 12.2% | 2,415 | 223 | 9.2% |
| **10–14** | 3,629 | 443 | 12.2% | 3,687 | 437 | 11.9% |
| **15–18** | 3,815 | 497 | 13.0% | 3,645 | 416 | 11.4% |
| **19–21** | 2,673 | 546 | 20.4% | 2,496 | 551 | 22.1% |
| **Total** | **15,098** | **1,969** | **13.0%** | **14,847** | **1,806** | **12.2%** |
| **Ambulatory Care Visit** | | | | | | |
| **0 to <1** | 230 | 219 | 95.2% | 206 | 196 | 95.1% |
| **1–2** | 841 | 779 | 92.6% | 846 | 775 | 91.6% |
| **3–5** | 1,428 | 1,210 | 84.7% | 1,552 | 1,332 | 85.8% |
| **6–9** | 2,482 | 1,955 | 78.8% | 2,415 | 1,975 | 81.8% |
| **10–14** | 3,629 | 2,858 | 78.8% | 3,687 | 2,947 | 79.9% |
| **15–18** | 3,815 | 2,950 | 77.3% | 3,645 | 2,876 | 78.9% |
| **19–21** | 2,673 | 1,727 | 64.6% | 2,496 | 1,643 | 65.8% |

| Age Group (Years) | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | Number of Participants | Percentage of Total | Total Participants | Number of Participants | Percentage of Total |
| **Total** | **15,098** | **11,698** | **77.5%** | **14,847** | **11,744** | **79.1%** |
| **Outpatient ED Visit** | | | | | | |
| **0 to <1** | 230 | 88 | 38.3% | 206 | 71 | 34.5% |
| **1–2** | 841 | 325 | 38.6% | 846 | 302 | 35.7% |
| **3–5** | 1,428 | 378 | 26.5% | 1,552 | 375 | 24.2% |
| **6–9** | 2,482 | 526 | 21.2% | 2,415 | 408 | 16.9% |
| **10–14** | 3,629 | 827 | 22.8% | 3,687 | 752 | 20.4% |
| **15–18** | 3,815 | 1,244 | 32.6% | 3,645 | 1,102 | 30.2% |
| **19–21** | 2,673 | 1,043 | 39.0% | 2,496 | 894 | 35.8% |
| **Total** | **15,098** | **4,431** | **29.3%** | **14,847** | **3,904** | **26.3%** |
| **Inpatient Admission** | | | | | | |
| **0 to <1†** | 230 | 181 | 78.7% | 206 | 176 | 85.4% |
| **1–2** | 841 | 57 | 6.8% | 846 | 61 | 7.2% |
| **3–5** | 1,428 | 45 | 3.2% | 1,552 | 28 | 1.8% |
| **6–9** | 2,482 | 89 | 3.6% | 2,415 | 78 | 3.2% |
| **10–14** | 3,629 | 256 | 7.1% | 3,687 | 234 | 6.3% |
| **15–18** | 3,815 | 454 | 11.9% | 3,645 | 344 | 9.4% |
| **19–21** | 2,673 | 231 | 8.6% | 2,496 | 204 | 8.2% |
| **Total** | **15,098** | **1,313** | **8.7%** | **14,847** | **1,125** | **7.6%** |

*Cell values of 10 or less have been suppressed.
†Includes admissions tied to infant's (0 to <1) birth.

Table 10 compares the percentage of HealthChoice children in foster care and non-foster care children by service received. Overall, the percentage of foster children who did not receive a service is higher than non-foster care children in CY 2015 and in CY 2019. A higher percentage of children in foster care did have an outpatient ED visit and an inpatient admission compared to non-foster care children. However, ED visits and inpatient admissions for foster care children decreased between CY 2015 and CY 2019, indicating a positive trend.

**Table 10. Percentage of HealthChoice Foster Care Children vs. Non-Foster Care Children by Service, CY 2015 and CY 2019**

| Age Group (Years) | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | Number of Participants | Percentage of Total | Total Participants | Number of Participants | Percentage of Total |
| | **No Medicaid Service** | | | | | |
| **Foster** | 15,098 | 1,969 | 13.0% | 14,847 | 1,806 | 12.2% |
| **Non-Foster** | 694,889 | 70,119 | 10.1% | 729,993 | 64,789 | 8.9% |
| | **Ambulatory Care Visit** | | | | | |
| **Foster** | 15,098 | 11,698 | 77.5% | 14,847 | 11,744 | 79.1% |
| **Non-Foster** | 694,889 | 559,352 | 80.5% | 729,993 | 605,286 | 82.9% |

| Age Group (Years) | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | Number of Participants | Percentage of Total | Total Participants | Number of Participants | Percentage of Total |
| | **Outpatient ED Visit†** | | | | | |
| **Foster** | 15,098 | 4,431 | 29.3% | 14,847 | 3,904 | 26.3% |
| **Non-Foster** | 694,889 | 187,728 | 27.0% | 729,993 | 171,809 | 23.5% |
| | **Inpatient Admission†** | | | | | |
| **Foster** | 15,098 | 1,313 | 8.7% | 14,847 | 1,125 | 7.6% |
| **Non-Foster** | 694,889 | 47,400 | 6.8% | 729,993 | 44,979 | 6.2% |

†Includes admissions tied to infant's (0 to <1) birth)

Table 11 compares the dental utilization rate in CY 2019 for foster care children aged 4 to 20 years to the rate for non-foster care children enrolled in HealthChoice. Overall, children in foster care had a slightly higher dental visit rate (65.9%) than other HealthChoice children (63.7%). The largest differences between the two populations were observed in the older age groups. The dental visit rate was 47.2% for children in foster care aged 19 to 20 years and 38.9% for other HealthChoice children: a difference of 8.3 percentage points.

**Table 11. Percentage of HealthChoice Foster Care Children Aged 4–20 Years vs. Non-Foster Care Children with a Dental Visit, by Age Group, CY 2019**

| Age Group (Years) | CY 2019 HealthChoice Foster Care Status | | | | | |
|---|---|---|---|---|---|---|
| | Foster Care | | | Non-Foster Care | | |
| | Number of Participants | Total Number of Participants | Percentage | Number of Participants | Total Number of Participants | Percentage |
| **4–5** | 775 | 1,047 | 74.0% | 49,893 | 74,548 | 66.9% |
| **6–9** | 1,794 | 2,415 | 74.3% | 101,678 | 143,074 | 71.1% |
| **10–14** | 2,543 | 3,687 | 69.0% | 119,021 | 176,825 | 67.3% |
| **15–18** | 2,319 | 3,645 | 63.6% | 65,951 | 114,598 | 57.5% |
| **19–20** | 803 | 1,701 | 47.2% | 19,426 | 49,899 | 38.9% |
| **Total** | **8,234** | **12,495** | **65.9%** | **355,969** | **558,944** | **63.7%** |

Table 12 shows the rates of MHDs, SUDs, and co-occurring MHD and SUD conditions among foster care and non-foster care HealthChoice participants in CY 2015 and CY 2019. The percentage of participants diagnosed with an MHD-only, SUD-only, or co-occurring MHD and SUD diagnosis were higher among foster care participants than non-foster care HealthChoice participants and were considerably higher among foster care children for MHD-only. The percentage of both foster care and non-foster care participants with an MHD-only diagnosis increased across the evaluation period. In contrast, the percentage of participants with SUD-only diagnoses decreased slightly from CY 2015 to CY 2019 for both foster care and non-foster care participants. The percentage of participants with a co-occurring MHD and SUD remained stable for non-foster care participants between CY 2015 and CY 2019, while the rate for foster care participants fell by 0.7 percentage points.

**Table 12. Behavioral Health Diagnosis of HealthChoice Foster Care Children vs. Non-Foster Care Children Aged 0–21 Years, CY 2015 and CY 2019**

| Foster Care Status | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | Number of Participants | Percentage of Total | Total Participants | Number of Participants | Percentage of Total |
| **MHD-Only** | | | | | | |
| **Foster** | 5,724 | 15,098 | 37.9% | 5,799 | 14,847 | 39.1% |
| **Non-Foster** | 66,296 | 694,889 | 9.5% | 83,275 | 729,993 | 11.4% |
| **SUD-Only** | | | | | | |
| **Foster** | 106 | 15,098 | 0.7% | 65 | 14,847 | 0.4% |
| **Non-Foster** | 3,553 | 694,889 | 0.5% | 2,827 | 729,993 | 0.4% |
| **Dual Diagnosis (MHD and SUD)** | | | | | | |
| **Foster** | 334 | 15,098 | 2.2% | 224 | 14,847 | 1.5% |
| **Non-Foster** | 2,057 | 694,889 | 0.3% | 1,831 | 729,993 | 0.3% |
| **No Behavioral Health Diagnosis** | | | | | | |
| **Foster** | 8,934 | 15,098 | 59.2% | 8,759 | 14,847 | 59.0% |
| **Non-Foster** | 622,983 | 694,889 | 89.7% | 642,060 | 729,993 | 88.0% |

## Rare and Expensive Case Management (REM) Program

The REM program provides case management services to Medicaid participants who have a rare and expensive medical condition from a specified list and require sub-specialty care. An individual must be eligible for HealthChoice, have a qualifying diagnosis, and be within the age limit for that diagnosis. Examples of qualifying diagnoses include cystic fibrosis, quadriplegia, muscular dystrophy, chronic renal failure, and spina bifida. REM participants do not receive services through an MCO. The REM program provides the standard FFS Medicaid benefit package and some expanded benefits, such as medically necessary private duty nursing, shift home health aides, and adult dental services. This section of the report presents data on REM enrollment and service utilization.

### *REM Enrollment*

Table 13 presents REM enrollment by age group, sex, and status for children in foster care for CY 2015 and CY 2019. In both years, most REM participants were males aged 18 years or younger.[20] There was a lower percentage of female participants in the REM population than in the general HealthChoice population. The majority of REM participants were not in foster care.

[20] REM enrollment differs from last year's evaluation because it includes all participants with at least one day in the REM program during the calendar year based on special program enrollment.

**Table 13. REM Enrollment by Age Group, Sex, and Foster Care Status, CY 2015 and CY 2019**

| Demographic Characteristic | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | Number of Enrollees | Percentage of Total | Number of Enrollees | Percentage of Total |
| **Age Group (Years)** | | | | |
| 0-18 | 3,259 | 67.1% | 3,025 | 64.8% |
| 19 and over | 1,600 | 32.9% | 1,644 | 35.2% |
| **Total** | **4,859** | **100.0%** | **4,669** | **100.0%** |
| **Sex/Gender** | | | | |
| Female | 2,128 | 43.8% | 1,994 | 42.7% |
| Male | 2,731 | 56.2% | 2,675 | 57.3% |
| **Total** | **4,859** | **100.0%** | **4,669** | **100.0%** |
| **Foster Care** | | | | |
| Foster Care | 376 | 7.7% | 341 | 7.3% |
| Non-Foster Care | 4,483 | 92.3% | 4,328 | 92.7% |
| **Total** | **4,859** | **100.0%** | **4,669** | **100.0%** |

### *REM Service Utilization*

Figure 11 shows the percentage of REM participants who received at least one dental, inpatient, ambulatory care, or outpatient ED visit between CY 2015 and CY 2019. The dental, inpatient, and ambulatory care visit measures serve as indicators of access to care. The percentage of participants with a dental visit increased during the evaluation period, from 52.1% in CY 2015 to 55.1% in CY 2019. The percentage of REM participants who had an inpatient visit declined by 2.4 percentage points between CY 2015 and CY 2019. Ambulatory care utilization decreased by 0.1 percentage points throughout the evaluation period. Outpatient ED visits decreased by 1.9 percentage points over the entire evaluation period; however, the largest decline occurred between CY 2017 and CY 2018, when the rate went from 44.1 to 42.3%—a decrease of 1.8 percentage points. Due to the nature of qualifying conditions for the REM program, nearly 100% of REM participants received at least one service a year during the evaluation period.

**Figure 11. Percentage of REM Participants with a Dental, Inpatient, Ambulatory Care, or Outpatient ED Visit, CY 2015–CY 2019**

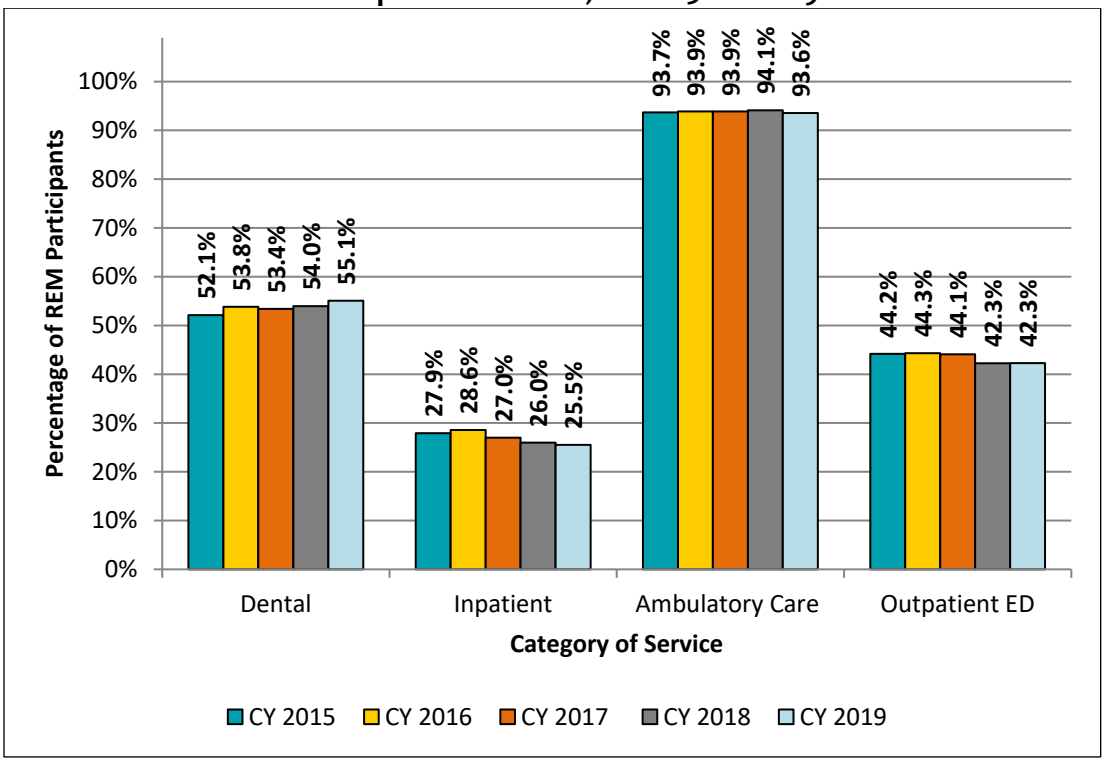



Table 14 shows the behavioral health diagnosis rates among REM participants at the beginning and end of the evaluation period. The rates for MHD-only and SUD-only increased slightly (both by 0.5 percentage points). The category of no behavioral health diagnosis decreased by 1.1 percentage points over the evaluation period.

**Table 14. Behavioral Health Diagnoses of REM Participants, CY 2015 and CY 2019**

| CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|
| Number of Participants | Total Participants | Percentage of Total | Number of Participants | Total Participants | Percentage of Total |
| **MHD-Only** | | | | | |
| 920 | 4,859 | 18.9% | 907 | 4,669 | 19.4% |
| **SUD-Only** | | | | | |
| 134 | 4,859 | 2.8% | 153 | 4,669 | 3.3% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| 41 | 4,859 | 0.8% | 40 | 4,669 | 0.9% |
| **No Behavioral Health Diagnosis** | | | | | |
| 3,764 | 4,859 | 77.5% | 3,569 | 4,669 | 76.4% |

## Racial and Ethnic Disparities

Racial and ethnic disparities in health care are nationally recognized challenges. The Department is committed to reducing disparities among racial and ethnic groups through its Managing for Results (MFR) program. The Department's Office of Minority Health and Health Disparities uses MFR to target goals in reducing racial and ethnic disparities. This section of the report presents enrollment trends among racial and ethnic groups and assesses disparities within several measures of service utilization.

When reading this section, please note that there was a substantial change to the quality of the race and ethnicity information beginning in 2014. The approach to selecting race and ethnicity on the Medicaid eligibility application changed with Medicaid's new eligibility process. As a result, the number of individuals reporting their race or ethnicity decreased, and the proportion represented as "Other/Unknown" increased sharply.

### *Enrollment*

Table 15 displays HealthChoice enrollment by race and ethnicity. The percentage of participants identifying as Hispanic, White, and Black decreased in enrollment between CY 2015 and CY 2019, the percentage of self-identified Asian and Native American participants remained the same, and the percentage of "Other/Unknown" increased by 8.6 percentage points.

**Table 15. HealthChoice Enrollment by Race/Ethnicity, CY 2015 and CY 2019**

| Race/Ethnicity | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | # of Participants | % of Total | # of Participants | % of Total |
| Asian | 58,077 | 4.5% | 62,445 | 4.5% |
| Black | 584,775 | 44.8% | 566,300 | 41.1% |
| White | 381,336 | 29.2% | 360,123 | 26.1% |
| Hispanic | 123,785 | 9.5% | 105,872 | 7.7% |
| Native American | 3,708 | 0.3% | 4,032 | 0.3% |
| Other | 152,216 | 11.7% | 278,721 | 20.2% |
| **Total** | **1,303,897** | **100.0%** | **1,377,493** | **100.0%** |

### *Ambulatory Care Visits*

Figure 12 presents the percentage of children aged 0 through 18 years with at least one ambulatory visit in CY 2015 and CY 2019, by race and ethnicity. The overall rate of ambulatory care visits increased from 82.2% in CY 2015 to 84.3% in CY 2019. All racial and ethnic groups except for Native Americans experienced a slight increase throughout the evaluation period. In CY 2015, the disparity between the racial/ethnic group with the highest percentage of ambulatory care visits (Hispanic) and the lowest percentage (Black) was 11.3 percentage points. In CY 2019, this difference decreased slightly to 10.1 percentage points.

**Figure 12. Percentage of HealthChoice Participants Aged 0–18 Years with an Ambulatory Care Visit, by Race/Ethnicity, CY 2015 and CY 2019**

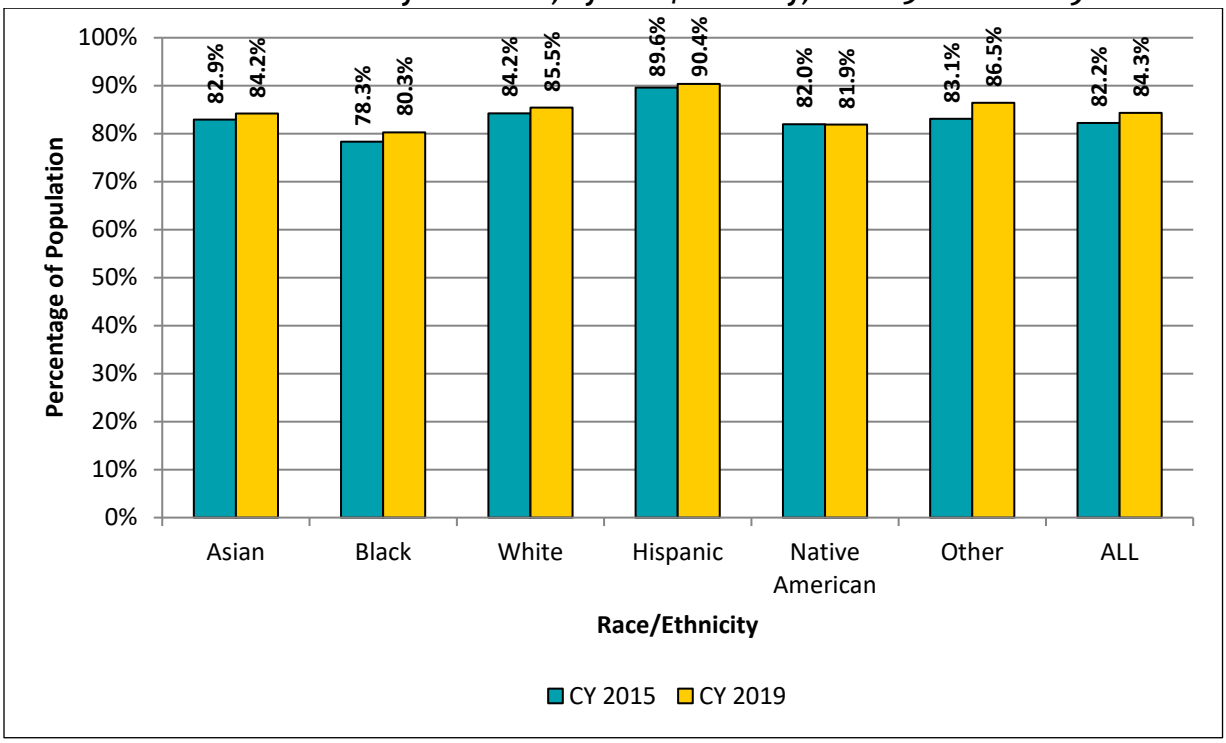
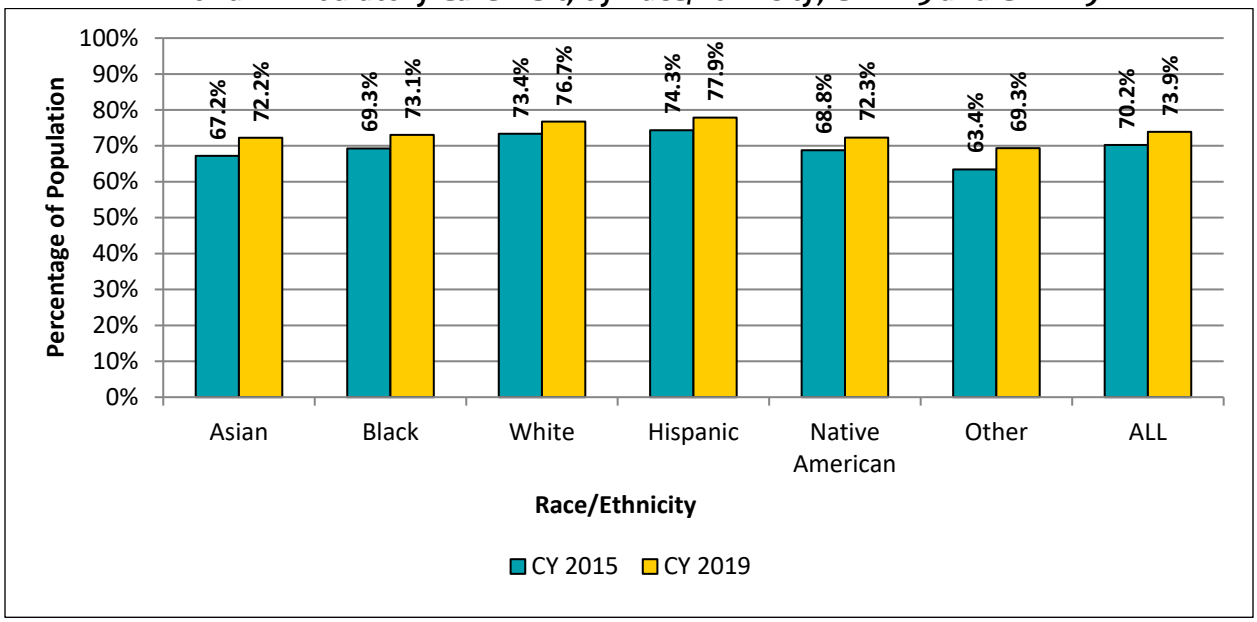



Figure 13 presents the percentage of adults aged 19 to 64 years with at least one ambulatory care visit in CY 2015 and CY 2019, by race and ethnicity. In CY 2015, 70.2% of adult HealthChoice participants received an ambulatory care visit. The rate of ambulatory care visits increased to 73.9% in CY 2019, with a corresponding increase observed among all racial and ethnic groups.

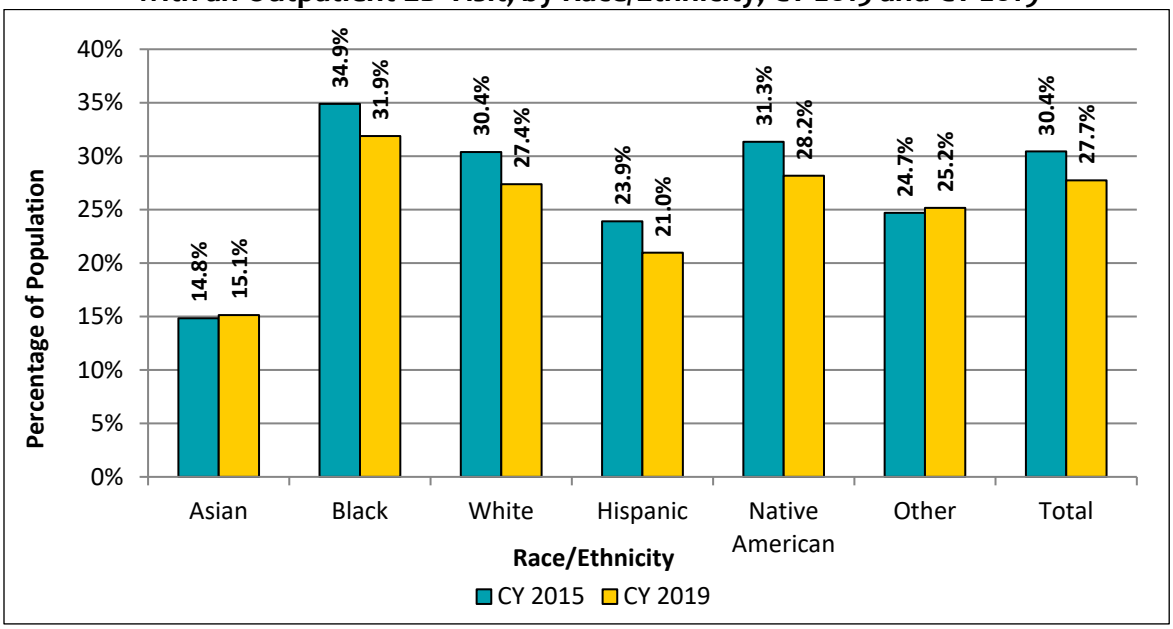
**Figure 13. Percentage of HealthChoice Participants Aged 19–64 Years with an Ambulatory Care Visit, by Race/Ethnicity, CY 2015 and CY 2019**



### *Outpatient ED Visits*

Figure 14 displays the percentage of HealthChoice participants aged 0 to 64 years with at least one outpatient ED visit by race and ethnicity in CY 2015 and CY 2019. During the evaluation period, each racial and ethnic group except for Asian participants and "Other/Unknown" experienced a drop in ED services. Black participants continued to have the highest ED visit rate, while Asian participants continued to have the lowest.

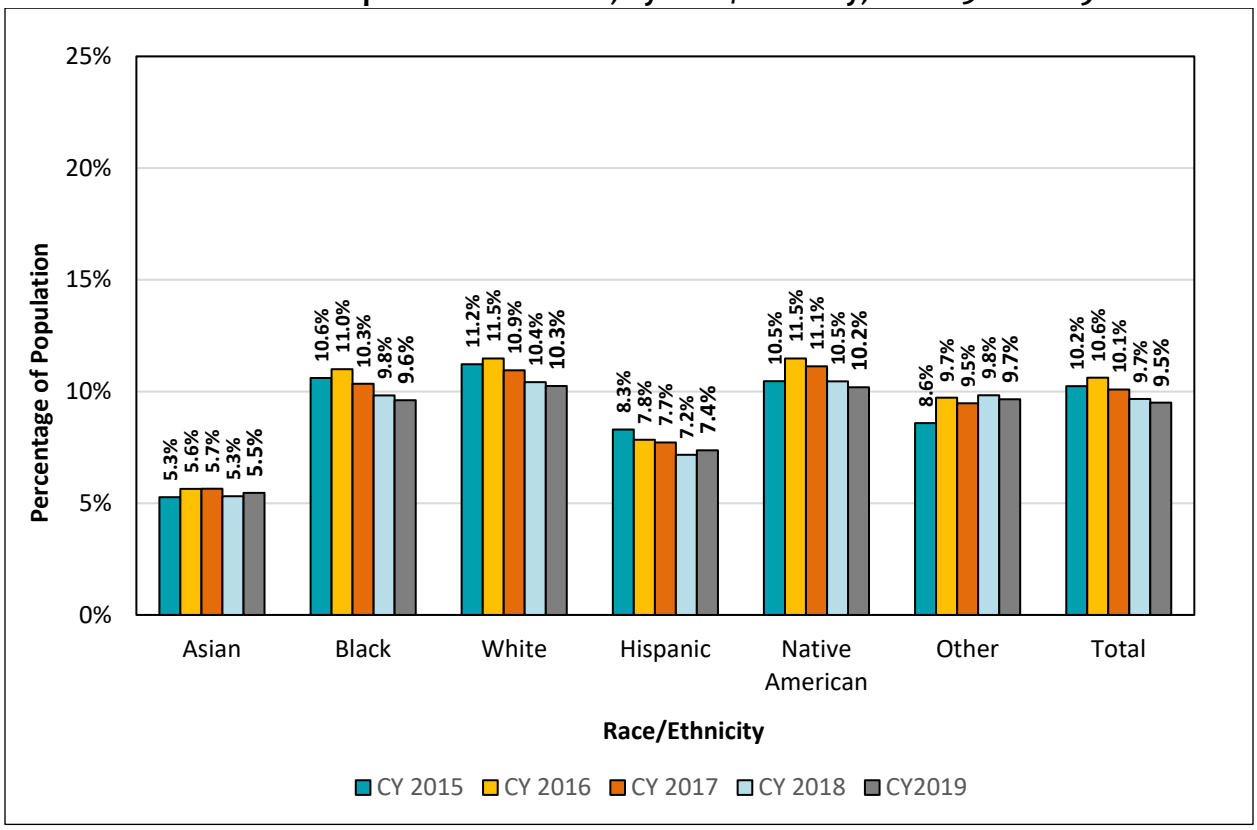
**Figure 14. Percentage of HealthChoice Participants Aged 0–64 Years with an Outpatient ED Visit, by Race/Ethnicity, CY 2015 and CY 2019**




### *Inpatient Admissions*

Figure 15 presents the percentage of HealthChoice participants aged 18 to 64 years by race and ethnicity with an inpatient admission between CY 2015 and CY 2019. Each group's rate declined between CY 2015 and CY 2019 except for Asian participants and "Other/Unknown," which increased 0.2 and 1.1 percentage points, respectively.

**Figure 15. Percentage of HealthChoice Participants Aged 18–64 Years Who Had an Inpatient Admission, by Race/Ethnicity, CY 2015–CY 2019**




## ACA Medicaid Expansion Population

This section of the report examines the demographic characteristics and health care utilization of the ACA Medicaid expansion population between CY 2015 and CY 2019. The ACA Medicaid expansion population consists of three different coverage groups:

1. Former PAC participants
2. Childless adults not previously enrolled in PAC[21]
3. Parents and caretaker relatives

This section presents demographic and service utilization measures for participants with any enrollment in one of the ACA Medicaid expansion coverage groups. Many of these participants were gaining Medicaid coverage for the first time and had limited health care utilization literacy, resulting in reduced access to care until they become more familiar with accessing care through Medicaid.

[21] Though these individuals may have had prior enrollment in PAC, they were not enrolled in PAC as of December 2013. Only participants enrolled in PAC in December 2013 were automatically transferred into a Medicaid expansion coverage group.

### *ACA Medicaid Expansion Population Demographics*

In CY 2015, the Maryland Medicaid program enrolled 365,992 adults (with any period of enrollment) through the ACA Medicaid expansion. By CY 2019, the number of participants (members) who received coverage for at least one month in an ACA expansion coverage group increased to 391,784.

Table 16 displays demographic characteristics of the expansion population (with any period of enrollment) during the evaluation period. Participants aged 19 to 34 years composed the largest portion of the ACA expansion population.

**Table 16. ACA Medicaid Expansion Population Aged 19–64 Years, by Demographics and Any Enrollment Period, CY 2015–CY 2019**

| Demographic Characteristic | CY 2015 | | CY 2016 | | CY 2017 | | CY 2018 | | CY 2019 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total |
| **Race/Ethnicity** | | | | | | | | | | |
| **Asian** | 19,469 | 5.3% | 18,270 | 5.1% | 20,344 | 5.2% | 20,980 | 5.3% | 20,222 | 5.2% |
| **Black** | 158,659 | 43.4% | 152,532 | 42.9% | 165,673 | 42.7% | 170,306 | 42.9% | 169,903 | 43.4% |
| **White** | 130,211 | 35.6% | 127,416 | 35.9% | 135,107 | 34.8% | 134,702 | 33.9% | 130,104 | 33.2% |
| **Hispanic** | 11,742 | 3.2% | 11,683 | 3.3% | 13,335 | 3.4% | 14,028 | 3.5% | 13,764 | 3.5% |
| **Other** | 45,911 | 12.5% | 45,370 | 12.8% | 53,539 | 13.8% | 57,387 | 14.4% | 57,791 | 14.8% |
| **Total** | **365,992** | **100%** | **355,271** | **100%** | **387,998** | **100.0%** | **397,403** | **100%** | **391,784** | **100%** |
| **Sex** | | | | | | | | | | |
| **Female** | 176,731 | 48.3% | 169,710 | 47.8% | 182,629 | 47.1% | 185,902 | 46.8% | 182,264 | 46.5% |
| **Male** | 189,261 | 51.7% | 185,561 | 52.2% | 205,369 | 52.9% | 211,501 | 53.2% | 209,520 | 53.5% |
| **Total** | **365,992** | **100%** | **355,271** | **100%** | **387,998** | **100.0%** | **397,403** | **100%** | **391,784** | **100%** |
| **Region** | | | | | | | | | | |
| **Baltimore City** | 75,295 | 20.6% | 73,183 | 20.6% | 78,355 | 20.2% | 79,582 | 20.0% | 78,669 | 20.1% |
| **Baltimore Suburban** | 104,316 | 28.5% | 103,563 | 29.2% | 113,780 | 29.3% | 116,984 | 29.4% | 116,089 | 29.6% |
| **Eastern Shore** | 34,867 | 9.5% | 34,517 | 9.7% | 37,115 | 9.6% | 37,799 | 9.5% | 36,896 | 9.4% |
| **Southern Maryland** | 19,085 | 5.2% | 18,783 | 5.3% | 20,609 | 5.3% | 21,173 | 5.3% | 20,860 | 5.3% |
| **Washington Suburban** | 103,187 | 28.2% | 96,027 | 27.0% | 106,174 | 27.4% | 108,865 | 27.4% | 106,443 | 27.2% |
| **Western Maryland** | 28,530 | 7.8% | 28,390 | 8.0% | 31,090 | 8.0% | 32,179 | 8.1% | 32,144 | 8.2% |
| **Out of State** | 712 | 0.2% | 808 | 0.2% | 875 | 0.2% | 821 | 0.2% | 683 | 0.2% |
| **Total** | **365,992** | **100%** | **355,271** | **100%** | **387,998** | **100.0%** | **397,403** | **100%** | **391,784** | **100%** |
| **Age Group (Years)** | | | | | | | | | | |
| **19–34** | 157,449 | 43.0% | 157,804 | 44.4% | 177,340 | 45.7% | 184,973 | 46.6% | 184,408 | 47.1% |
| **35–49** | 95,190 | 26.0% | 87,520 | 24.6% | 93,685 | 24.2% | 96,276 | 24.2% | 93,936 | 24.0% |
| **50–64** | 113,353 | 31.0% | 109,947 | 31.0% | 116,973 | 30.2% | 116,154 | 29.2% | 113,440 | 29.0% |

| Demographic Characteristic | CY 2015 | | CY 2016 | | CY 2017 | | CY 2018 | | CY 2019 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total |
| **Total** | **365,992** | **100%** | **355,271** | **100%** | **387,998** | **100.0%** | **397,403** | **100%** | **391,784** | **100%** |
| **Member Months** | | | | | | | | | | |
| **1** | 10,564 | 2.9% | 17,097 | 4.8% | 13,928 | 3.6% | 12,270 | 3.1% | 11,433 | 2.9% |
| **2** | 10,207 | 2.8% | 12,954 | 3.7% | 12,460 | 3.2% | 10,760 | 2.7% | 11,095 | 2.8% |
| **3** | 41,699 | 11.4% | 9,951 | 2.8% | 9,920 | 2.6% | 10,761 | 2.7% | 10,219 | 2.6% |
| **4** | 20,537 | 5.6% | 8,977 | 2.5% | 9,103 | 2.4% | 11,035 | 2.8% | 9,689 | 2.5% |
| **5** | 14,514 | 4.0% | 9,139 | 2.6% | 10,162 | 2.6% | 13,062 | 3.3% | 10,272 | 2.6% |
| **6** | 12,976 | 3.6% | 9,444 | 2.7% | 9,603 | 2.5% | 12,181 | 3.1% | 9,696 | 2.5% |
| **7** | 15,189 | 4.2% | 10,062 | 2.8% | 10,039 | 2.6% | 10,645 | 2.7% | 10,490 | 2.7% |
| **8** | 15,505 | 4.2% | 10,833 | 3.1% | 10,603 | 2.7% | 11,849 | 3.0% | 11,631 | 3.0% |
| **9** | 16,377 | 4.5% | 11,610 | 3.3% | 11,018 | 2.8% | 11,632 | 2.9% | 11,684 | 3.0% |
| **10** | 14,477 | 4.0% | 13,360 | 3.8% | 12,474 | 3.2% | 12,464 | 3.1% | 12,966 | 3.3% |
| **11** | 25,265 | 6.9% | 19,167 | 5.4% | 15,093 | 3.9% | 16,228 | 4.1% | 15,022 | 3.8% |
| **12** | 168,682 | 46.1% | 222,677 | 62.7% | 263,595 | 67.9% | 264,516 | 66.6% | 267,587 | 68.3% |
| **Total** | **365,992** | **100%** | **355,271** | **100%** | **387,998** | **100.0%** | **397,403** | **100.0%** | **391,784** | **100%** |

Table 17 displays demographic characteristics of the expansion population with a full 12 months of enrollment during the evaluation period. The racial and regional distribution of this population is similar to the distribution of the expansion population with any period of enrollment. Participants aged 19 to 34 years composed the largest portion of the ACA expansion population with 12 months of enrollment.

**Table 17. ACA Medicaid Expansion Population Demographics for Participants Aged 19–64 Years, 12 Months of Enrollment, CY 2015–CY 2019**

| Demographic Characteristic | CY 2015 | | CY 2016 | | CY 2017 | | CY 2018 | | CY 2019 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total | # of Participants | % of Total |
| **Race/Ethnicity** | | | | | | | | | | |
| **Asian** | 9,245 | 5.5% | 11,764 | 5.3% | 13,689 | 5.2% | 13,757 | 5.2% | 13,674 | 5.1% |
| **Black** | 71,433 | 42.4% | 96,225 | 43.2% | 116,103 | 44.0% | 116,955 | 44.2% | 119,136 | 44.5% |
| **White** | 65,172 | 38.6% | 82,122 | 36.9% | 93,301 | 35.4% | 91,318 | 34.5% | 90,680 | 33.9% |
| **Hispanic** | 5,829 | 3.5% | 7,723 | 3.5% | 9,081 | 3.4% | 9,222 | 3.5% | 9,320 | 3.5% |
| **Other** | 17,003 | 10.1% | 24,843 | 11.2% | 31,421 | 11.9% | 33,264 | 12.6% | 34,777 | 13.0% |
| **Total** | **168,682** | **100%** | **222,677** | **100%** | **263,595** | **100%** | **264,516** | **100%** | **267,587** | **100%** |
| **Sex** | | | | | | | | | | |
| **Female** | 90,271 | 53.5% | 110,197 | 49.5% | 125,907 | 47.8% | 124,280 | 47.0% | 124,508 | 46.5% |
| **Male** | 78,411 | 46.5% | 112,480 | 50.5% | 137,688 | 52.2% | 140,236 | 53.0% | 143,079 | 53.5% |
| **Total** | **168,682** | **100%** | **222,677** | **100%** | **263,595** | **100%** | **264,516** | **100%** | **267,587** | **100%** |
| **Region** | | | | | | | | | | |
| **Baltimore City** | 35,615 | 21.1% | 47,279 | 21.2% | 56,187 | 21.3% | 56,391 | 21.3% | 56,616 | 21.2% |
| **Baltimore Suburban** | 49,413 | 29.3% | 64,706 | 29.1% | 76,786 | 29.1% | 77,767 | 29.4% | 79,363 | 29.7% |
| **Eastern Shore** | 17,707 | 10.5% | 22,574 | 10.1% | 25,896 | 9.8% | 25,735 | 9.7% | 25,501 | 9.5% |
| **Southern Maryland** | 9,021 | 5.4% | 11,920 | 5.4% | 14,203 | 5.4% | 14,117 | 5.3% | 14,565 | 5.4% |
| **Washington Suburban** | 42,572 | 25.2% | 57,669 | 25.9% | 68,901 | 26.1% | 68,947 | 26.1% | 69,766 | 26.1% |
| **Western Maryland** | 14,089 | 8.4% | 18,105 | 8.1% | 21,093 | 8.0% | 21,105 | 8.0% | 21,357 | 8.0% |
| **Out of State** | 265 | 0.2% | 424 | 0.2% | 529 | 0.2% | 454 | 0.2% | 419 | 0.2% |
| **Total** | **168,682** | **100%** | **222,677** | **100%** | **263,595** | **100%** | **264,516** | **100%** | **267,587** | **100%** |
| **Age Group (Years)** | | | | | | | | | | |
| **19–34** | 63,047 | 37.4% | 94,136 | 42.3% | 116,572 | 44.2% | 118,398 | 44.8% | 120,885 | 45.2% |
| **35–49** | 46,217 | 27.4% | 55,774 | 25.1% | 65,267 | 24.8% | 65,144 | 24.6% | 65,438 | 24.5% |
| **50–64** | 59,418 | 35.2% | 72,767 | 32.7% | 81,756 | 31.0% | 80,974 | 30.6% | 81,264 | 30.4% |
| **Total** | **168,682** | **100%** | **222,677** | **100%** | **263,595** | **100%** | **264,516** | **100%** | **267,587** | **100%** |

### *ACA Medicaid Expansion Population Service Utilization*

This section presents the health care utilization of participants who received Medicaid coverage through the ACA Medicaid expansion. Table 18 displays the number and percentage of participants with an ambulatory visit, outpatient ED visit, or inpatient admission in CY 2015 through CY 2019 with any period of enrollment as well as 12 months of enrollment. ACA Medicaid expansion participants with 12 continuous months of enrollment provide an MCO with more time and opportunities to intervene in their health care than participants with any period of enrollment. Key findings from Table 18 include the following:

- In CY 2015, roughly 62% of ACA Medicaid expansion participants with any period of enrollment had an ambulatory care visit; this rate increased to roughly 68% in CY 2019. Visit rates decreased over the evaluation period for expansion participants enrolled for the entire year. Among those with 12 months of enrollment, 82.2% of participants in CY 2015 and 75.7% of participants in CY 2019 had an ambulatory care visit.
- In CY 2015, 30.1% of ACA Medicaid expansion participants with any period of enrollment had an outpatient ED visit. This rate increased to 38.9% for those enrolled for the entire year. ED visit rates remained stable during the evaluation period, at roughly 30% for participants with any period of enrollment. The rates for participants with 12 months of enrollment decreased from 38.9 in CY 2015 to 33.5 in CY 2019.
- Overall, 8.5% of ACA Medicaid expansion participants with any period of enrollment had an inpatient admission in CY 2015, decreasing to 8.2% in CY 2019. Participants who were enrolled for the entire year experienced a higher rate of inpatient admissions; their rates were 11.3% in CY 2014 and 8.5% in CY 2019.

**Table 18. Service Utilization of ACA Medicaid Expansion Population Aged 19–64 Years, by Enrollment Period, CY 2015–CY 2019**

| Enrollment Period | CY 2015 | | | CY 2016 | | | CY 2017 | | | CY 2018 | | | CY 2019 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # of Users | # of Participants | % of Total | # of Users | # of Participants | % of Total | # of Users | # of Participants | % of Total | # of Users | # of Participants | % of Total | # of Users | # of Participants | % of Total |
| **Ambulatory Care Visits** | | | | | | | | | | | | | | | |
| **Any** | 225,794 | 365,992 | 61.7% | 236,729 | 355,271 | 66.6% | 257,280 | 387,998 | 66.3% | 264,710* | 397,403 | 66.6% | 267,294 | 391,784 | 68.2% |
| **12 Months** | 138,728 | 168,682 | 82.2% | 172,901 | 222,677 | 77.7% | 197,885 | 263,595 | 75.1% | 200,499 | 264,516 | 75.8% | 202,589 | 267,587 | 75.7% |
| **Outpatient ED Visits** | | | | | | | | | | | | | | | |
| **Any** | 110,071 | 365,992 | 30.1% | 114,624 | 355,271 | 32.3% | 120,342 | 387,998 | 31.0% | 116,393* | 397,403 | 29.3% | 117,383 | 391,784 | 30.0% |
| **12 Months** | 65,587 | 168,682 | 38.9% | 82,894 | 222,677 | 37.2% | 93,130 | 263,595 | 35.3% | 88,507 | 264,516 | 33.5% | 89,555 | 267,587 | 33.5% |
| **Inpatient Admissions** | | | | | | | | | | | | | | | |
| **Any** | 31,087 | 365,992 | 8.5% | 32,622 | 355,271 | 9.2% | 34,303 | 387,998 | 8.8% | 33,421 | 397,403 | 8.4% | 31,941 | 391,784 | 8.2% |
| **12 Months** | 19,088 | 168,682 | 11.3% | 22,670 | 222,677 | 10.2% | 25,203 | 263,595 | 9.6% | 24,248 | 264,516 | 9.2% | 22,876 | 267,587 | 8.5% |

*The number of users reported for any enrollment period for ambulatory care and outpatient ED visits in CY 2018 was revised to correct a transcription error reported in the 2020 HealthChoice Evaluation; the percentage of participants who had these services did not change.

### *ACA Medicaid Expansion Population with Mental Health and Substance Use Disorders*

This section presents the rates of behavioral health diagnoses among ACA expansion participants. Table 19 shows the rates of MHDs, SUDs, and co-occurring MHD and SUD conditions among ACA Medicaid expansion participants aged 19 to 64 years. Rates are shown for those with any period of enrollment and 12 months of enrollment in CY 2015 through CY 2019.

The percentages of participants diagnosed with an MHD, SUD, or co-occurring MHD and SUD were higher among participants who were enrolled for a 12-month period than participants with any period of enrollment. However, the difference narrows across the evaluation period for all participant groups. For participants with an MHD-only, the difference between participants who were enrolled for a 12-month period and participants who were enrolled for any period decreased by 2.5 percentage points from CY 2015 to CY 2019. The percentage of participants with any period of enrollment and an MHD-only increased slightly (by 1.7 percentage points) across the evaluation period. The percentage of participants with any period of enrollment and an SUD was 5.9% in CY 2015 and 6.8% in CY 2019. The percentage of participants with any period of enrollment and a dual diagnosis also increased by 1.4 percentage points.

## Table 19. Behavioral Health Diagnosis of ACA Medicaid Expansion Population Aged 19–64 Years, by Enrollment Period, CY 2015–CY 2019

| Enrollment Period | CY 2015 | | | CY 2016 | | | CY 2017 | | | CY 2018 | | | CY 2019 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | # of Participants | Total Participants | % of Total | # of Participants | Total Participants | % of Total | # of Participants | Total Participants | % of Total | # of Participants | Total Participants | % of Total | # of Participants | Total Participants | % of Total |
| **MHD-Only** | | | | | | | | | | | | | | | |
| **Any Period** | 35,123 | 365,992 | 9.6% | 37,637 | 355,271 | 10.6% | 40,635 | 387,998 | 10.5% | 42,558 | 397,403 | 10.7% | 44,184 | 391,784 | 11.3% |
| **12 Months** | 22,559 | 168,682 | 13.4% | 27,742 | 222,677 | 12.5% | 31,291 | 263,595 | 11.9% | 32,129 | 264,516 | 12.2% | 33,509 | 267,587 | 12.5% |
| **SUD-Only** | | | | | | | | | | | | | | | |
| **Any Period** | 21,529 | 365,992 | 5.9% | 23,739 | 355,271 | 6.7% | 26,450 | 387,998 | 6.8% | 27,258 | 397,403 | 6.9% | 26,745 | 391,784 | 6.8% |
| **12 Months** | 12,518 | 168,682 | 7.4% | 16,717 | 222,677 | 7.5% | 20,400 | 263,595 | 7.7% | 20,818 | 264,516 | 7.9% | 20,496 | 267,587 | 7.7% |
| **Dual Diagnosis (MHD and SUD)** | | | | | | | | | | | | | | | |
| **Any Period** | 15,899 | 365,992 | 4.3% | 18,100 | 355,271 | 5.1% | 19,815 | 387,998 | 5.1% | 20,719 | 397,403 | 5.2% | 22,213 | 391,784 | 5.7% |
| **12 Months** | 11,252 | 168,682 | 6.7% | 14,501 | 222,677 | 6.5% | 16,545 | 263,595 | 6.3% | 17,159 | 264,516 | 6.5% | 18,185 | 267,587 | 6.8% |
| **No Behavioral Health Diagnosis** | | | | | | | | | | | | | | | |
| **Any Period** | 293,441 | 365,992 | 80.2% | 275,795 | 355,271 | 77.6% | 301,098 | 387,998 | 77.6% | 90,535 | 397,403 | 77.2% | 298,642 | 391,784 | 76.2% |
| **12 Months** | 122,353 | 168,682 | 72.5% | 163,717 | 222,677 | 73.5% | 195,359 | 263,595 | 74.1% | 194,410 | 264,516 | 73.5% | 195,397 | 267,587 | 73.0% |

## *Section III Conclusion*

During CY 2019, HealthChoice maintained access to primary care for its members, with each Maryland county having sufficient PCPs to outperform the benchmark ratio of 200 patients per practice. Between CY 2015 and CY 2019, managed care enrollment remained consistently above 86.0%, increasing each year, with the highest rate of 89.9% in CY 2019. Across a wide variety of measures, HealthChoice utilization trends were largely consistent with program goals. The percentage of HealthChoice participants who received ambulatory care increased from CY 2015 to CY 2019. Outpatient ED visits and inpatient admissions generally declined over the evaluation period.

HealthChoice prioritizes the delivery of and access to quality health services to special populations, such as children in foster care and REM program participants, as well as reducing racial and ethnic disparities. Utilization of services among these special populations were largely consistent with utilization trends of the overall HealthChoice population. Over the evaluation period, the percentage of children in foster care who received an ambulatory service increased, and utilization of the ED and inpatient admissions for this population decreased. However, the outpatient ED visits and inpatient admissions were higher for children in foster care than for children not in foster care in CY 2019. The percentage of REM participants with a dental visit during the evaluation period also increased, while utilization of the ED and inpatient admissions for this population decreased.

# Section IV. Quality of Care

## *Value-Based Purchasing Program*

The Center for Health Care Strategies helped the Department develop a value-based purchasing (VBP) initiative for HealthChoice beginning in 1999. VBP pays incentives to MCOs that demonstrate high-quality care, increased access, and administrative efficiency by using standardized measures of performance on population health goals.

VBP measures may change according to the Department's priorities and analysis of changing population health needs. The measures selected are intended to improve outcomes for HealthChoice participants—including children, children with special needs, pregnant women, adults with disabilities, and adults with chronic conditions—while being measurable with available data and comparable to national performance measures for benchmarking. VBP strives for consistency with CMS's national performance measures for Medicaid and should reflect areas in which it is possible for MCOs to affect change. Measures included in the CY 2019 VBP program (see Table 20) were chosen from National Committee for Quality Assurance's (NCQA's) Healthcare Effectiveness Data and Information Set (HEDIS®), using encounter data and data supplied by the HealthChoice MCOs and subsequently validated by the Department's external quality review organization (EQRO) and HEDIS® auditor. Changes in the components of the VBP program may result in changes in plan performance with respect to that measure. Therefore, decisions to make changes to the list of VBP measures are taken with due consideration by the Department. Moreover, the measures are applied to MCOs without adjustments for differing risks in the populations each serves. This has the effect of assuming that each MCO's VBP performance is not affected by differences among an MCO's enrollees.

**Table 20. Value-Based Purchasing Measures and Averages across All MCOs,* CY 2019**

| Value-Based Purchasing Measures | Average Percentage Goal Achieved |
|---|---|
| **Adolescent Well-Care Visits** | 70% |
| **Ambulatory Care Visits for SSI Adults** | 85% |
| **Ambulatory Care Visits for SSI Children** | 85% |
| **Breast Cancer Screening** | 72% |
| **Comprehensive Diabetes Care - Hba1c testing** | 59% |
| **Lead Screenings for Children - Ages 12–23 months** | 68% |
| **Controlling High Blood Pressure** | 65% |
| **Asthma Medication Ratio** | 69% |
| **Well-Child Visits for Children - Ages 3–6** | 73% |

*Aetna started reporting Maryland Medicaid data in CY 2018. However, due to continuous enrollment criteria, Aetna's data were not included in the analysis.

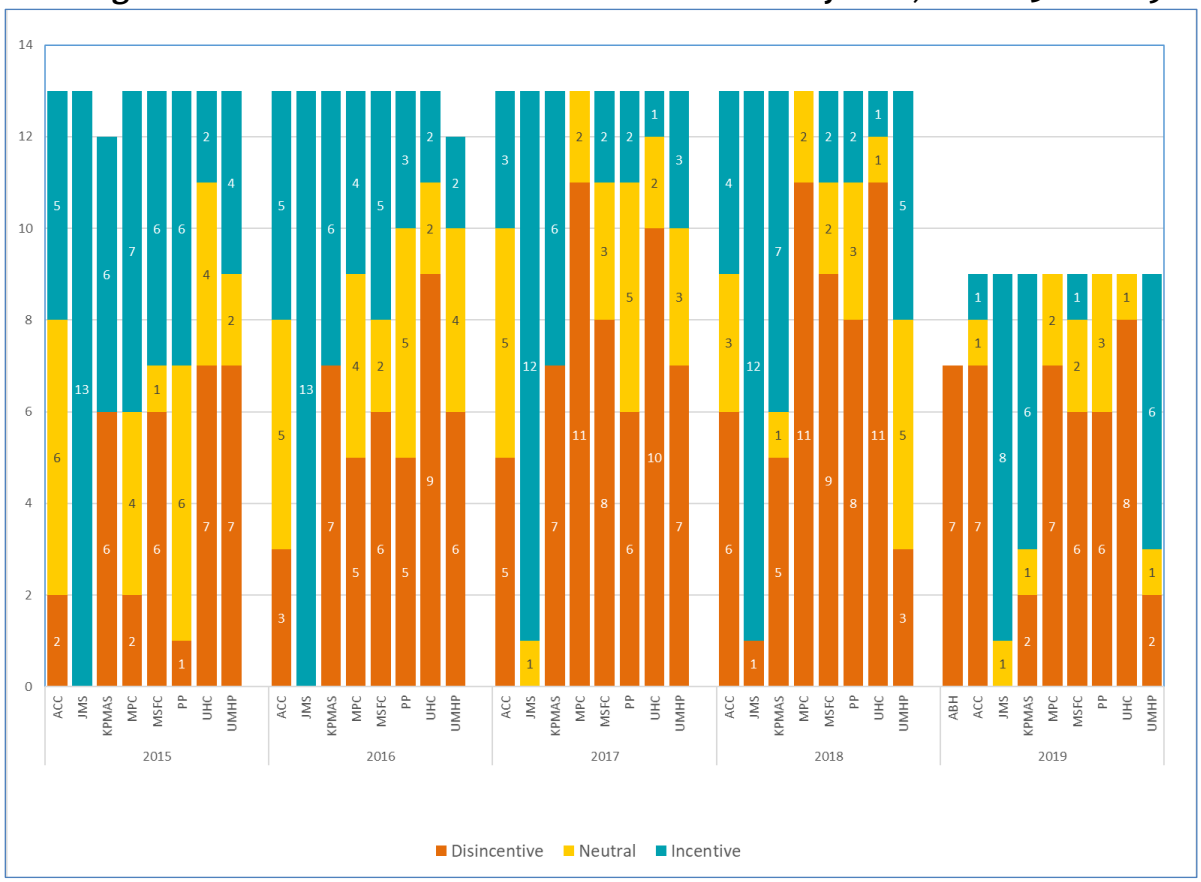
Per regulations,[22] the Department sets aside 1% of MCO revenue to generate financial incentives and disincentives to promote performance improvement. Using data on the listed measures

[22] COMAR 10.67.04.03.

collected from the MCOs, the Department identified three levels of performance: incentive, neutral, and disincentive. Each measure is accorded equal weight. Total incentive payments may not exceed the total amount of disincentives collected in the same year, plus any additional funds allocated by the Department for a quality initiative.

Figure 16 indicates how many measures met the incentives and disincentives for each MCO, and those with neutral performances on the VBP measures from CY 2015 to CY 2019. Between CY 2015 and CY 2018, MCOs were scored on 13 measures. Beginning in CY 2019, the measures were consolidated to 9. The individual MCOs' measures show mixed results; some MCOs tend to have consistently high or low performance, while some experienced increases in the number of their disincentive penalties, as indicated in orange on the chart. Because the incentive and disincentive levels are based on the average of all plans' performance, when plans improve their measures across the board, they increase the standard for earning incentive payments and losing disincentives. Therefore, a decrease in the number of plans earning incentives may reflect the rising standards for care in HealthChoice as a whole. Since HealthChoice typically exceeds the National HEDIS® mean on most measures, VBP targets are usually higher than the national means.

**Figure 16. Count of VBP Incentives and Disincentives by MCO,* CY 2015–CY 2019**




*ABH: Aetna Better Health; ACC: AMERIGROUP Community Care; JMS: Jai Medical Systems; KPMAS: Kaiser Permanente of the Mid-Atlantic States; MPC: Maryland Physicians Care; MSFC: MedStar Family Choice; PP: Priority Partners; UHC: UnitedHealthcare; UMHP: University of Maryland Health Partners. Complete data were not available for KP in 2015, UMHP in 2016, and ABH in 2019.

In early 2021, the Department requested that Hilltop develop a new methodology for the VBP program. This model, called the Population Health Incentive Program, would move the program to an incentive-only model. The overall goal remained the same: allocate financial incentives annually to HealthChoice MCOs that demonstrate high-quality care based on standardized measures of performance.

Hilltop developed and proposed an incentive payment structure based on current performance and historical improvement on both standardized performance measures (i.e., HEDIS®) and locally developed (i.e., homegrown) quality measures. Measure selection was informed to align with the new Statewide Integrated Health Improvement Strategy (SIHIS). Hilltop then proposed to allocate available funds through two rounds of incentive payments:

- In Round 1, payments to plans are made from the allocated incentive funding based on performance during the measurement year and improvement from the previous year.
- In Round 2, unallocated funds from Round 1 are redistributed among high-performing MCOs as additional incentives, up to a limit of 1% of the MCO's measurement year capitation as total payment from Round 1 and Round 2.

This methodology was refined in conjunction with the Department and MCOs, and the new payment structure will go into effect during the CY 2021 performance year.

## *EPSDT (Healthy Kids) Review*

Federal regulations[23] require EPSDT services for all Medicaid participants under the age of 21 years. The purpose of EPSDT is to ensure that children receive age-appropriate physical examinations, developmental assessments, and mental health screenings periodically to identify any deviations from expected growth and development.

Maryland's EPSDT program aims to support access to and increase the availability of quality health care. The Department has a Healthy Kids Program, with nurse consultants who certify HealthChoice providers in receiving EPSDT training, support the MCOs, and educate them on new EPSDT requirements. The Healthy Kids Program also collaborates with MCOs to share with their provider networks' age-appropriate encounter forms, risk assessment forms, and questionnaires to assist with documenting preventive services according to the Maryland Schedule of Preventive Health Care.

The annual EPSDT (Healthy Kids) medical record review (MRR) assesses whether EPSDT services are provided to HealthChoice participants in a timely manner. The review is conducted on HealthChoice provider compliance with five EPSDT components: 1) health and developmental history, 2) comprehensive physical exam, 3) laboratory tests/at-risk screenings, 4) immunizations, and 5) health education/anticipatory guidance.

[23] 42 CFR § 440.345.

Between CY 2015 and CY 2019, provider compliance remained stable or decreased for the five EPSDT components (Table 21).[24] The HealthChoice aggregate total score increased from CY 2015 to CY 2018 but decreased in CY 2019, resulting in an overall decline in performance during the evaluation period (Qlarant, 2021). The Department achieved the minimum compliance score of 80% for all components for CY 2015 and maintained it through CY 2019, with the exception of two components that are baseline results because of the change in the MRR process stemming from the COVID-19 public health emergency. MCOs use the Healthy Kids review results to develop education efforts to inform participants and providers about EPSDT services.

**Table 21. HealthChoice MCO Aggregate Composite Scores for Components of the EPSDT/Healthy Kids Review, CY 2015–CY 2019**

| EPSDT Component | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Health and Developmental History | 92% | 92% | 92% | 94% | 88% |
| Comprehensive Physical Exam | 93% | 96% | 96% | 97% | 93% |
| Laboratory Tests/At-Risk Screenings | 78% | 85% | 82% | 87% | 66%* |
| Immunizations | 84% | 85% | 90% | 93% | 71%* |
| Health Education/Anticipatory Guidance | 92% | 95% | 94% | 94% | 92% |
| **HealthChoice Aggregate Total** | **89%** | **91%** | **92%** | **94%** | **83%** |

* CY 2019 results are baseline as a result of the change in the MRR process due to the COVID-19 public health emergency. Scores are below the 80% minimum compliance requirement.

## *Section IV Conclusion*

Although many of the HealthChoice performance measures in this report demonstrate quality of health care already delivered, two HealthChoice programs focus more directly on improving specific quality of care measures.

First, the VBP program incentivizes MCOs to maintain and improve performance by adjusting a portion of their payments according to their scores on measures of clinical outcomes and care delivery defined in advance. Performance by all of the MCOs sets standards by which each MCO is evaluated, and those MCOs that exceed a performance threshold receive incentive payments. MCOs whose performance is less than the standard receive disincentive payments. Although MCOs may vary with respect to which measures earn incentive payments and which create disincentive penalties, the VBP program—and upcoming Population Health Incentive Program—overall support quality improvement across the HealthChoice population.

Second, the EPSDT annual review assesses plan performance on services to children under age 21. Because EPSDT services are a national requirement for Medicaid, and the EPSDT review measures whether all HealthChoice plans achieve minimum levels of performance in delivering EPSDT, results from the most recent review show the plans meeting or exceeding standards across the board in CY 2015 through CY 2018. In CY 2019, MCOs did not attain the minimum

[24] Please read CY 2019 data with caution as two of the components—Laboratory Tests/At-Risk Screenings and Immunizations—are baseline results because of the change in the MRR process due to the COVID-19 public health emergency.

compliance requirement for two measures. However, these results should be interpreted with caution as changes to measures were implemented due to the COVID-19 public health emergency.

## Section V. Provide Patient-Focused Comprehensive and Coordinated Care through Provision of a Medical Home

The HealthChoice demonstration's medical home provision offers patient-focused, comprehensive, and coordinated care for its participants by matching each member to a single "medical home" through a PCP. A medical home encourages HealthChoice participants to use appropriate care settings and decrease potentially inappropriate or avoidable utilization of health services. To this end, HealthChoice participants are asked to select an MCO and PCP to oversee their medical care. HealthChoice participants who do not select an MCO or PCP are assigned to one.

This section of the report assesses how adequately HealthChoice provides participants with a medical home and educates them as to their use. The measures analyze appropriate service utilization and participants' ability to connect with their medical homes. Understanding the resources available to them, participants should seek care in an ambulatory care setting before resorting to seeking care in the ED or allowing a condition to progress to the extent that it warrants an inpatient admission.

### *Medical Home Utilization*

In December 2015, the Department began collecting information from MCOs on HealthChoice participants' PCP assignment, as well as information on the PCPs within a group practice. This information helps the Department track whether participants visited their assigned PCPs or whether they are using other providers to oversee their medical care and provide a medical home.

Table 22 presents the number of participants who had at least one visit with their assigned PCP, their assigned PCP's group practice or partner PCP, or any PCP in the MCO's network from CY 2016 to CY 2019. This section presents these measures by MCO for HealthChoice participants with 12 months of enrollment in an MCO. Participants enrolled for 12 continuous months provide an MCO with enough time to intervene in their health care.

During the evaluation period, all MCOs except Kaiser, MedStar, and Priority Partners experienced declines in the proportions of their HealthChoice participants with at least one visit to their assigned PCP. All MCOs experienced increases in the proportion of their participants with at least one visit to any PCP within the MCO network. In CY 2019, excluding Aetna and Jai, the proportion of continuously enrolled participants who had at least one visit with their assigned PCP ranged from 24.9% (Priority Partners) to 63.8% (Kaiser). When the medical home was defined to include all PCPs within the MCO network, all the MCOs except for Aetna saw that over 70% of their participants had a visit to any PCP within their provider network.

**Table 22. Percentage of HealthChoice Participants (12 Months of Enrollment) with a PCP Visit, by MCO,* CY 2016–CY 2019**

| MCO | # of Participants* (12 Months of Enrollment) | % of Participants with a Visit with Assigned PCP | % of Participants with a Visit with Assigned PCP, Group Practice, or Partner PCPs | % of Participants with a Visit with any PCP in MCO's Network |
|---|---|---|---|---|
| **CY 2016** | | | | |
| **Amerigroup** | 172,839 | 48.3% | 65.7% | 75.5% |
| **Jai Medical Systems** | 15,056 | 38.9% | 68.2% | 77.5% |
| **Kaiser** | 18,449 | 63.0% | 67.2% | 67.7% |
| **Maryland Physicians Care** | 129,463 | 38.1% | 60.4% | 71.6% |
| **MedStar** | 44,200 | 25.1% | 32.4% | 69.3% |
| **Priority Partners**** | 172,615 | 8.4% | 8.5% | 68.8% |
| **UnitedHealthcare** | 119,968 | 46.3% | 62.0% | 74.9% |
| **University of MD Health Partners** | 18,875 | 33.0% | 50.3% | 62.7% |
| **Total** | **691,465** | **34.4%** | **47.3%** | **72.1%** |
| **CY 2017** | | | | |
| **Amerigroup** | 212,537 | 47.2% | 66.4% | 74.6% |
| **Jai Medical Systems** | 19,502 | 31.6% | 64.4% | 73.8% |
| **Kaiser** | 38,888 | 57.6% | 63.0% | 63.5% |
| **Maryland Physicians Care** | 163,805 | 36.1% | 58.7% | 69.0% |
| **MedStar** | 60,897 | 32.9% | 49.0% | 67.7% |
| **Priority Partners** | 220,219 | 22.8% | 25.0% | 67.5% |
| **UnitedHealthcare** | 120,463 | 44.9% | 60.6% | 73.5% |
| **University of MD Health Partners** | 26,709 | 30.4% | 47.0% | 60.5% |
| **Total** | **863,078** | **37.1%** | **51.5%** | **70.1%** |
| **CY 2018** | | | | |
| **Aetna***** | 1,504 | 0.7% | 1.3% | 4.7% |
| **Amerigroup** | 214,350 | 46.3% | 66.2% | 83.4% |
| **Jai Medical Systems****** | 20,148 | **** | 56.5% | 79.5% |
| **Kaiser** | 44,640 | 62.3% | 67.5% | 72.0% |
| **Maryland Physicians Care** | 164,748 | 35.8% | 56.9% | 76.8% |
| **MedStar** | 65,480 | 35.5% | 54.7% | 74.4% |
| **Priority Partners** | 227,405 | 23.2% | 25.4% | 79.5% |
| **UnitedHealthcare** | 114,013 | 41.8% | 55.5% | 76.5% |
| **University of MD Health Partners** | 30,257 | 31.2% | 47.3% | 71.4% |
| **Total** | **882,545** | **30.9%** | **47.9%** | **68.7%** |
| **CY 2019** | | | | |
| **Aetna***** | 10,391 | 0.5% | 1.0% | 2.7% |
| **Amerigroup** | 217,501 | 45.1% | 70.1% | 82.8% |
| **Jai Medical Systems****** | 21,530 | **** | 60.7% | 78.6% |
| **Kaiser** | 46,402 | 63.8% | 73.0% | 76.0% |
| **Maryland Physicians Care** | 167,221 | 35.2% | 59.7% | 77.3% |

| MCO | # of Participants* (12 Months of Enrollment) | % of Participants with a Visit with Assigned PCP | % of Participants with a Visit with Assigned PCP, Group Practice, or Partner PCPs | % of Participants with a Visit with any PCP in MCO's Network |
|---|---|---|---|---|
| **MedStar** | 68,440 | 30.2% | 54.6% | 75.6% |
| **Priority Partners** | 234,761 | 24.9% | 28.0% | 80.7% |
| **UnitedHealthcare** | 112,879 | 39.8% | 55.9% | 79.7% |
| **University of MD Health Partners** | 32,527 | 28.4% | 47.9% | 70.7% |
| **Total** | **911,652** | **35.1%** | **52.8%** | **78.5%** |

*The number of participants in a HealthChoice MCO only includes participants who were listed in the data files provided by the MCO and in the MCO enrollment files according to MMIS2 data.
**Please read Priority Partners' results with caution as our analysis relied heavily on National Provider Identifiers (NPIs), and Priority's files had missing NPIs.
***Aetna had no participants who were enrolled in CY 2017 for 12 months. Aetna started reporting Maryland Medicaid data in CY 2018.
****The percentage of participants with a visit to their assigned PCP is not reported for Jai because the use of the billing NPI limits ability to capture a participant's assigned PCP.

Table 23 shows the proportion of participants who received at least one ambulatory care visit by MCO in CY 2015 and CY 2019. The total number of participants enrolled in HealthChoice grew by 5.6% between CY 2015 and CY 2019, while the proportion receiving an ambulatory care visit grew by 9.6%. There was considerable variation in this measure among MCOs. Four out of eight MCOs operating in CY 2015 and four out of nine MCOs in CY 2019 had at least 75% of participants completing an ambulatory care visit in both years.

**Table 23. Percentage of HealthChoice Participants Aged 0–64 Years Who Had an Ambulatory Care Visit, by MCO, CY 2015 and CY 2019**

| MCO* | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | # with Ambulatory Care Visit | % with Ambulatory Care Visit | Total Participants | # with Ambulatory Care Visit | % with Ambulatory Care Visit |
| **Aetna** | N/A** | | | 36,226 | 21,799 | 60.2% |
| **Amerigroup** | 321,851 | 255,452 | 79.4% | 313,254 | 258,502 | 82.5% |
| **Jai Medical Systems** | 29,692 | 20,373 | 68.6% | 30,412 | 22,691 | 74.6% |
| **Kaiser** | 37,587 | 25,216 | 67.1% | 83,727 | 62,520 | 74.7% |
| **Maryland Physicians Care** | 243,050 | 184,796 | 76.0% | 242,928 | 192,084 | 79.1% |
| **MedStar** | 91,474 | 63,350 | 69.3% | 105,911 | 79,292 | 74.9% |
| **Priority Partners** | 302,930 | 242,898 | 80.2% | 341,545 | 281,112 | 82.3% |
| **UnitedHealthcare** | 236,759 | 178,375 | 75.3% | 167,542 | 131,320 | 78.4% |
| **University of Maryland Health Partners** | 40,554 | 22,357 | 55.1% | 55,948 | 38,707 | 69.2% |
| **ALL MCOs** | **1,303,897** | **992,817** | **76.1%** | **1,377,493** | **1,088,027** | **79.0%** |

*It is important to consider that the data contained here have not been risk-adjusted, meaning that they do not account for variances in risk profiles across MCOs.
**N/A = not applicable (i.e., the MCO did not participate in HealthChoice during the given year).

Table 24 displays the ED utilization of HealthChoice participants aged 0 to 64 years by MCO during CY 2015 and CY 2019. There were eight MCOs actively participating in HealthChoice in CY 2015 and nine in CY 2019. Between CY 2015 and CY 2019, all but two MCOs experienced a decrease in the percentage of participants with an ED visit; Medstar and the University of Maryland Health Partners experienced an increase in ED use by 0.4 and 4.3 percentage points, respectively. In CY 2015, at least 30% of participants in three of the eight MCOs (Jai, Maryland Physicians Care, and Priority Partners) used ED services. By CY 2019, those three MCOs continued to have an ED utilization rate greater than 30%.

**Table 24. Percentage of HealthChoice Participants Aged 0–64 Years Who Had an Outpatient ED Visit, by MCO, CY 2015 and CY 2019***

| MCO* | CY 2015 | | | CY 2019 | | |
|---|---|---|---|---|---|---|
| | Total Participants | # with ED Visit | % with ED Visit | Total Participants | # with ED Visit | % with ED Visit |
| **Aetna** | N/A** | | | 36,226 | 8,505 | 23.5% |
| **Amerigroup** | 321,851 | 95,858 | 29.8% | 313,254 | 80,324 | 25.6% |
| **Jai Medical Systems** | 29,692 | 11,491 | 38.7% | 30,412 | 10,910 | 35.9% |
| **Kaiser** | 37,587 | 6,266 | 16.7% | 83,727 | 11,616 | 13.9% |
| **Maryland Physicians Care** | 243,050 | 82,264 | 33.8% | 242,928 | 75,361 | 31.0% |
| **MedStar** | 91,474 | 26,186 | 28.6% | 105,911 | 30,714 | 29.0% |
| **Priority Partners** | 302,930 | 95,798 | 31.6% | 341,545 | 103,013 | 30.2% |
| **UnitedHealthcare** | 236,759 | 69,340 | 29.3% | 167,542 | 45,860 | 27.4% |
| **University of Maryland Health Partners** | 40,554 | 9,687 | 23.9% | 55,948 | 15,762 | 28.2% |
| **ALL MCOs** | **1,303,897** | **396,890** | **30.4%** | **1,377,493** | **382,065** | **27.7%** |

*It is important to consider that the data contained here have not been risk-adjusted, meaning that they do not account for variances in risk profiles across MCOs.
**N/A = not applicable (i.e., the MCO did not participate in HealthChoice during the given year).

## *Appropriateness of ED Care*

A fundamental goal of managed care programs such as HealthChoice is the delivery of the appropriate care at the appropriate time in the appropriate setting. One widely used methodology to evaluate progress toward appropriate ED utilization is based on classifications developed by researchers at the New York University (NYU) Center for Health and Public Service Research (Billings et al., 2000). The original algorithm was created with ICD-9 codes as of 2001 and was not revised to incorporate new ICD-9 and ICD-10 codes that were added each year. Because this resulted in an increase in the percentage of unclassified ED visits over time, researchers revised the algorithm to account for updated ICD-9 and ICD-10 codes released in 2001 through 2014 (Johnston et al., 2017). Hilltop has not yet applied this update for classifying ED visits. According to Billings et al. (2000), the ED profiling algorithm categorizes emergency visits as follows:

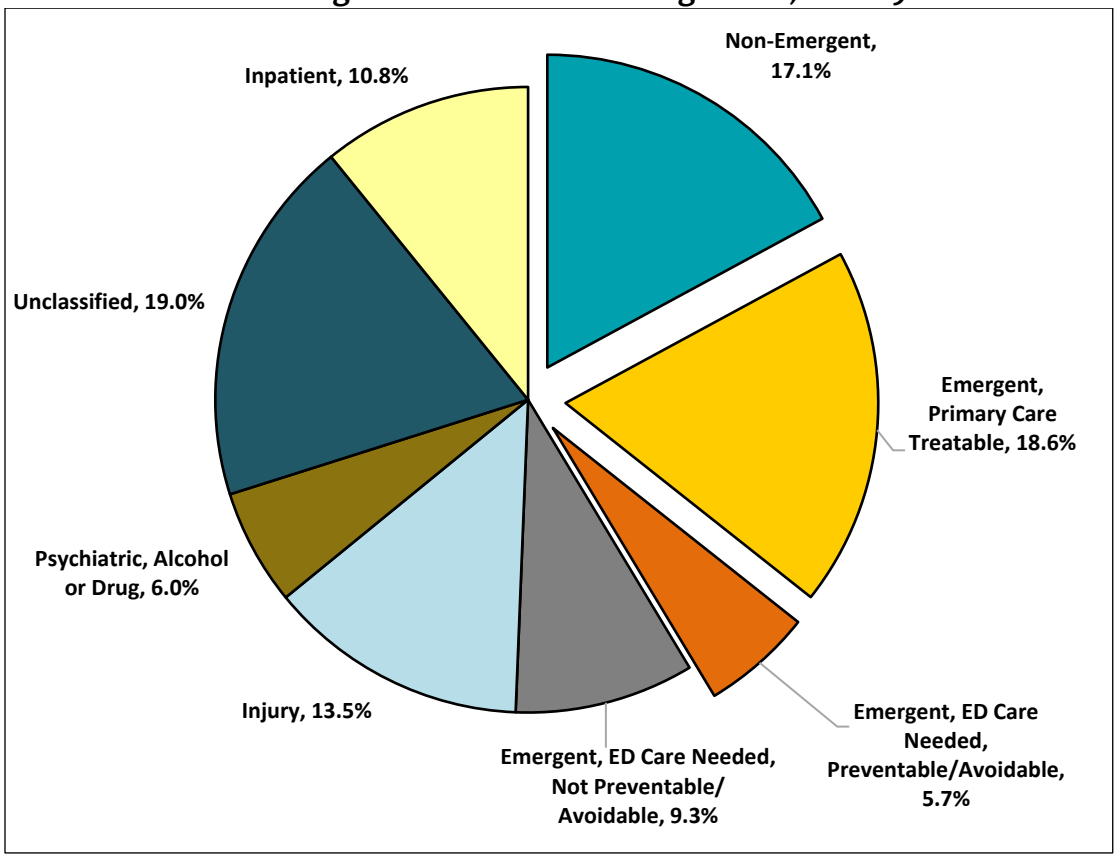
1. *Non-emergent*: Immediate care was not required within 12 hours based on the patient's presenting symptoms, medical history, and vital signs.
2. *Emergent but primary care treatable*: Treatment was required within 12 hours but it could have been provided effectively in a primary care setting (e.g., 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 accessible and 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 by the expert panel.

ED visits that fall into the first three categories above may indicate problems with access to primary care, including access during non-traditional work hours. Figure 17 presents the distribution of all CY 2019 ED visits by NYU classification for individuals with any period of HealthChoice enrollment. In CY 2019, 41.4% of all ED visits were for potentially avoidable (preventable) conditions, meaning that the ED visit may have been avoided if the condition had been addressed with high-quality and timely 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 combined accounted for 22.7% of all ED visits in CY 2019.

Adults aged 40 through 64 years had more ED visits related to category 4 (emergent, ED care needed, not preventable/avoidable) than all other age groups; children aged 3 through 18 years had more category 5 (injury) ED visits than other age groups.[25] The inpatient category in Figure 17, which is not a part of the NYU classification, represents ED visits that resulted in a hospital admission. As would be expected, participants with disabilities had a much higher rate of ED visits that led to an inpatient admission than participants in the F&C (families, children, and pregnant women) and MCHP coverage groups.

[25] Data not shown.

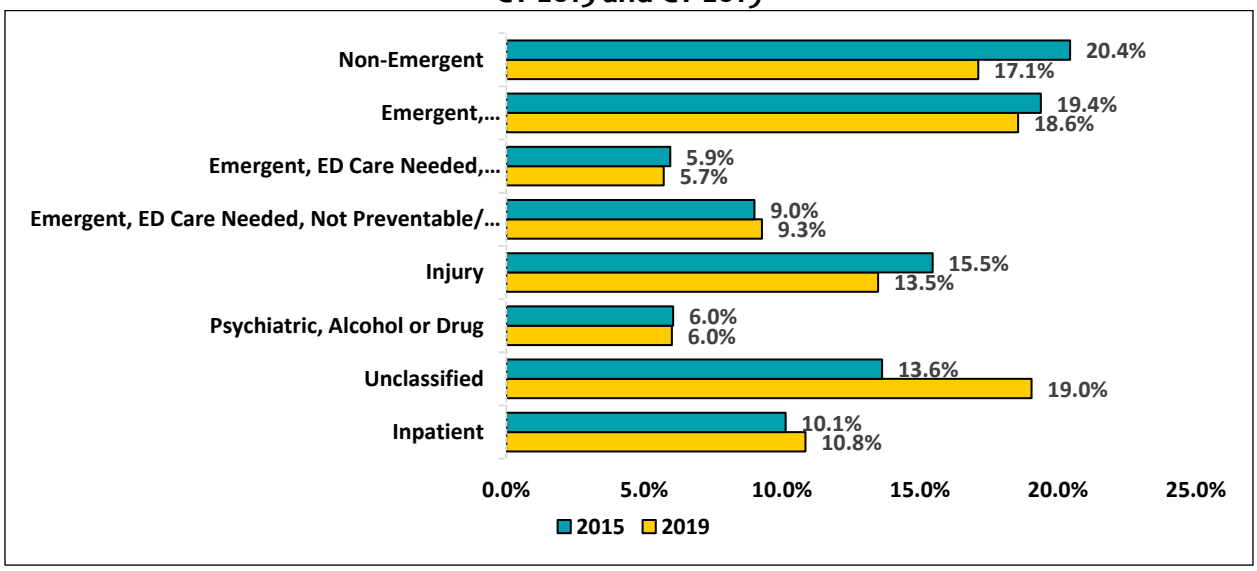
**Figure 17. ED Visits by HealthChoice Participants Classified According to NYU Avoidable ED Algorithm, CY 2019**




Note: ED visits that result in inpatient stays are not a part of the NYU algorithm and have been added here in their own category. The three categories with ED visits for potentially avoidable/preventable conditions are pulled out in the figure.

Figure 18 compares the ED visit classifications for CY 2015[26] with the classifications for CY 2019. The measure of potentially avoidable ED visits decreased during the evaluation period: from 45.7% of all ED visits in CY 2015 to 41.4% in CY 2019. However, to some degree this decline is balanced by an increase in the unclassified category. The Department continues to monitor ED use with the goal of reducing potentially avoidable ED visits. ED visits for psychiatric-, alcohol-, or drug-related reasons remained stable at 6% in CY 2015 and CY 2019. These visits decreased slightly (by .7 percentage points) from CY 2018.[27]

**Figure 18. Classification of ED Visits, by HealthChoice Participants, CY 2015 and CY 2019**




## *Preventable or Avoidable Admissions*

Ambulatory care sensitive hospitalizations, also referred to as preventable or avoidable hospitalizations, are inpatient admissions that may have been prevented if proper ambulatory care had been provided in a timely and effective manner. According to an Agency for Healthcare Research and Quality (AHRQ) report, one in ten hospital admissions nationwide were avoidable (McDermott & Jiang, 2020). High numbers of avoidable admissions may indicate problems with access to primary and urgent care services or deficiencies in outpatient management, follow-up, and readmission status. The Department monitors potentially avoidable admissions using AHRQ's Prevention Quality Indicators (PQIs) methodology. PQIs are a set of measures obtained from hospital discharge records for specific primary diagnoses to identify quality of care for ambulatory conditions based on the conditions listed in each measure. PQIs are for conditions

[26] In October 2015, the ICD-9 diagnosis codes were replaced with the ICD-10 codes.
[27] Data not shown.

for which ambulatory care can potentially prevent the need for hospitalization. The measures presented are as follows:[28]

- PQI #1: Diabetes Short-Term Complications
- PQI #3: Diabetes Long-Term Complications
- PQI #5: Chronic Obstructive Pulmonary Disease (COPD) or Asthma in Older Adults
- PQI #7: Hypertension
- PQI #8: Congestive Heart Failure
- PQI #11: Bacterial Pneumonia
- PQI #12: Urinary Tract Infection
- PQI #14: Uncontrolled Diabetes
- PQI #15: Asthma in Younger Adults
- PQI #16: Lower-Extremity Amputation in Patients with Diabetes
- PQI #90:[29] Prevention Quality Overall Composite
- PQI #91:[30] Prevention Quality Acute Composite
- PQI #92:[31] Prevention Quality Chronic Composite

The measure denominators include the number of HealthChoice participants who meet the following enrollment criteria:

- Aged 18 to 64 years as of December 31 of the calendar year.
  - For PQI #5: Aged 40 to 64 years as of December 31 of the calendar year.
  - For PQI #15: Aged 18 to 39 years as of December 31 of the calendar year.
- Enrolled in the same HealthChoice MCO as of December 31 of the calendar year as the MCO that paid for the inpatient admission qualifying them for a PQI designation.

Table 25 presents the number of potentially avoidable inpatient admissions per 100,000 HealthChoice participants aged 18 to 64 years during CY 2015 through CY 2019. COPD or asthma in older adults (PQI #5) was responsible for the highest number of potentially avoidable admissions throughout the evaluation period. The number of potentially avoidable admissions

[28] The measure estimation logic has been updated using AHRQ PQI Version 2020. Please note that PQI #2, PQI #10, and PQI #13 have been retired and removed from PQI composites. In addition, the code list for PQI #14 has been modified sufficiently as to change the numerator. A full description of the methodological revisions is available here: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V2020/ChangeLog_PQI_v2020.pdf.
[29] PQI #90 includes PQI #s 1, 3, 5, 7, 8, 10, 11, 12, 14, 15, and 16.
[30] PQI #91 includes PQI #s 11 and 12.
[31] PQI #92 includes PQI #s 1, 3, 5, 7, 8, 14, 15, and 16.

for lower-extremity amputation in patients with diabetes (PQI #16) was the smallest across the evaluation period.

**Table 25. Number of Potentially Avoidable Admissions per 100,000 HealthChoice Participants Aged 18–64 Years (Any Period of Enrollment), CY 2015–CY 2019[32]**

| Any PQI # | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| 1: Diabetes Short-Term Complications Admissions | 166 | 134 | 147 | 200 | 206 |
| 3: Diabetes Long-Term Complications Admissions | 128 | 118 | 139 | 133 | 148 |
| 5: COPD or Asthma in Older Adults Admissions (Ages 40-64) | 716 | 730 | 802 | 721 | 639 |
| 7: Hypertension Admissions | 58 | 61 | 86 | 81 | 76 |
| 8: Congestive Heart Failure Admissions | 235 | 229 | 225 | 236 | 241 |
| 11: Bacterial Pneumonia Admissions | 159 | 177 | 125 | 127 | 121 |
| 12: Urinary Tract Infection Admissions | 95 | 90 | 86 | 69 | 73 |
| 14: Uncontrolled Diabetes Admissions* | 18 | 50 | 47 | 37 | 41 |
| 15: Asthma in Younger Adults Admissions (Ages 18-39) | 94 | 85 | 84 | 73 | 82 |
| 16: Lower-Extremity Amputation in Patients with Diabetes | 15 | 20 | 23 | 29 | 34 |
| **90: Prevention Quality Overall Composite*** | **1,290** | **1,202** | **1,224** | **1,224** | **1,214** |
| **91: Prevention Quality Acute Composite*** | **344** | **267** | **213** | **198** | **194** |
| **92: Prevention Quality Chronic Composite** | **946** | **935** | **1,012** | **1,026** | **1,019** |

*The measure preparation logic for PQI #14 was revised, and changes were applied to all years in the measurement period. PQI #2, PQI #10, and PQI #13 have been retired; changes in the overall and acute composites were applied to all years.

Table 26 presents the number and percentage of adults who had at least one inpatient admission and the proportion of PQI admissions during the evaluation period. Overall, the percentage of adults enrolled in HealthChoice with at least one inpatient admission with a PQI designation decreased slightly from 0.9% in CY 2015 to 0.8% in CY 2019. During the same period, the percentage of participants with at least one inpatient admission initially increased from 7.9% in CY 2015 to 8.3% in CY 2016, then decreased through the remaining years to 7.8% in CY 2019. Among HealthChoice adults with an inpatient admission, the percentage of participants with a PQI-designated admission decreased from 11.7% in CY 2015 to 10.2% in CY 2019.

[32] This measure presents the number of potentially avoidable admissions per 100,000 participants. The methodology for calculating inpatient admission rates only counts MCO inpatient stays.

**Table 26. Potentially Avoidable Admission Rates, Participants Aged 18–64 Years (Any Period of Enrollment), with ≥1 Inpatient Admission, CY 2015–CY 2019***

| Calendar Year | # of Participants in HealthChoice | # of Participants with ≥1 MCO Admissions | % of Participants with ≥1 MCO Admission | # of Participants with Any PQI** | % of Participants with Any PQI** | % of Participants With ≥1 MCO Admission that had a PQI** |
|---|---|---|---|---|---|---|
| **2015** | 687,777 | 54,585 | 7.9% | 6,368 | 0.9% | 11.7% |
| **2016** | 675,447 | 56,351 | 8.3% | 5,769 | 0.9% | 10.2% |
| **2017** | 724,747 | 58,800 | 8.1% | 6,022 | 0.8% | 10.2% |
| **2018** | 748,212 | 58,303 | 7.8% | 6,092 | 0.8% | 10.4% |
| **2019** | 735,007 | 57606 | 7.8% | 5,848 | 0.8% | 10.2% |

*This measure includes only MCO inpatient admissions.

**The measure preparation logic for PQI #14 was revised, and changes were applied to all years in the measurement period.

## *Section V Conclusion*

Over the course of the evaluation period, the percentage of HealthChoice participants who saw their assigned PCPs only increased for Kaiser, MedStar, and Priority Partners.[33] However, the overall percentage of participants who saw any PCP in their MCOs' network increased. When the medical home was defined to include all PCPs within the MCO network, all the MCOs except for Aetna saw that over 70% of their participants had a visit in CY 2018 and CY 2019 to any PCP within their provider network. Avoidable ED use declined between CY 2015 and CY 2019. However, the proportion of inpatient admissions with a PQI increased slightly over the evaluation period. The Department will continue to monitor this trend to ensure that PQI results are consistent with the continuing use of medical homes to provide preventive care.

[33] Aetna started reporting Maryland Medicaid data in CY 2018. Jai did not report CY 2018 and CY 2019 data.

## Section VI. Emphasize Health Promotion and Disease Prevention

Another goal of the HealthChoice program is to improve the quality of health services delivered through the provision of preventive services and chronic care management. This section assesses the demonstration's performance across quality measures—many nationally recognized, such as HEDIS®—in the areas of preventive health and the management of chronic disease, including behavioral health (MHD and SUD). Preventative care and chronic care management services are also assessed based on their relationship with related adverse outcomes. For example, preventive and chronic disease care measures, such as prenatal care, low birth weight, antidepressant medication adherence, and depression-related ED visits, align with Maryland's SIHIS.

Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, in the tables below, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.

### *Preventive Care*

#### HEDIS® Childhood Measures

The Department uses HEDIS® measures to report childhood immunization status and well-child visit rates. Table 27 presents the immunization and well-child measures for the HealthChoice population. HealthChoice performed above the national HEDIS® mean across all measures during the evaluation period. Childhood Immunization Combination 3, well-child visits for three- to six-year-olds, and well-care visits for adolescents are part of the VBP program.

**Table 27. HEDIS® Immunizations and Well-Child Visits: HealthChoice Compared with the National HEDIS® Mean, CY 2015–CY 2019***

| HEDIS® Measure | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Childhood Immunization Status: Combination 2** | | | | | |
| HealthChoice | 83.8% | 82.2% | 78.0% | 79.7% | 77.9% |
| National HEDIS® Mean | + | + | + | + | + |
| **Childhood Immunization Status: Combination 3** | | | | | |
| HealthChoice | 82.1% | 80.1% | 75.9% | 77.4% | 75.4% |
| National HEDIS® Mean | + | + | + | + | + |
| **Well-Child Visits: 15 Months of Life** | | | | | |
| HealthChoice | 81.8% | 82.2% | 84.7% | 83.6% | 84.9% |
| National HEDIS® Mean | + | + | + | + | + |
| **Well-Child Visits: 3- to 6-year-olds** | | | | | |
| HealthChoice | 82.7% | 81.3% | 81.1% | 80.1% | 81.8% |
| National HEDIS® Mean | + | + | + | + | + |
| **Well-Care Visits: Adolescents** | | | | | |
| HealthChoice | 65.6% | 64.6% | 64.2% | 61.6% | 64.4% |
| National HEDIS® Mean | + | + | + | + | + |

*Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.

## Childhood Lead Testing

The Department is a member of Maryland's Lead Poisoning Prevention Commission, which advises Maryland executive agencies, the General Assembly, and the Governor on lead poisoning prevention in the state. Maryland's plan to reduce childhood lead poisoning includes ensuring that young children receive appropriate lead risk screening and blood lead testing. The Department's 2017 Joint Chairmen's Report describes its efforts through several initiatives (Maryland Department of Health, 2017).

As part of the EPSDT benefit, Medicaid requires that all children receive a blood lead test at 12 and 24 months of age. The Department measures the blood lead testing rates for children aged 12 to 23 months and 24 to 35 months who are enrolled continuously in the same MCO for at least 90 days. A child's lead test must have occurred during the calendar year or the year prior.

The Department provides each MCO with monthly reports on children who received blood lead tests and those found to have elevated blood lead levels to ensure that these children receive appropriate follow-up, which can include case management services and home environmental lead testing. In addition to complying with the EPSDT mandate for blood lead testing, the Department also includes blood lead testing measures in several of its quality assurance activities, including the VBP and MFR programs (Maryland Department of Health, n.d.a).[34]

In 2012, the Centers for Disease Control and Prevention (CDC) issued the recommendation to 1) remove the "level of concern" language from 10 micrograms per deciliter and replace it with the "reference level" of five micrograms per deciliter, and 2) require statewide testing of all children. Maryland adopted these recommendations for all children born on or after January 1, 2015. Table 28 presents the percentage of children aged 12 to 23 months and 24 to 35 months who received at least one lead test during the calendar year or the prior year. The rates of lead testing for both age groups increased over the five-year evaluation period.

**Table 28. Percentage of HealthChoice Children Aged 12–23 and 24–35 Months Who Received a Lead Test During the Calendar Year or the Prior Year, CY 2015–CY 2019**

| Age Group (Months) | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| 12–23 | 60.7% | 60.7% | 62.7% | 62.2% | 62.4% |
| 24–35 | 77.6% | 78.3% | 80.4% | 80.8% | 81.5% |

## HPV Vaccine for Adolescents

The Department has increased efforts to vaccinate adolescents against human papillomavirus (HPV). According to the CDC (2015a), about 14 million people, including teens, are infected with HPV each year, posing a significant public health risk. The CDC (2016) now recommends that 11- to 12-year-olds receive two doses of the HPV vaccine—rather than the previously recommended

[34] The lead testing measures count lead tests reported through Medicaid administrative data and the Childhood Lead Registry, which is maintained by the Maryland Department of the Environment.

three doses—to protect against cancers caused by HPV. HPV is a common virus that spreads by sexual contact and can cause cervical cancer in women and penile cancer in men. HPV can also cause anal cancer, throat cancer, and genital warts in both men and women (CDC, 2015b).

Administering widespread vaccinations for HPV will potentially reduce the number of cervical cancer cases drastically. In 2014, for the first time, the HEDIS® HPV vaccination measure assessed the percentage of 13-year-old females who received three doses of the HPV vaccine by their 13th birthday.[35] Beginning in CY 2016, HPV was added as a component of the measure of immunization for adolescents rather than as a standalone measure and included both females and males. In alignment with the recommendations from the CDC, the measure was updated in CY 2017 to reduce the requirement from three doses of the HPV vaccine to two doses.

In CY 2015, 22.7% of adolescents (females and males[36]) in the Medicaid program received two HPV vaccine doses between their 9th and 13th birthdays (Table 29). In CY 2019, that rate increased to 34.8%; an increase of 12.1 percentage points. The federal Advisory Committee on Immunization Practices (ACIP) recommends vaccination for adolescents, but it is not a requirement. All ACIP-recommended vaccines are provided at no cost to the state by the federal government.

**Table 29. HPV Vaccination Rates, 13-Year-Old Medicaid Participants, CY 2015–CY 2019**

| Calendar Year | Medicaid Enrollees Who Turned 13 Years Old | Two HPV Vaccine Doses between Their 9th and 13th Birthdays | |
|---|---|---|---|
| | Number | Number | Percentage |
| **2015** | 28,329 | 6,443 | 22.7% |
| **2016** | 27,579 | 7,763 | 28.1% |
| **2017** | 29,683 | 9,288 | 31.3% |
| **2018** | 31,194 | 10,504 | 33.7% |
| **2019** | 34,030 | 11,850 | 34.8% |

## Breast Cancer Screening

Breast cancer is the most prevalent type of cancer among women (U.S. Cancer Statistics Working Group, 2019). In Maryland, the breast cancer incidence rate was 131.1 cases per 100,000 women, compared to the 125.1 cases per 100,000 women nationally (U.S. Cancer Statistics Working Group, 2019). When detected early, breast cancer is easier to treat, and women have a

[35] The HPV vaccine is recommended for both males and females, although the HEDIS measure focused exclusively on females until CY 2016. Other state initiatives, including Healthy People 2020, track vaccination for both males and females at an older age, from 13 to 15 years of age.

[36] The HEDIS measure used as a basis for this measure was updated in CY 2016 to include both females and male participants and was updated in CY 2017 to allow for two rather than three vaccinations. The measure was revised, and changes were applied to all years in the measurement period. The minimum amount of time between the two doses of the vaccine has been corrected to at least 146 days apart.

greater chance of survival (CDC, 2014). Mammograms are the most effective technique for early detection of breast cancer.

Table 30 demonstrates a .6 percentage point increase in the percentage of female HealthChoice participants who received a mammogram for breast cancer screening from CY 2015 to CY 2019 (MetaStar, Inc., 2020). Maryland performed above the national HEDIS® mean for the entire evaluation period.

**Table 30. Percentage of Women in HealthChoice Aged 50–64 Years Who Had a Mammogram for Breast Cancer Screening, Compared with the National HEDIS® Mean, CY 2015–CY 2019***

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Maryland Percentage | 70.0% | 69.8% | 69.7% | 69.3% | 70.6% |
| National HEDIS® Mean** | + | + | + | + | + |

Note: Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.
*The HealthChoice averages in CYs 2015 and 2017 were influenced by the inclusion of HEDIS® rates from newer MCOs.
**The national HEDIS® mean is based on an assessment of women aged 50 to 74 years.

## Cervical Cancer Screening

Cervical cancer is preventable and treatable. The CDC (n.d.b) recommends cervical cancer screenings for women starting at age 21. According to the National Cancer Institute (NCI) (n.d.), women aged 21 to 29 years should be screened with a Papanicolaou (Pap) test every three years. Women aged 30 to 65 years can then be screened every five years with Pap and HPV co-testing, or every three years with a Pap test alone. Women with certain risk factors may need to have more frequent screening or continue screening beyond age 65 years.

Table 31 presents the percentage of women aged 21 to 64 years in HealthChoice who received a cervical cancer screening in CY 2015 through CY 2019. Despite a decrease of 1.3 percentage points, HealthChoice performed above the national HEDIS® mean throughout the evaluation period.

**Table 31. Percentage of Women in HealthChoice Aged 21–64 Years Who Had a Cervical Cancer Screening, Compared with the National HEDIS® Mean, CY 2015–CY 2019***

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Maryland Percentage | 65.1% | 64.9% | 62.4% | 62.2% | 63.8% |
| National HEDIS® Mean** | + | + | + | + | + |

*HealthChoice averages in CYs 2015 and 2017 were influenced by the inclusion of HEDIS® rates from newer MCOs.
**Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.

## Colorectal Cancer Screening

According to the U.S. Cancer Statistics Working Group (2019), colorectal cancer is one of the most common cancers in both men and women. In the U.S. and in Maryland, colorectal cancer is the fourth most diagnosed cancer, as well as the fourth-leading cause of cancer mortality as of 2017. Maryland's rank in overall cancer mortality has been steadily improving compared to other states and the District of Columbia (Maryland Department of Health, n.d.b). Between 2008 and 2012, colorectal cancer was the third-leading cause of cancer mortality in Maryland; between 2013 and 2017, it dropped to the fourth-leading cause of mortality (U.S. Cancer Statistics Working Group, 2019). Screening tests find precancerous polyps that can be removed before they become cancerous (CDC, 2018a). The expansion of Medicaid coverage to childless adults and additional parents and caretakers under the ACA removed a major access barrier for age-eligible adults with low income to be screened for colorectal cancer.

Table 32 shows the percentage of HealthChoice participants who received at least one of three appropriate colorectal cancer screenings—fecal occult blood test (FOBT), flexible sigmoidoscopy, or colonoscopy—during the study period.[37] The colorectal cancer screening rate increased by 6.5 percentage points between CY 2015 and CY 2019.

**Table 32. Percentage of HealthChoice Participants Aged 50–64 Years Who Had a Colorectal Cancer Screening, CY 2015–CY 2019**

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Percentage of HealthChoice Participants | 35.0% | 37.2% | 39.0% | 40.7% | 41.5% |

## Dental Services

The Maryland Medicaid program covers dental benefits through the Maryland Healthy Smiles Dental program. Dental services are covered for children aged 20 and younger under EPSDT, pregnant women, adults in the REM program, and former foster care youth (see Section VII) until they turn 26. Non-pregnant adults may receive dental benefits provided as an additional benefit of their MCO. As of August 2020, all MCOs voluntarily covered limited adult dental services for their members as a part of their benefit package using their own revenues. In addition, on June 1, 2019, the Department implemented an adult dental pilot for adults aged 21 through 64 years

[37] HEDIS defines an appropriate screening as follows: an FOBT during the measurement year, a flexible sigmoidoscopy during the measurement year or the prior four years, a colonoscopy during the measurement year or the prior nine years, a CT colonography during the measurement year or the prior four years, and a FIT-DNA test during the measurement year or the prior two years. Only participants who met the HEDIS eligibility requirements were included in the population for this measure. These participants were enrolled continuously in Medicaid during the calendar year and the preceding calendar year. Participants must have been enrolled as of the last day of the measurement year and could not have more than one gap of enrollment exceeding 45 days during each year of continuous enrollment. The group of newly enrolled ACA participants did not have the full length of time to complete screenings compared to participants who had been eligible for HealthChoice for a longer period. Additionally, the measure was modified in CYs 2016 and 2017 to include additional procedures that were not included in previous years.

who are enrolled in both Medicare and Medicaid (see Section VII). This is a limited benefit when compared to the full benefits of the Healthy Smiles program.

Maryland continues to improve its dental program by confronting barriers to providing comprehensive oral health services to Medicaid participants. The Department prepared data for its 2020 Annual Oral Health Legislative Report, which includes Medicaid dental care and access measures from CY 2015 through CY 2019. The Medicaid program delivered oral health services to 523,841 children and adults (aged 0 to 64) during CY 2019—up from 504,533 in CY 2018. In CY 2019, 69.4% of children received dental services, which is greater than the national HEDIS® mean. In CY 2019, 28.5% of pregnant women aged 14 years and older with any period of enrollment had at least one dental service; this is a slight increase from CY 2018, when 28.0% of pregnant women received dental services.

## Maternal Health and Reproductive Health

The Department and the HealthChoice MCOs engage pregnant women in care through individualized outreach, community events, and prenatal case management, which aligns with the population health goals under Maryland's SIHIS. HealthChoice participants identified as pregnant are qualified as a Special Needs Population under Code of Maryland Regulations (COMAR) 10.67.04.08. This requires that they receive timely access to care as well as informational materials, dental benefits, and other resources. The Department also operates a dedicated help line for pregnant women. Women who contact the help line are referred to Medicaid-funded Administrative Care Coordination Units (ACCUs) at the local health departments. The ACCUs connect HealthChoice participants to both their MCOs and other services, such as dental services and local home-visiting programs.

### *Timeliness of Prenatal Care*

Early prenatal care is linked to better overall health outcomes for both the mother and child. Table 33 shows the percentage of deliveries for which the mother received a prenatal care visit in the first trimester or within 42 days of HealthChoice enrollment for CY 2015 through CY 2019 (MetaStar, Inc., 2020). HealthChoice outperformed the national HEDIS® mean each year.

**Table 33. HEDIS® Timeliness of Prenatal Care, HealthChoice Compared with the National HEDIS® Mean, CY 2015–CY 2019***

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| Percentage of deliveries in which the mother received a prenatal care visit in the 1st trimester or within 42 days of HealthChoice enrollment | 84.4% | 87.6% | 84.9% | 86.1% | 88.2% |
| National HEDIS® Mean | + | + | + | + | + |

*The HealthChoice averages in CYs 2015 and 2017 were influenced by the inclusion of HEDIS® rates from newer MCOs.
**Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.

### *Frequency of Ongoing Prenatal Care*

The Department measures the frequency of ongoing prenatal care to assess MCO performance in providing appropriate prenatal care.[38] For the first part of the measure—women who received more than 80% of expected prenatal visits—higher scores are preferable. For the second part of the measure—women who received less than 21% of expected prenatal visits—lower scores are preferable. Maryland consistently outperformed the national HEDIS® means for both aspects of this measure. See Table 34. This measure was retired by HEDIS® in CY 2017.

**Table 34. Percentage of HealthChoice Deliveries Receiving the Expected Number of Prenatal Visits (≥ 81 Percent or < 21 Percent of Recommended Visits), Compared with the National HEDIS® Mean, CY 2015–CY 2016***

| | CY 2015 | | CY 2016 | |
|---|---|---|---|---|
| | MD | National | MD | National |
| **Greater than or equal to 81% of Expected Prenatal Visits** | 67.9% | + | 71.0% | + |
| **Less than 21% of Expected Prenatal Visits**** | 6.1% | + | 5.0% | + |

*The HealthChoice averages in CY 2015 were influenced by the inclusion of HEDIS® rates from newer MCOs. Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.
**This measure is an inverse measure: a lower calculated performance rate for measures, which indicates better clinical care or control. A "+" means that the rate is below the national HEDIS® mean.

### *Prenatal Care and Birth Weight Outcomes*

Table 35 compares HealthChoice birth mothers who did and did not receive prenatal care in their first trimester according to HEDIS® standard measures,[39] as well as the subsequent birth weight outcomes.

Pooling CY 2017 through CY 2019 data on birth outcomes and controlling for possible confounding variables by a multinomial regression shows that HealthChoice participants who received 1st trimester prenatal care experienced 28% lower odds (OR=0.720, $p<0.001$) of delivering a low birth weight (LBW) baby (between 1500 and 2500 grams) and nearly 70% lower odds (OR=0.306, $p<0.001$) of delivering a very low birth weight (VLBW) baby (less than 1500 grams).

[38] The American College of Obstetricians and Gynecologists recommends a visit once every four weeks during the first 28 weeks of pregnancy, once every two to three weeks during the next seven weeks, and weekly for the remainder of the pregnancy, for a total of 13 to 15 visits.

[39] This measure was calculated using the HEDIS® proprietary software from Cognizant.

Among the influences of LBW and VLBW outcomes estimated for confounders that reached levels of statistical significance, Black women were 40% more likely (OR=1.404) to have a LBW baby and 85% more likely to have a VLBW baby (OR=1.854) than White women, controlling for other comorbidities, region, and age, at a significance level of p<0.001. Asian women (OR=1.56) and women of other ethnicities (OR=1.312) also had increased odds of VLBW at less significant likelihood of prediction (p<0.05).

Birth mothers' age itself is a highly significant (p<0.001) predictor of LBW and VLBW. Each additional year of maternal age increases the odds of LBW by 1% (OR=1.013) and of VLBW by nearly 3% (OR=1.026). As a control for other maternal health factors affecting birth weight outcomes, the model incorporates the comorbidity measures used by ACG[40] risk adjustment in the HealthChoice capitation payment system. Jointly, the comorbidity groups contribute significantly to the precision of the model (Wald $\chi^2 = 68.5$, p<0.001). However, the effects of comorbidity levels vary. Very high comorbidity is associated with large and significant increases in risk for LBW compared to low morbidity (OR=3.697, p<0.001) but does not have a significant effect on VLBW. Moderate comorbidity had slightly improved odds of LBW (OR=0.782) but was less significant (p<0.01).

Controlling for annual random effects creating potential biases for standard error estimates through pooling multiple years of data, dummy variables for CY 2018 and CY 2019 were tested against the CY 2017 group. LBW cases in CY 2019 were the only effect observed to be different across the three years of data.

**Table 35. Associations between 1st Trimester Prenatal Care and Birth Weight Outcomes, CY 2017–CY 2019**

| Variable | Birth Outcomes | | | |
|---|---|---|---|---|
| | Birth Weight Outcome‡ | Odds Ratio | 95% Confidence Interval | |
| **1st Trimester Prenatal Care** | | | | |
| | VLBW | 0.306*** | 0.26 | 0.36 |
| | LBW | 0.720*** | 0.65 | 0.80 |
| **Age** | | | | |
| | VLBW | 1.026*** | 1.01 | 1.04 |
| | LBW | 1.013*** | 1.01 | 1.02 |
| **Region†** | | | | |
| *Baltimore Suburban* | VLBW | 0.705 *** | 0.58 | 0.86 |
| | LBW | 0.822*** | 0.74 | 0.91 |
| *Eastern Shore* | VLBW | 0.667** | 0.50 | 0.89 |
| | LBW | 0.763*** | 0.66 | 0.88 |

[40] A person's comorbidity level is estimated based on the Johns Hopkins Adjusted Clinical Groups (ACG) methodology, which uses claims data to classify individuals based on their projected and/or actual utilization of health care services. For our analyses, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017, 2018, 2019).

| Variable | Birth Outcomes | | | |
|---|---|---|---|---|
| | Birth Weight Outcome‡ | Odds Ratio | 95% Confidence Interval | |
| *Southern Maryland* | VLBW | 0.641* | 0.45 | 0.92 |
| | LBW | 0.826* | 0.70 | 0.98 |
| *Washington Suburban* | VLBW | 0.610*** | 0.50 | 0.75 |
| | LBW | 0.703*** | 0.64 | 0.78 |
| *Western Maryland* | VLBW | 0.637** | 0.46 | 0.88 |
| | LBW | 0.835* | 0.72 | 0.97 |
| **Race†** | | | | |
| *Asian* | VLBW | 1.560* | 1.11 | 2.20 |
| | LBW | 0.924 | 0.77 | 1.10 |
| *Black* | VLBW | 1.854*** | 1.52 | 2.26 |
| | LBW | 1.404*** | 1.28 | 1.53 |
| *Hispanic* | VLBW | 0.975 | 0.65 | 1.45 |
| | LBW | 0.894 | 0.75 | 1.06 |
| *Other* | VLBW | 1.312* | 1.02 | 1.69 |
| | LBW | 0.939 | 0.83 | 1.06 |
| **Comorbidity Score†** | | | | |
| *Moderate* | VLBW | 0.891 | 0.64 | 1.24 |
| | LBW | 0.782** | 0.67 | 0.91 |
| *High* | VLBW | 1.367 | 0.98 | 1.91 |
| | LBW | 1.185* | 1.02 | 1.38 |
| *Very High* | VLBW | 2.067 | 0.48 | 8.90 |
| | LBW | 3.697*** | 2.06 | 6.64 |
| **Year†** | | | | |
| *2018* | VLBW | 0.922 | 0.78 | 1.09 |
| | LBW | 0.929 | 0.86 | 1.01 |
| *2019* | VLBW | 1.047 | 0.83 | 1.33 |
| | LBW | 1.223*** | 1.10 | 1.36 |

*** p<.001, **p<.01, *p<.05
† Reference Groups: Baltimore City, White, Low, 2017
‡VLBW<1500g; LBW=1500-<2500g

### *Contraceptive Care*

Contraception is a highly effective clinical preventive service that can help women fulfil their personal health goals, including preventing teen and unintended pregnancies, as well as achieving healthy spacing of births. The U.S. Department of Health and Human Services, Office of Population Affairs (OPA) has developed contraceptive care measures that assess the provision of contraception to women aged 15 to 44 years (OPA, n.d.a).

Table 36 presents the percentage of women at risk of unintended pregnancy that are provided the following methods of contraception (OPA, n.d.b):

1. Most effective contraception: female sterilization, hormonal implants, or intrauterine devices or systems (IUD/IUS)
2. Moderately effective contraception: oral pills, injectables, patch, ring, or diaphragm

The table includes women enrolled in HealthChoice aged 15 to 44 as of the end of the calendar year who had no more than one gap in Medicaid enrollment of up to 45 days during the year. The percentage of women enrolled in HealthChoice with at least one type of contraception classified as most effective increased slightly—from 6.5% in CY 2015 to 6.9% in CY 2019. The percentage of women enrolled in HealthChoice with at least one moderately effective type of contraception remained stable throughout the evaluation period.

**Table 36. Contraceptive Care Rates, Women Enrolled in HealthChoice Aged 15–44 Years, CY 2015–CY 2019***

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Percentage receiving most effective contraception** | 6.5% | 6.2% | 6.8% | 6.8% | 6.9% |
| **Percentage receiving moderately effective contraception** | 22.5% | 21.7% | 22.8% | 23.1% | 22.5% |
| **Number of HealthChoice women at risk of unintended pregnancy** | 219,577 | 247,162 | 269,703 | 264,786 | 271,262 |

*New codes have been added to the contraceptive care measure, changing the data for CY 2015 to CY 2018 from the 2020 HealthChoice Evaluation.

## *Care for Chronic Diseases*

Another goal of the HealthChoice program is to improve the quality of health services delivered through the provision of preventive services and chronic care management. This section assesses the demonstration's performance across quality measures—many nationally recognized, such as HEDIS®—in the areas of preventive health and the management of chronic disease, including behavioral health (MHD and SUD).

### Service Utilization and Medication Management for People with Asthma

Asthma is a common chronic disease that affected close to 25 million Americans in 2018, including 5.5 million children under the age of 18 (CDC, 2019d). In 2018, 439,909 adults in Maryland had asthma (CDC, 2019d).

The Department monitors service utilization for HealthChoice participants with asthma and uses HEDIS® to report their medication management. The diagnosis of asthma was defined based on 2020 HEDIS® clinical criteria for Medication Management for People with Asthma (MMA). If asthma medications are used correctly, asthma-related hospitalizations, ED visits, and missed school and workdays decrease (CDC, n.d.a).

Although asthma is often thought of as a problem for children, the proportion of older individuals with asthma increased as a result of the ACA expansion; specifically, persons aged 40 to 64 years now represent the largest share of HealthChoice participants with asthma. See Table 37 for the number of HealthChoice participants with an asthma diagnosis[41] and their distribution by race/ethnicity, sex, region, and age group.

**Table 37. Demographic Characteristics of HealthChoice Participants with an Asthma Diagnosis, CY 2015–CY 2019**

| Demographic Characteristic | Percentage of Total | | | | |
|---|---|---|---|---|---|
| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
| **Race/Ethnicity** | | | | | |
| **Asian** | 2.1% | 2.1% | 2.2% | 2.4% | 2.5% |
| **Black** | 51.7% | 50.3% | 50.0% | 49.6% | 49.1% |
| **White** | 32.3% | 32.9% | 32.7% | 31.9% | 31.4% |
| **Hispanic** | 7.3% | 7.3% | 6.7% | 6.9% | 6.7% |
| **Native American** | 0.4% | 0.4% | 0.3% | 0.3% | 0.3% |
| **Other** | 6.3% | 7.1% | 8.1% | 8.9% | 10.0% |
| **Sex** | | | | | |
| **Female** | 57.4% | 57.7% | 57.8% | 58.2% | 58.1% |
| **Male** | 42.6% | 42.3% | 42.2% | 41.8% | 41.9% |
| **Region** | | | | | |
| **Baltimore City** | 27.8% | 27.1% | 26.5% | 25.9% | 25.3% |
| **Baltimore Suburban** | 28.3% | 28.5% | 28.8% | 28.9% | 28.8% |
| **Eastern Shore** | 10.0% | 10.8% | 10.8% | 10.4% | 10.3% |
| **Southern Maryland** | 4.4% | 4.7% | 4.7% | 4.6% | 4.7% |
| **Washington Suburban** | 21.0% | 20.6% | 20.7% | 21.6% | 22.1% |
| **Western Maryland** | 8.3% | 8.3% | 8.4% | 8.5% | 8.6% |
| **Out of State** | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% |
| **Age Group (Years)** | | | | | |
| **5–9** | 20.5% | 19.4% | 17.7% | 16.6% | 16.1% |
| **10–14** | 15.3% | 15.3% | 15.4% | 15.8% | 15.8% |
| **15–18** | 7.3% | 6.9% | 6.9% | 6.9% | 7.1% |
| **19–20** | 1.9% | 1.9% | 1.9% | 2.2% | 2.2% |
| **21–39** | 16.8% | 17.4% | 18.4% | 18.9% | 18.9% |
| **40–64** | 38.3% | 39.0% | 39.7% | 39.7% | 39.9% |
| **Total Number of Participants** | **50,827** | **51,230** | **53,037** | **54,344** | **55,106** |

[41] The methodology for identifying participants with asthma was corrected to address an error that resulted in over counting the number of people with the condition. Due to changes in HEDIS® measure specifications, the methodology was also updated to allow telehealth visits to count toward the measure requirements. Hilltop applied these changes to all years in the measurement period.

Table 38 presents the number and percentage of HealthChoice participants with an asthma diagnosis who had an ambulatory care visit. The percentage remained stable overall from CY 2015 to CY 2019.

**Table 38. Number and Percentage of HealthChoice Participants with an Asthma Diagnosis Who Had an Ambulatory Care Visit, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Ambulatory Care Visit | |
|---|---|---|---|
| | | Number | Percentage of Total |
| **2015** | 50,827 | 49,377 | 97.1% |
| **2016** | 51,230 | 50,023 | 97.6% |
| **2017** | 53,037 | 51,761 | 97.6% |
| **2018** | 54,344 | 53,082 | 97.7% |
| **2019** | 55,106 | 53,892 | 97.8% |

Table 39 presents the percentage of HealthChoice participants with asthma who had at least one outpatient ED visit for any diagnosis and at least one ED visit with asthma as the primary diagnosis. Overall, the ED visit rate for participants with asthma decreased from 52.0% to 46.7%. Asthma-related ED visit rates also declined for this population, from 13.9 to 10.4%.

**Table 39. HealthChoice Participants Who Had an Outpatient ED Visit, by Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One ED Visit | | At Least One ED Visit with Asthma Primary Diagnosis | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants | Number of Participants | Percentage of Total Participants |
| **2015** | 50,827 | 26,427 | 52.0% | 7,086 | 13.9% |
| **2016** | 51,230 | 26,448 | 51.6% | 6,902 | 13.5% |
| **2017** | 53,037 | 26,598 | 50.1% | 6,522 | 12.3% |
| **2018** | 54,344 | 25,042 | 46.1% | 5,526 | 10.2% |
| **2019** | 55,106 | 25,726 | 46.7% | 5,736 | 10.4% |

Table 40 presents the number and percentage of HealthChoice participants with asthma who had at least one inpatient admission, as well as participants with asthma who had at least one inpatient admission with asthma as the primary diagnosis. Despite an increase in the denominator, the percentage of participants with asthma who had an inpatient admission decreased from 14.3 to 13.0% during the evaluation period. The percentage of participants with asthma who had an inpatient admission with asthma as the primary diagnosis decreased from 2.7 to 1.6%.

**Table 40. Number and Percentage of HealthChoice Participants with Asthma Who Had an Inpatient Admission, by Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Inpatient Admission | | At Least One Inpatient Admission with Asthma Primary Diagnosis | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total | Number of Participants | Percentage of Total |
| **2015** | 50,827 | 7,260 | 14.3% | 1,383 | 2.7% |
| **2016** | 51,230 | 7,255 | 14.2% | 991 | 1.9% |
| **2017** | 53,037 | 7,559 | 14.3% | 1,036 | 2.0% |
| **2018** | 54,344 | 7,410 | 13.6% | 964 | 1.8% |
| **2019** | 55,106 | 7,167 | 13.0% | 876 | 1.6% |

Table 41 presents the percentage of HealthChoice participants aged 5 through 64 years with persistent asthma who remained on asthma controller medication for at least 50% and at least 75% of their treatment period in CY 2015 through CY 2019 (MetaStar, Inc., 2020). In CY 2019, 61.6% of this population demonstrated at least 50% compliance. Despite the overall increase in medication compliance, the program did not consistently meet the HEDIS® average during the evaluation period. The program outperformed the national HEDIS® mean in CY 2015 but fell below the mean from CY 2016 through CY 2018. In CY 2019, participants who demonstrated at least 50% compliance performed above the HEDIS® mean, but participants who demonstrated at least 75% compliance during their treatment period performed below the HEDIS® mean.

**Table 41. Percentage of HealthChoice Members Aged 5–64 Years with Persistent Asthma Who Remained on a Prescribed Controller Medication for at Least 50% and 75% of Their Treatment Period, CY 2015–CY 2019***

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Remained on Prescribed Controller Medication for at Least 50% of Treatment Period** | | | | | |
| HealthChoice | 56.9% | 55.8% | 58.2% | 59.6% | 61.6% |
| National HEDIS® Mean | + | - | - | - | + |
| **Remained on Prescribed Controller Medication for at Least 75% of Treatment Period** | | | | | |
| HealthChoice | 34.1% | 31.1% | 32.9% | 33.7% | 35.3% |
| National HEDIS® Mean | + | - | - | - | - |

*Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.

### *Medication Management for People with Asthma*

Table 42 presents the results for MMA, specifically a logistic regression using HEDIS® standard measures[42] that examines the relationship between asthma patients' medication adherence and ED utilization. HealthChoice participants aged 5 to 64 years who remained on asthma controller medication for either at least 50% or 75% of their treatment period (i.e., the measurement year) were less likely to experience an ED visit with a primary diagnosis of asthma that calendar year or the following calendar year compared to participants who remained on their medication for less than 50% of the treatment period. The regression controlled for demographic characteristics (race/ethnicity, age, and gender), comorbidity levels, and regression 1b, and included whether participants had an ED visit the previous year. The population only includes participants with persistent asthma, defined as those who had asthma claims or encounters in the measurement year or the year prior. Medication adherence is calculated only for the measurement year.

Participants who remained on their medication for at least 50% of their treatment period had 14.1% lower odds of having an ED visit with a primary diagnosis of asthma than those who remained on their medication for less than 50% (OR 0.859, P<0.001). Similarly, participants who remained on their medication for at least 75% of their treatment period were 22.6% less likely to have an ED visit that calendar year compared to participants who remained on their medication for less than 50% (OR 0.774, p<0.001). Age lowered odds of ED use; with each additional year of age, participants were 2.4% less likely to have an ED visit (OR 0.976 p<0.001). Residents in all regions were less likely to have an ED visit than Baltimore City residents, with the Washington Suburban area having the lowest odds (OR 0.527 p<0.001). Hispanic, Black, and Other/Unknown participants were more likely to have an ED visit compared to White participants; further, Black participants were more than two times as likely (OR 2.358, p<0.001). All comorbidity groups[43] were between two and three times more likely to have an ED visit with a primary diagnosis of asthma than participants with low comorbidity (p<0.001).

When examining odds of having an ED visit with a primary diagnosis of asthma the following calendar year, participants who remained on their medication for at least 50% of their treatment period had 13.6% lower odds than those who remained on their medication for less than 50% of the treatment period (OR 0.864, p<0.01). Participants with an adherence level of at least 75% were 29.8% less likely to have an asthma-related ED visit compared to participants with less than a 50% adherence level (OR 0.702, p<0.01). Older participants were again less likely to have an ED visit the following year, while female participants were more likely (p<0.001 and p<0.05, respectively). Black participants were more than twice as likely to have an ED visit the following year compared to White participants (OR 2.034, p <0.001). Participants with higher comorbidity scores had between 25% and 49% higher odds of having an ED visit with an asthma primary diagnosis the following year compared to participants with a low comorbidity score.

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[42] This measure was calculated using the HEDIS® proprietary software from Cognizant.

[43] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For our analyses, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017, 2018, 2019).

**Table 42. Associations between Asthma Controller Medication Adherence and ED Visits with a Primary Diagnosis of Asthma, HealthChoice Participants Aged 5–64 Years, CY 2017–CY 2019**

| Variable | ED Visit with Asthma as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current CY | | | Regression 1b: Following CY | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **Adherence 50%** | 0.859 *** | 0.81 | 0.91 | 0.864* | 0.78 | 0.96 |
| **Adherence 75%** | 0.774*** | 0.73 | 0.82 | 0.702*** | 0.64 | 0.78 |
| **Lagged ED Visit**☼ | | | | 6.308*** | 5.76 | 6.90 |
| **Age** | 0.976*** | 0.97 | 0.98 | 0.985*** | 0.98 | 0.99 |
| **Female** | 1.05 | 1.00 | 1.11 | 1.093* | 1.00 | 1.19 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.646*** | 0.60 | 0.69 | 0.679*** | 0.61 | 0.76 |
| *Eastern Shore* | 0.593*** | 0.54 | 0.66 | 0.723*** | 0.62 | 0.85 |
| *Southern Maryland* | 0.665*** | 0.58 | 0.76 | 0.836 | 0.68 | 1.03 |
| *Washington Suburban* | 0.527*** | 0.49 | 0.57 | 0.492*** | 0.43 | 0.56 |
| *Western Maryland* | 0.656*** | 0.58 | 0.74 | 0.741* | 0.61 | 0.91 |
| **Race†** | | | | | | |
| *Asian* | 1.00 | 0.81 | 1.24 | 1.03 | 0.72 | 1.48 |
| *Black* | 2.358*** | 2.18 | 2.55 | 2.034*** | 1.78 | 2.32 |
| *Hispanic* | 1.35*** | 1.20 | 1.53 | 1.473** | 1.20 | 1.81 |
| *Other* | 1.642*** | 1.47 | 1.84 | 1.602*** | 1.32 | 1.94 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 2.256*** | 2.05 | 2.48 | 1.253** | 1.08 | 1.45 |
| *High* | 3.04*** | 2.74 | 3.38 | 1.491*** | 1.27 | 1.76 |
| *Very High* | 2.923*** | 2.56 | 3.34 | 1.315** | 1.06 | 1.64 |
| **Year†** | | | | | | |
| *2018* | 0.82*** | 0.77 | 0.87 | | | |
| *2019* | 0.833*** | 0.78 | 0.89 | 1.208*** | 1.11 | 1.31 |

*** p<.001, **p<.01, *01, *p<.05

†, Reference Groups: Baltimore City, White, Low, 2017, [Regression 2b] 2018

☼ Variable included in regression b only

Table 43 examines whether HealthChoice participants aged 5 to 64 years who remained on asthma controller medication for either at least 50% or 75% of their treatment period (i.e., the measurement year) were less likely to incur an inpatient admission with an asthma primary diagnosis that calendar year or the following year, compared to participants who remained on their medication for less than 50% of their treatment period.

Regression 2 indicates that older participants had slightly lower odds of having an inpatient admission (OR 0.956, p<0.001). Participants in all regions were less likely to have an inpatient admission compared to participants in Baltimore City, with participants in Western Maryland having 72% lower odds (OR 0.282, p<0.001). Black participants were over two times as likely to incur an inpatient admission compared to White participants (OR 2.003 p<0.001). Higher

comorbidities were associated with higher odds of inpatient admission; participants with a very high comorbidity score had 14 times higher odds of incurring an inpatient admission (OR 13.72, p<0.001).

In regression 2b, participants with a medication adherence level of at least 50% had roughly 26% lower odds of having an asthma-related inpatient admission the following year (OR 0.743, p<0.05). With each year of age, participants had lower odds of having an inpatient admission the following year (OR 0.973, p<0.01). However, Black participants were 47.9% more likely to have an inpatient admission. Participants in all regions had lower odds of having an asthma-related inpatient admission the following year compared to participants in Baltimore City, but results for Southern Maryland were not significant. Like regression 2, higher comorbidities were associated with higher odds of inpatient admission the following year, with odds ranging from 75% to 163% higher.

**Table 43. Associations between Asthma Controller Medication Adherence and Inpatient Admissions with a Primary Diagnosis of Asthma, HealthChoice Participants Aged 5–64 Years, CY 2017–CY 2019**

| Variable | Inpatient Admission with Asthma as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 2: Current CY | | | Regression 2b: Following CY | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **MMA 50 Percent** | 1.08 | 0.92 | 1.27 | 0.743* | 0.56 | 0.98 |
| **MMA 75 Percent** | 1.02 | 0.88 | 1.20 | 0.845 | 0.65 | 1.09 |
| **Lagged Inpt Admission**✡ | | | | 9.321*** | 6.87 | 12.65 |
| **Age** | 0.956*** | 0.95 | 0.96 | 0.973*** | 0.96 | 0.98 |
| **Female** | 0.98 | 0.85 | 1.12 | 1.216 | 0.97 | 1.53 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.6*** | 0.51 | 0.71 | 0.613** | 0.46 | 0.82 |
| *Eastern Shore* | 0.46*** | 0.35 | 0.61 | 0.498** | 0.31 | 0.79 |
| *Southern Maryland* | 0.461** | 0.31 | 0.68 | 0.641 | 0.36 | 1.15 |
| *Washington Suburban* | 0.489*** | 0.40 | 0.60 | 0.418*** | 0.29 | 0.59 |
| *Western Maryland* | 0.282*** | 0.18 | 0.44 | 0.405** | 0.21 | 0.77 |
| **Race†** | | | | | | |
| *Asian* | 0.63 | 0.31 | 1.31 | 1.118 | 0.44 | 2.85 |
| *Black* | 2.003*** | 1.62 | 2.48 | 1.479* | 1.04 | 2.10 |
| *Hispanic* | 1.502** | 1.09 | 2.07 | 1.572 | 0.94 | 2.62 |
| *Other* | 1.71** | 1.27 | 2.30 | 1.279 | 0.77 | 2.14 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 2.857*** | 2.05 | 3.99 | 1.753* | 1.12 | 2.74 |
| *High* | 8.217*** | 5.85 | 11.54 | 2.062** | 1.27 | 3.35 |
| *Very High* | 13.72*** | 9.46 | 19.90 | 2.633** | 1.48 | 4.69 |
| **Year†** | | | | | | |
| *2018* | 0.824** | 0.71 | 0.96 | | | |
| *2019* | 0.625*** | 0.53 | 0.74 | 0.823 | 0.66 | 1.03 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: Baltimore City, White, Low, 2017, [Regression 2b] 2018

✡ Variable included in regression b only

## Comprehensive Diabetes Care

The Department combines health care utilization and quality measures to evaluate HealthChoice's performance in diabetes management. This section of the report analyzes demographic characteristics of HealthChoice participants with diabetes, as well as measures of their inpatient admissions, outpatient ED visits, and ambulatory care service utilization. HEDIS® clinical criteria for the Comprehensive Diabetes Care measure identified participants with diabetes. In addition, this section investigates whether the completion of recommended diabetes screenings affects use of ED services.

Table 44 shows HealthChoice participants with a diabetes diagnosis according to the numbers and percentages within categories of race/ethnicity, sex, region, and age group. The distribution of participants with a diabetes diagnosis remained relatively consistent within demographic characteristics throughout the evaluation period.

Black participants with diabetes exceeded the proportion of White participants with diabetes by a ratio of nearly two to one. Both groups, as well as Hispanic participants, experienced a decrease in their share of the HealthChoice population with diabetes during the five-year evaluation period, while the proportion among the "Other" race category increased from 9.8% in CY 2015 to 13.0% in CY 2019. The proportion of male HealthChoice participants with diabetes increased from 41.5% in CY 2015 to 43.8% in CY 2019, likely because of the expansion of coverage under the ACA. The proportion of older age groups with diabetes stayed relatively consistent throughout the evaluation period.

**Table 44. Demographic Characteristics of HealthChoice Participants with Diabetes, CY 2015–CY 2019**

| Demographic Characteristic | Percentage of Total | | | | |
|---|---|---|---|---|---|
| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
| **Race/Ethnicity** | | | | | |
| **Asian** | 5.8% | 5.9% | 5.9% | 5.9% | 6.0% |
| **Black** | 50.2% | 50.1% | 49.8% | 49.5% | 49.3% |
| **White** | 29.7% | 29.2% | 28.5% | 27.9% | 27.8% |
| **Hispanic** | 4.2% | 3.9% | 3.7% | 3.7% | 3.7% |
| **Native American** | 0.4% | 0.3% | 0.3% | 0.3% | 0.3% |
| **Other** | 9.8% | 10.6% | 11.7% | 12.7% | 13.0% |
| **Sex** | | | | | |
| **Female** | 58.6% | 58.1% | 57.3% | 56.7% | 56.2% |
| **Male** | 41.5% | 41.9% | 42.7% | 43.3% | 43.8% |
| **Region** | | | | | |
| **Baltimore City** | 24.0% | 23.9% | 23.5% | 23.2% | 22.9% |
| **Baltimore Suburban** | 26.0% | 26.3% | 26.6% | 26.9% | 27.6% |
| **Eastern Shore** | 10.0% | 10.1% | 10.0% | 9.8% | 9.8% |
| **Southern Maryland** | 5.2% | 5.2% | 5.3% | 5.3% | 5.3% |
| **Washington Suburban** | 26.9% | 26.6% | 26.8% | 27.0% | 26.6% |
| **Western Maryland** | 7.7% | 7.8% | 7.7% | 7.8% | 7.8% |
| **Out of State** | 0.2% | 0.1% | 0.2% | 0.2% | 0.1% |
| **Age Group (Years)** | | | | | |
| **18-40** | 22.2% | 22.1% | 22.1% | 22.2% | 22.3% |
| **41-64** | 77.8% | 77.8% | 78.0% | 77.9% | 77.8% |
| **Total Number of Participants** | **55,915** | **57,162** | **59,100** | **59,566** | **58,767** |

Note: "Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

Table 45 presents the number and percentage of HealthChoice participants with diabetes who had an ambulatory care visit. The rate increased by 1.1 percentage points during the evaluation period.

**Table 45. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Ambulatory Care Visit, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Ambulatory Care Visit | |
|---|---|---|---|
| | | Number | Percentage of Total |
| **2015** | 55,915 | 52,435 | 93.8% |
| **2016** | 57,162 | 53,949 | 94.4% |
| **2017** | 59,100 | 55,828 | 94.5% |
| **2018** | 59,566 | 56,177 | 94.3% |
| **2019** | 58,767 | 55,787 | 94.9% |

Table 46 presents the number and percentage of HealthChoice participants with diabetes who had an outpatient ED visit. The number of participants with diabetes who had an ED visit decreased from 46.1% in CY 2015 to 42.7% in CY 2018 before increasing to 44.0% in CY 2019.

**Table 46. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Outpatient ED Visit, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One ED Visit | |
|---|---|---|---|
| | | Number | Percentage of Total |
| **2015** | 55,915 | 25,762 | 46.1% |
| **2016** | 57,162 | 26,333 | 46.1% |
| **2017** | 59,100 | 26,771 | 45.3% |
| **2018** | 59,566 | 25,422 | 42.7% |
| **2019** | 58,767 | 25,846 | 44.0% |

Table 47 presents the number and percentage of HealthChoice participants with diabetes who had at least one inpatient admission. This measure slightly decreased during the evaluation period—from 21.2% in CY 2015 to 20.3% in CY 2018—indicating the potential success of the HealthChoice program in proactively targeting diabetes management.

**Table 47. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Inpatient Admission, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Inpatient Admission | |
|---|---|---|---|
| | | Number | Percentage of Total |
| **2015** | 55,915 | 11,860 | 21.2% |
| **2016** | 57,162 | 12,162 | 21.3% |
| **2017** | 59,100 | 12,481 | 21.1% |
| **2018** | 59,566 | 12,405 | 20.8% |
| **2019** | 58,767 | 11,956 | 20.3% |

Controlling diabetes requires monitoring blood glucose levels and looking for damaged nerve tissue in the eye that may threaten sight. Table 48 presents the annual HealthChoice performance on these measures for CY 2015 through CY 2019. HEDIS® analyses use medical chart reviews, whereas the diabetes analyses presented in the rest of this section rely on administrative data (MCO encounter and FFS claims). HealthChoice performed above the national HEDIS® average on HbA1c testing from CY 2015 through CY 2017. However, in CY 2018 and CY 2019, HealthChoice fell below the HEDIS® average on eye exams. The observed decrease in the eye exam measure may have resulted from the removal of this measure from the VBP program in CY 2015.

**Table 48. Percentage of HealthChoice Members Aged 18–64 Years with Diabetes Who Received Comprehensive Diabetes Care, Compared with the National HEDIS® Average, CY 2015–CY 2019***

| HEDIS® Measure | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Eye (Retinal) Exam** | | | | | |
| HealthChoice | 60.2% | 57.0% | 57.8% | 54.1% | 54.7% |
| National HEDIS® Average | + | + | + | - | - |
| **HbA1c Test** | | | | | |
| HealthChoice | 88.8% | 88.9% | 87.9% | 88.8% | 88.3% |
| National HEDIS® Average | + | + | + | + | + |

Note: Because of the NCQA restrictions, national HEDIS® means cannot be published. Therefore, a "+" sign indicates that Maryland's rate is above the national HEDIS® mean, while a "-" sign indicates that Maryland's rate is below the national mean.
*HealthChoice averages in CYs 2015 and 2017 were influenced by the inclusion of HEDIS® rates from newer MCOs.

Under the HealthChoice demonstration waiver, the Department received approval to expand coverage of the National Diabetes Prevention Program (DPP) lifestyle change program to all eligible HealthChoice participants as of September 1, 2019. The National DPP is an evidence-based program established by the CDC to prevent or delay the onset of type 2 diabetes through healthy eating and physical activity. Hilltop has partnered with the Department and HealthChoice MCOs to develop an algorithm that MCOs can use to search their members' electronic medical records and identify individuals who may be at risk of developing type 2 diabetes and therefore potentially eligible for enrollment in the DPP. The MCOs have been provided with this algorithm and are still in the testing stages. By identifying participants early with this algorithm and through routine screening and testing for prediabetes, the Department hopes to reduce the incidence of diabetes and increase the quality of life for participants in the Maryland Medicaid program. This program also supports the population health goals under Maryland's SIHIS.

### *Diabetes Screenings and Utilization*

Table 49 presents the logistic regression results for estimating the odds of a HealthChoice participant with diabetes who received an eye (retina) exam, a hemoglobin A1c (HbA1c) test, or both—using HEDIS® standard screening measures—of having a diabetes-related ED visit that year or the following year. In addition to the three screening conditions, the regression controlled for demographic characteristics (race/ethnicity and sex), comorbidity levels,[44] and, in regression 1b, whether participants had an ED visit the previous year.

Although receiving either screening increased the odds of a participant having a diabetes-related ED visit during the calendar year, participants with both the eye and HbA1c screening had 65.1% lower odds of having a diabetes-related ED visit than participants who had just one screening or

[44] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For our analyses, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017, 2018, 2019).

neither (OR= 0.349 p<0.001). This may indicate that having both screenings is more preventative than only having one. Older and female participants had 4.8 and 26.2% lower odds of having an ED visit, respectively (p<0.001). Residents in the Baltimore Suburban, Washington Suburban, and Western Maryland regions had lower odds of having a diabetes-related ED visit compared to Baltimore City Residents (p<0.001). Comparing race and ethnicity differences with White participants, Asian participants were 64.5% less likely to have an ED visit, while Black participants were 34.6% more likely to have an ED visit (p<0.001). Higher levels of comorbidity were also associated with increased odds of a diabetes-related ED visit the same year.

When examining odds of having an ED visit with a primary diagnosis of diabetes the following year, none of the screening conditions had a statistically significantly relationship. Having an ED visit the prior year significantly increased the odds of a participant having an ED visit the following year (OR= 6.14, p<0.001). As in regression 1, older and female participants had 3.8 and 15.3% lower odds of having an ED visit, respectively (p<0.001). Participants in the Baltimore Suburban, Washington Suburban, and Western Maryland regions had lower odds of having a diabetes-related ED visit compared to participants in Baltimore City. Compared to White participants, Asian participants were 61% less likely and "Other/Unknown" participants were 14.5% less likely to have an ED visit the following year (p<0.001 and p<0.01, respectively). Black participants were 22.9% more likely to have an ED visit the following year than White participants (p<0.001). Only the highest level of comorbidity was associated with increased odds of a diabetes-related ED visit the following year (OR= 1.151, p<0.001).

**Table 49. Associations between Diabetes Screenings and ED Visits with a Primary Diagnosis of Diabetes, HealthChoice Participants Aged 5–64 Years, CY 2017–CY 2019**

| Variable | ED Visit with Diabetes as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current CY | | | Regression 1b: Following CY | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **Screenings** | | | | | | |
| *CDC Eye* | 1.993*** | 1.64 | 2.42 | 1.243 | 0.98 | 1.58 |
| *CDC Hba1c* | 4.149*** | 2.95 | 5.83 | 0.923 | 0.53 | 1.61 |
| *CDC Eye X Hba1c* | 0.349*** | 0.25 | 0.49 | 0.968 | 0.55 | 1.70 |
| **Lagged ED Visit**✡ | | | | 6.14*** | 5.666 | 6.654 |
| **Age** | 0.952*** | 0.95 | 0.95 | 0.962*** | 0.96 | 0.97 |
| **Female** | 0.738*** | 0.70 | 0.77 | 0.847*** | 0.79 | 0.91 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.778*** | 0.73 | 0.83 | 0.77*** | 0.70 | 0.85 |
| *Eastern Shore* | 0.995 | 0.92 | 1.08 | 1.035 | 0.92 | 1.16 |
| *Southern Maryland* | 0.931 | 0.84 | 1.03 | 0.988 | 0.85 | 1.15 |
| *Washington Suburban* | 0.727*** | 0.68 | 0.78 | 0.738*** | 0.67 | 0.82 |
| *Western Maryland* | 0.81*** | 0.73 | 0.90 | 0.851* | 0.74 | 0.98 |
| **Race†** | | | | | | |
| *Asian* | 0.355*** | 0.29 | 0.44 | 0.39*** | 0.29 | 0.52 |
| *Black* | 1.346*** | 1.27 | 1.43 | 1.229*** | 1.13 | 1.34 |
| *Hispanic* | 0.873 | 0.75 | 1.02 | 0.979 | 0.79 | 1.21 |

| Variable | ED Visit with Diabetes as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current CY | | | Regression 1b: Following CY | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| *Other* | 1 | 0.91 | 1.10 | 0.855** | 0.74 | 0.99 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 0.977 | 0.84 | 1.13 | 0.874 | 0.68 | 1.13 |
| *High* | 1.911*** | 1.65 | 2.21 | 1.263 | 0.98 | 1.63 |
| *Very High* | 4.292*** | 3.72 | 4.96 | 2.23*** | 1.73 | 2.87 |
| **Year†** | | | | | | |
| *2018* | 0.915** | 0.87 | 0.97 | | | |
| *2019* | 1.069* | 1.01 | 1.13 | 1.151*** | 1.08 | 1.23 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: Baltimore City, White, Low, 2017, [Regression 1b] 2018

☼ Variable included in regression b only

Table 50 presents the results of a logistic regression that examined the odds of a HealthChoice participant with diabetes who received an eye exam, an HbA1c test, or both having a diabetes-related inpatient admission the following year. In addition to the three screening conditions, the regression controlled for demographic characteristics (race/ethnicity and sex), comorbidity levels, and, in regression 2b, whether participants had a diabetes-related inpatient admission the previous year.

As with the result for ED visits, receiving either screening increased the odds that a participant had an inpatient admission during the calendar year. Specifically, participants with both the eye and HbA1c screening had 37.1% lower odds of having a diabetes-related inpatient admission compared to participants who had just one screening or neither (OR= 0.621 p<0.01). Residents in all regions except for Washington Suburban had lower odds of having an inpatient admission compared to Baltimore City residents. Asian and Hispanic participants were 68.5% and 25.9% (respectively) less likely to have a diabetes-related inpatient admission compared to White participants (p<0.001 and p<0.01, respectively). Participants with a very high comorbidity score were five times more likely to have a diabetes inpatient admission compared to participants with a low score (OR= 5.501, p<0.001). Participants with a moderate comorbidity score had 71.1% lower odds of having a diabetes admission (OR= 0.289, p<0.001).

Regression 2b examines the odds of having an inpatient admission with a primary diagnosis of diabetes the following year. HbA1c testing was associated with increased odds of having an inpatient admission the following year (OR= 1.867, p<0.05). Participants with both the eye and HbA1c screening had 53.1% lower odds of a having a diabetes-related admission the following year compared to participants who had just one screening or neither (OR= 0.469, p<0.01). Having an inpatient admission in the prior year significantly increased the odds of a participant having an admission the following year (OR= 11.02, p<0.001). Residents in all regions had lower odds of having a diabetes-related inpatient admission the following year compared to Baltimore City residents. As with regression 2, Asian participants were the least likely to have a diabetes inpatient admission when compared to White participants (OR= 0.211, P<0.001). Participants with a very high comorbidity score were more than two times more likely to have a diabetes

inpatient admission the following year compared to participants with a low score, whereas participants with a moderate comorbidity score had 45.4% lower odds of having a diabetes admission (p<0.001).

**Table 50. Associations between Diabetes Screenings and Inpatient Admissions with a Primary Diagnosis of Diabetes, HealthChoice Participants Aged 5–64 Years, CY 2017–CY 2019**

| Variable | Inpatient Admission with Diabetes as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 2: Current CY | | | Regression 2b: Following CY | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **Screenings** | | | | | | |
| *CDC Eye* | 1.311** | 1.08 | 1.59 | 1.116 | 0.83 | 1.50 |
| *CDC Hba1c* | 1.711* | 1.12 | 2.62 | 1.867* | 1.06 | 3.28 |
| *CDC Eye X Hba1c* | 0.621** | 0.40 | 0.96 | 0.469** | 0.26 | 0.83 |
| **Lagged Inpt. Admission**☼ | | | | 11.018*** | 9.92 | 12.24 |
| **Age** | 0.938*** | 0.94 | 0.94 | 0.958*** | 0.95 | 0.96 |
| **Female** | 0.639*** | 0.60 | 0.68 | 0.779*** | 0.71 | 0.85 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.915* | 0.84 | 0.99 | 0.807*** | 0.72 | 0.91 |
| *Eastern Shore* | 0.688*** | 0.61 | 0.77 | 0.693*** | 0.59 | 0.82 |
| *Southern Maryland* | 0.828** | 0.72 | 0.95 | 0.75** | 0.61 | 0.92 |
| *Washington Suburban* | 0.921 | 0.85 | 1.00 | 0.76*** | 0.67 | 0.86 |
| *Western Maryland* | 0.726*** | 0.64 | 0.83 | 0.688*** | 0.57 | 0.83 |
| **Race†** | | | | | | |
| *Asian* | 0.315*** | 0.24 | 0.42 | 0.211*** | 0.13 | 0.34 |
| *Black* | 1.057 | 0.98 | 1.14 | 0.904 | 0.81 | 1.01 |
| *Hispanic* | 0.741** | 0.60 | 0.91 | 0.614** | 0.45 | 0.84 |
| *Other* | 0.898 | 0.80 | 1.01 | 0.787* | 0.66 | 0.94 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 0.289*** | 0.24 | 0.35 | 0.546*** | 0.40 | 0.74 |
| *High* | 1.151 | 0.98 | 1.36 | 0.835 | 0.62 | 1.13 |
| *Very High* | 5.502*** | 4.70 | 6.45 | 2.024*** | 1.51 | 2.72 |
| **Year†** | | | | | | |
| *2018* | 0.972 | 0.90 | 1.05 | | | |
| *2019* | 1.088* | 1.01 | 1.17 | 1.045 | 0.96 | 1.14 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: Baltimore City, White, Low, 2017, [Regression 2b] 2018

☼ Variable included in regression b only

## HIV/AIDS

The Department continuously monitors service utilization for HealthChoice participants with HIV/AIDS. This section of the report presents the enrollment distribution of HealthChoice participants with HIV/AIDS by age group and race/ethnicity, as well as measures of ambulatory

care service utilization, outpatient ED visits, CD4 testing, and viral load testing. CD4 testing is used to determine how well the immune system is functioning in individuals diagnosed with HIV. The viral load test monitors the progression of the HIV infection by measuring the level of immunodeficiency virus in the blood. Antiretroviral therapy (ART) is a combination of HIV medications used to slow the progression of HIV. ART is recommended for everyone with HIV and should begin as soon as possible after diagnosis (CDC, 2019c). Early initiation of ART lowers the risk of an individual with HIV of developing AIDS and other complications (Lundgren et al., 2015).

Table 51 presents the percentage of participants with HIV/AIDS by age group and race/ethnicity for CY 2015 and CY 2019.

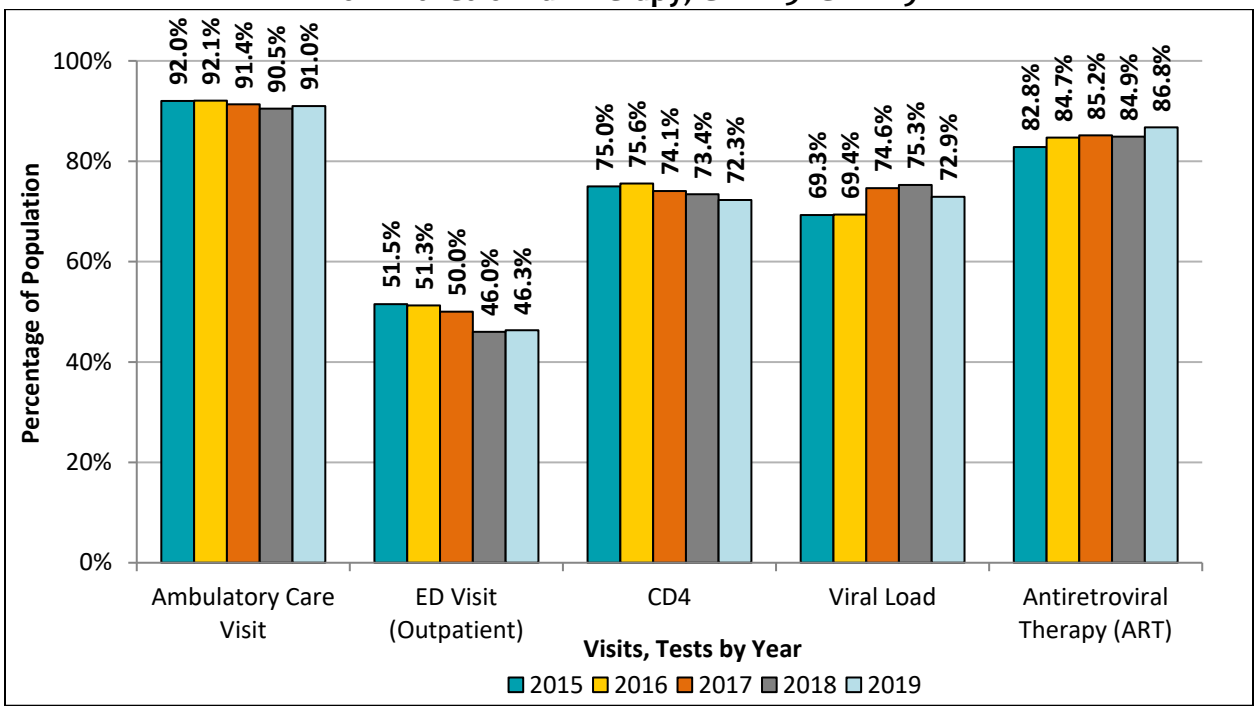
**Table 51. Distribution of HealthChoice Participants with HIV/AIDS, by Age Group and Race/Ethnicity, CY 2015 and CY 2019**

| Demographic Characteristic | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | Number of Participants | Percentage of Total | Number of Participants | Percentage of Total |
| **Age Group (Years)** | | | | |
| **0–18** | 244 | 3.5% | 125 | 2.1% |
| **19–39** | 2,017 | 29.3% | 1,785 | 29.7% |
| **40–64** | 4,619 | 67.1% | 4,103 | 68.2% |
| **Total** | **6,880** | **100%** | **6,013** | **100%** |
| **Race/Ethnicity** | | | | |
| **Asian** | 37 | 0.5% | 46 | 0.8% |
| **Black** | 5,743 | 83.5% | 4,903 | 81.5% |
| **White** | 674 | 9.8% | 558 | 9.3% |
| **Hispanic** | 95 | 1.4% | 81 | 1.3% |
| **Native American** | 11 | 0.2% | 13 | 0.2% |
| **Other** | 320 | 4.7% | 412 | 6.9% |
| **Total** | **6,880** | **100%** | **6,013** | **100.0%** |

Note: "Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

Figure 19 shows service utilization by HealthChoice participants with HIV/AIDS during the study period. The percentage of participants with an outpatient ED visit fell by 5.2 percentage points between CY 2015 and CY 2019. The HealthChoice program also experienced an increase in one HIV/AIDS-related quality measure during the evaluation period. The percentage of individuals with HIV/AIDS who received viral load testing increased by 3.6 percentage points, but the percentage of individuals who received CD4 testing decreased slightly, by 2.7 percentage points.

**Figure 19. Percentage of HealthChoice Participants with HIV/AIDS Who Had an Ambulatory Care Visit, Outpatient ED Visit, CD4 Testing, Viral Load Testing, or Antiretroviral Therapy, CY 2015–CY 2019**




According to the CDC (2019b) as published in its annual HIV Surveillance Report, there was a national HIV incidence rate of 11.4 per 100,000 people in 2018. In Maryland, the incidence rate of HIV diagnoses for 2018 was 16.2 per 100,000 people, a decrease from the previous year's rate of 17.0 (CDC, 2019b). The CDC (2020) estimates that nearly 40% of new HIV infections are transmitted by people who have undiagnosed HIV. Thus, HIV screening is an important step in determining HIV status and starting appropriate treatment. The CDC currently recommends that everyone between 13 and 64 years of age be tested for HIV at least once—or more frequently if they are at high risk.

Table 52 shows HIV screenings for HealthChoice participants aged 15 to 64 years from CY 2015 through CY 2019.

**Table 52. HIV Screening in the HealthChoice Population for Participants Aged 15–64 Years, CY 2015–CY 2019**

| HealthChoice Participants | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Total Number** | 771,917 | 758,495 | 811,183 | 836,653 | 824,976 |
| **Number Received HIV Screening** | 109,523 | 123,061 | 130,107 | 142,678 | 148,213 |
| **Percentage Received HIV Screening** | 14.2% | 16.2% | 16.0% | 17.1% | 18.0% |

For people who are not HIV positive but are at risk of contracting the infection, pre-exposure prophylaxis (PrEP) can help prevent HIV (CDC, 2019a). PrEP is a daily medication that reduces the risk of HIV infection (CDC, 2019a). Table 53 presents the percentage of HealthChoice participants who received PrEP from CY 2015 to CY 2019.

**Table 53. HealthChoice Participants Who Received HIV PrEP, CY 2015–CY 2019**

| HealthChoice Participants | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Total Number** | 1,304,107 | 1,285,431 | 1,355,443 | 1,389,716 | 1,377,493 |
| **Number Received HIV PrEP** | 3,027 | 2,802 | 2,146 | 1,949 | 1,958 |
| **Percentage Received HIV PrEP** | 0.2% | 0.2% | 0.2% | 0.1% | 0.1% |

## Behavioral Health

The Department contracts with an ASO to administer specialty MHD and SUD services, collectively called behavioral health services. Although the managed care benefit package excludes these services, MCOs are mandated to ensure that their enrollees receive all needed health services, including those that are carved out. In taking a whole-person view, this section includes behavioral health services paid on an FFS basis by the ASO but provided to individuals enrolled in the HealthChoice program.

### *Behavioral Health Demographics and Service Utilization*

Table 54 presents the number and percentage of HealthChoice participants by behavioral health diagnosis group. These groups include MHD-only, SUD-only, dual diagnosis of MHD and SUD, or none of these diagnoses. Overall, the percentage of HealthChoice participants without a behavioral health diagnosis decreased from 84.2% in CY 2015 to 81.8% in CY 2019, accompanied by corresponding increases across all categories of behavioral health diagnoses.

**Table 54. Number and Percentage of HealthChoice Participants with a Behavioral Health Diagnosis, by Diagnosis, CY 2015–CY 2019**

| Diagnosis | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **MHD-Only** | 142,223 (10.9%) | 148,186 (11.5%) | 156,694 (11.6%) | 165,198 (11.9%) | 171,971 (12.5%) |
| **SUD-Only** | 35,628 (2.7%) | 37,938 (3.0%) | 41,632 (3.1%) | 43,274 (3.1%) | 42,062 (3.1%) |
| **Dual Diagnosis (MHD + SUD)** | 27,601 (2.1%) | 30,646 (2.4%) | 33,085 (2.4%) | 34,615 (2.5%) | 36,812 (2.7%) |
| **No Behavioral Health Diagnosis** | 1,098,828 (84.2%) | 1,069,037 (83.1%) | 1,124,032 (82.9%) | 1,146,629 (82.5%) | 1,126,648 (81.8%) |
| **Total** | **1,304,280** | **1,285,807** | **1,355,443** | **1,389,716** | **1,377,493** |

The Department monitors the extent to which participants with a behavioral health diagnosis access ambulatory care services. In CY 2019, 94.7% of all participants with an MHD—which includes participants diagnosed with an MHD only and those with a co-occurring MHD and SUD—visited a health care provider for an ambulatory care visit (Table 55).

Across the evaluation period, the ambulatory care visit rate among all participants with an MHD-only diagnosis remained stable, while the rate increased for participants with an SUD-only diagnosis. Participants with a dual diagnosis of MHD and SUD were consistently more likely to

receive an ambulatory care visit than were participants with an SUD-only diagnosis. However, the ambulatory care visit rate of SUD-only participants increased by 11.7 percentage points between CY 2015 and CY 2019. Participants with a dual diagnosis of MHD and SUD and MHD-only had similar ambulatory care utilization across the evaluation period.

**Table 55. HealthChoice Participants Who Had an Ambulatory Care Visit, by Behavioral Health Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Ambulatory Care Visit | |
|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants |
| **MHD-Only** | | | |
| **2015** | 142,223 | 131,875 | 92.7% |
| **2016** | 148,186 | 137,679 | 92.9% |
| **2017** | 156,694 | 145,397 | 92.8% |
| **2018** | 165,198 | 153,182 | 92.7% |
| **2019** | 171,971 | 159,515 | 92.8% |
| **SUD-Only** | | | |
| **2015** | 35,628 | 25,355 | 71.2% |
| **2016** | 37,938 | 27,154 | 71.6% |
| **2017** | 41,632 | 32,222 | 77.4% |
| **2018** | 43,274 | 35,152 | 81.2% |
| **2019** | 42,062 | 34,839 | 82.8% |
| **Dual Diagnosis (MHD + SUD)** | | | |
| **2015** | 27,601 | 25,257 | 91.5% |
| **2016** | 30,646 | 27,973 | 91.3% |
| **2017** | 33,085 | 30,674 | 92.7% |
| **2018** | 34,615 | 32,499 | 93.9% |
| **2019** | 36,812 | 34,876 | 94.7% |
| **Total** | | | |
| **2015** | 205,452 | 182,487 | 88.8% |
| **2016** | 216,770 | 192,806 | 88.9% |
| **2017** | 231,411 | 208,293 | 90.0% |
| **2018** | 243,087 | 220,833 | 90.8% |
| **2019** | 250,845 | 229,230 | 91.4% |

Table 56 displays the number and percentage of all HealthChoice participants with a behavioral health diagnosis who had at least one outpatient ED visit.[45] Overall, the percentage of participants with an MHD-only diagnosis who visited the ED declined from 44.5% in CY 2015 to 39.2% in CY 2019. In each year of the evaluation period, participants with co-occurring diagnoses had a higher rate of ED utilization compared to participants with an MHD-only or SUD-only diagnosis.

[45] This measure excludes ED visits that resulted in an inpatient hospital admission.

**Table 56. HealthChoice Participants Who Had at Least One Outpatient ED Visit, by Behavioral Health Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One ED Visit | |
|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants |
| **MHD-Only** | | | |
| **2015** | 142,223 | 63,326 | 44.5% |
| **2016** | 148,186 | 65,571 | 44.3% |
| **2017** | 156,694 | 67,557 | 43.1% |
| **2018** | 165,198 | 65,561 | 39.7% |
| **2019** | 171,971 | 67,352 | 39.2% |
| **SUD-Only** | | | |
| **2015** | 35,628 | 18,010 | 50.6% |
| **2016** | 37,938 | 19,251 | 50.7% |
| **2017** | 41,632 | 20,972 | 50.4% |
| **2018** | 43,274 | 20,430 | 47.2% |
| **2019** | 42,062 | 19,965 | 47.5% |
| **Dual Diagnosis (MHD + SUD)** | | | |
| **2015** | 27,601 | 18,685 | 67.7% |
| **2016** | 30,646 | 20,887 | 68.2% |
| **2017** | 33,085 | 22,530 | 68.1% |
| **2018** | 34,615 | 22,663 | 65.5% |
| **2019** | 36,812 | 23,419 | 63.6% |
| **Total** | | | |
| **2015** | 205,452 | 100,021 | 48.7% |
| **2016** | 216,770 | 105,709 | 48.8% |
| **2017** | 231,411 | 111,059 | 48.0% |
| **2018** | 243,087 | 108,654 | 44.7% |
| **2019** | 250,845 | 110,736 | 44.1% |

Table 57 displays the number and percentage of all HealthChoice participants with a behavioral health diagnosis who had at least one inpatient admission. Overall, the percentage of participants with a behavioral health diagnosis who had an inpatient admission declined from 15.9% in CY 2015 to 13.5% in CY 2019. Each of the behavioral health diagnosis groups experienced the same downward trend during this time. In each year of the evaluation period, participants with co-occurring diagnoses had a higher rate of impatient admissions than participants with an MHD-only or SUD-only diagnosis.

**Table 57. HealthChoice Participants Who Had an Inpatient Admission, by Behavioral Health Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Inpatient Visit | |
|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants |
| **MHD-Only** | | | |
| **2015** | 142,223 | 18,406 | 12.9% |
| **2016** | 148,186 | 18,544 | 12.5% |
| **2017** | 156,694 | 19,198 | 12.3% |
| **2018** | 165,198 | 19,172 | 11.6% |
| **2019** | 171,971 | 18,363 | 10.7% |
| **SUD-Only** | | | |
| **2015** | 35,628 | 5,195 | 14.6% |
| **2016** | 37,938 | 5,434 | 14.3% |
| **2017** | 41,632 | 6,176 | 14.8% |
| **2018** | 43,274 | 6,126 | 14.2% |
| **2019** | 42,062 | 5,772 | 13.7% |
| **Dual Diagnosis (MHD + SUD)** | | | |
| **2015** | 27,601 | 8,974 | 32.5% |
| **2016** | 30,646 | 9,731 | 31.8% |
| **2017** | 33,085 | 10,352 | 31.3% |
| **2018** | 34,615 | 10,166 | 29.4% |
| **2019** | 36,812 | 9,850 | 26.8% |
| **Total** | | | |
| **2015** | 205,452 | 32,575 | 15.9% |
| **2016** | 216,770 | 33,709 | 15.6% |
| **2017** | 231,411 | 35,726 | 15.4% |
| **2018** | 243,087 | 35,464 | 14.6% |
| **2019** | 250,845 | 33,985 | 13.5% |

Table 58 shows the rates of MHD, SUD, and co-occurring MHD and SUD among HealthChoice participants by race and ethnicity during CY 2015 and CY 2019. Between CY 2015 and CY 2019, the percentage of HealthChoice participants who had a behavioral health condition increased. An increase in behavioral health conditions was noted across all racial and ethnic groups except for Hispanic and Native American members with an SUD-only, whose rates remained stable.

**Table 58. Distribution of HealthChoice Participants Aged 0–64 Years, by Race/Ethnicity and Behavioral Health Conditions, CY 2015 and CY 2019**

| Race/Ethnicity | CY 2015 | | CY 2019 | |
|---|---|---|---|---|
| | Number of Participants | Percentage of Total Race/Ethnicity | Number of Participants | Percentage of Total Race/Ethnicity |
| **MHD-Only** | | | | |
| **Black** | 67,241 | 11.5% | 80,399 | 14.2% |
| **White** | 55,923 | 14.7% | 59,256 | 16.5% |
| **Hispanic** | 7,588 | 6.1% | 10,252 | 9.7% |
| **Asian** | 1,819 | 3.1% | 2,967 | 4.8% |
| **Native American** | 456 | 12.3% | 535 | 13.3% |
| **Other** | 9,155 | 6.0% | 18,562 | 6.7% |
| **Total** | **142,182** | **10.9%** | **171,971** | **12.5%** |
| **SUD-Only** | | | | |
| **Black** | 13,809 | 2.4% | 14,732 | 2.6% |
| **White** | 18,599 | 4.9% | 22,214 | 6.2% |
| **Hispanic** | 876 | 0.7% | 785 | 0.7% |
| **Asian** | 238 | 0.4% | 383 | 0.6% |
| **Native American** | 142 | 3.8% | 154 | 3.8% |
| **Other** | 1,961 | 1.3% | 3,794 | 1.4% |
| **Total** | **35,625** | **2.7%** | **42,062** | **3.1%** |
| **Dual Diagnosis (MHD + SUD)** | | | | |
| **Black** | 10,678 | 1.8% | 14,350 | 2.5% |
| **White** | 15,225 | 4.0% | 19,103 | 5.3% |
| **Hispanic** | 337 | 0.3% | 500 | 0.5% |
| **Asian** | 122 | 0.2% | 188 | 0.3% |
| **Native American** | 91 | 2.5% | 149 | 3.7% |
| **Other** | 1,166 | 0.8% | 2,522 | 0.9% |
| **Total** | **27,619** | **2.1%** | **36,812** | **2.7%** |
| **No Behavioral Health Diagnosis** | | | | |
| **Black** | 493,047 | 84.3% | 456,819 | 80.7% |
| **White** | 291,589 | 76.5% | 259,550 | 72.1% |
| **Hispanic** | 114,984 | 92.9% | 94,335 | 89.1% |
| **Asian** | 55,898 | 96.2% | 58,907 | 94.3% |
| **Native American** | 3,019 | 81.4% | 3,194 | 79.2% |
| **Other** | 139,934 | 91.9% | 253,843 | 91.1% |
| **Total** | **1,098,471** | **84.2%** | **1,126,648** | **81.8%** |

Note: "Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

### *Mental Health Services*

Table 59 displays the key demographic characteristics of HealthChoice participants with a diagnosis of an MHD.[46] The proportion of participants with an MHD who were Black or White decreased across the evaluation period: from 45.9 and 41.9% in CY 2015 to 45.4 and 37.5% in CY 2019, respectively. In CY 2015, children and adults made up 39.4 and 60.7%, respectively, of participants with an MHD. The proportion of adults rose to 61.4% in CY 2019. These increases may have resulted from the large influx of adults during the 2014 ACA expansion.

**Table 59. Demographic Characteristics of HealthChoice Participants with an MHD, CY 2015–CY 2019**

| Demographic Characteristic | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| | % of Total | % of Total | % of Total | % of Total | % of Total |
| **Race/Ethnicity** | | | | | |
| **Asian** | 1.1% | 1.2% | 1.3% | 1.4% | 1.5% |
| **Black** | 45.9% | 45.6% | 45.1% | 44.8% | 45.4% |
| **White** | 41.9% | 41.1% | 40.2% | 38.9% | 37.5% |
| **Hispanic** | 4.7% | 4.8% | 5.1% | 5.3% | 5.2% |
| **Native American** | 0.3% | 0.3% | 0.3% | 0.3% | 0.3% |
| **Other** | 6.0% | 7.1% | 8.1% | 9.2% | 10.1% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Sex** | | | | | |
| **Female** | 54.4% | 54.1% | 54.3% | 54.6% | 54.9% |
| **Male** | 45.6% | 45.9% | 45.7% | 45.5% | 45.1% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100.%** |
| **Region** | | | | | |
| **Baltimore City** | 27.1% | 26.8% | 26.1% | 25.3% | 25.4% |
| **Baltimore Suburban** | 30.1% | 30.0% | 30.2% | 30.7% | 31.2% |
| **Eastern Shore** | 11.3% | 11.3% | 11.2% | 10.9% | 10.9% |
| **Southern Maryland** | 4.7% | 4.6% | 4.7% | 4.7% | 4.6% |
| **Washington Suburban** | 16.4% | 16.9% | 17.3% | 18.0% | 17.9% |
| **Western Maryland** | 10.3% | 10.3% | 10.3% | 10.2% | 9.9% |
| **Out of State** | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Age Group (Years)** | | | | | |
| **0–18** | 39.4% | 38.7% | 38.5% | 38.7% | 38.6% |
| **19–64** | 60.7% | 61.3% | 61.5% | 61.3% | 61.4% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Total Participants** | **169,824** | **178,832** | **189,779** | **199,813** | **208,783** |

Note: "Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

[46] Individuals are identified as having an MHD if they have any ICD-10 diagnosis codes that begin with F200-203, F205, F2081, F2089, F209, F21-24, F250, F251, F258, F259, F28-29, F301-304, F308-325, F328-334, F338-341, F348-349, F39-45, F48, F50, F53-54, F60, F63-66, F68-69, F843, F900-902, F908-913, F918-919, F930, F938-942, F948-949, F980-981, F984, F9888-989, F99, G21, G24-25, R45, O99, Z046; OR any ICD-9 diagnosis codes that begin with 295-302, 307-309, 311- 314, 332.1, 333.90, 333.99, 648 according to the COMAR definition of MHD.

Table 60 displays the number and percentage of HealthChoice participants with an MHD diagnosis who had at least one ambulatory care visit, as well as participants with at least one ambulatory care visit with an MHD as a primary diagnosis. From CY 2015 to CY 2019, the percentage of HealthChoice participants with an MHD-only with at least one ambulatory care visit remained steady. The percentage of participants who had an ambulatory care visit with MHD as a primary diagnosis increased from 8.5% in CY 2015 to 18.5% in CY 2018 and then decreased slightly to 17.1% in CY 2019.

The percentage of participants with a dual diagnosis of MHD and SUD who had at least one ambulatory care visit increased by 3.2 percentage points between CY 2015 and CY 2019. The percentage of participants with a co-occurring MHD and SUD, with MHD as a primary diagnosis, increased from 6.7% in CY 2015 to 16.2% in CY 2018. However, the percentage fell slightly (by 1.3 percentage points) between CY 2018 and CY 2019.

Between CY 2015 and CY 2019, the percentage of participants with any MHD—which includes participants diagnosed with only an MHD and those with a co-occurring MHD and SUD—with at least one ambulatory care visit increased slightly from 92.5% to 93.1%. Among those with an ambulatory visit where MHD was a primary diagnosis, the percentage with at least one ambulatory care visit more than doubled between CY 2015 and CY 2019 from 8.2% to 16.7%, although the percentage decreased by 1.4 percentage point from CY 2018.

**Table 60. HealthChoice Participants with Ambulatory Care Visit, MHD Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Ambulatory Care Visit (Any Diagnosis) | | At Least One Ambulatory Care Visit with MHD as Primary Diagnosis | |
|---|---|---|---|---|---|
| | | # of Participants | % of Total Participants | # of Participants | % of Total Participants |
| **MHD-Only** | | | | | |
| **2015** | 142,223 | 131,875 | 92.7% | 12,033 | 8.5% |
| **2016** | 148,186 | 137,679 | 92.9% | 28,177 | 19.0% |
| **2017** | 156,694 | 145,397 | 92.8% | 28,962 | 18.5% |
| **2018** | 165,198 | 153,182 | 92.7% | 30,601 | 18.5% |
| **2019** | 171,971 | 159,515 | 92.8% | 29,391 | 17.1% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2015** | 27,601 | 25,257 | 91.5% | 1,844 | 6.7% |
| **2016** | 30,646 | 27,973 | 91.3% | 5,047 | 16.5% |
| **2017** | 33,085 | 30,674 | 92.7% | 5,270 | 15.9% |
| **2018** | 34,615 | 32,499 | 93.9% | 5,594 | 16.2% |
| **2019** | 36,812 | 34,876 | 94.7% | 5,477 | 14.9% |
| **Total** | | | | | |
| **2015** | 169,824 | 157,132 | 92.5% | 13,877 | 8.2% |
| **2016** | 178,832 | 165,652 | 92.6% | 33,224 | 18.6% |
| **2017** | 189,779 | 176,071 | 92.8% | 34,232 | 18.0% |
| **2018** | 199,813 | 185,681 | 92.9% | 36,195 | 18.1% |
| **2019** | 208,783 | 194,391 | 93.1% | 34,868 | 16.7% |

Table 61 displays the number and percentage of HealthChoice participants with at least one outpatient ED visit and either any MHD diagnosis or a primary diagnosis of MHD.

Between CY 2015 and CY 2019, the percentage of participants with any MHD—which includes participants diagnosed with only an SUD and those with a co-occurring MHD and SUD—with at least one outpatient ED visited decreased by 4.8 percentage points. Among those with a primary MHD diagnosis, the percentage with an ED visit decreased by 2.1 percentage points.

Similar trends were observed for HealthChoice participants with a dual diagnosis (MHD and SUD) and MHD-only, with a decrease of 4.1 and a 5.3 percentage points, respectively. The percentage of HealthChoice participants with a dual diagnosis and at least one outpatient ED visit with a primary MHD diagnosis decreased by 5.1 percentage points, whereas participants with an MHD-only diagnosis decreased by 1.5 percentage points.

**Table 61. HealthChoice Participants Who Had an Outpatient ED Visit, by MHD Diagnosis, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Outpatient ED Visit (Any Diagnosis) | | At Least One Outpatient ED Visit with MHD as Primary Diagnosis | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants | Number of Participants | Percentage of Total Participants |
| **MHD-Only** | | | | | |
| **2015** | 142,223 | 63,326 | 44.5% | 12,564 | 8.8% |
| **2016** | 148,186 | 65,571 | 44.3% | 12,731 | 8.6% |
| **2017** | 156,694 | 67,557 | 43.1% | 13,516 | 8.6% |
| **2018** | 165,198 | 65,561 | 39.7% | 13,915 | 8.4% |
| **2019** | 171,971 | 67,352 | 39.2% | 12,504 | 7.3% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2015** | 27,601 | 18,685 | 67.7% | 4,599 | 16.7% |
| **2016** | 30,646 | 20,887 | 68.2% | 4,934 | 16.1% |
| **2017** | 33,085 | 22,530 | 68.1% | 5,201 | 15.7% |
| **2018** | 34,615 | 22,663 | 65.5% | 4,846 | 14.0% |
| **2019** | 36,812 | 23,419 | 63.6% | 4,273 | 11.6% |
| **Total** | | | | | |
| **2015** | 169,824 | 82,011 | 48.3% | 17,163 | 10.1% |
| **2016** | 178,832 | 86,458 | 48.4% | 17,665 | 9.9% |
| **2017** | 189,779 | 90,087 | 47.5% | 18,717 | 9.9% |
| **2018** | 199,813 | 88,224 | 44.2% | 18,761 | 9.4% |
| **2019** | 208,783 | 90,771 | 43.5% | 16,777 | 8.0% |

The Department monitors the extent to which HealthChoice participants who had an ED visit with a primary diagnosis of MHD receive a follow-up outpatient visit with any practitioner within 7 or 30 days.

Table 62 displays the number of ED visits with a primary diagnosis of MHD among participants aged 6 to 64 years and the percentage of visits where appropriate follow-up care was provided; i.e., an outpatient visit within 7 or 30 days (FUM) during CY 2017 to CY 2019.[47] A higher percentage of participants with only an MHD completed follow-up visits than participants with a dual diagnosis of MHD and SUD, within both 7 and 30 days throughout the evaluation period. Among all participants with an MHD, the percentage of ED visits with a primary MHD diagnosis and a follow-up appointment within 7 days increased slightly—from 36.9% in CY 2017 to 37.3% in CY 2019; the percentage of follow-up visits within 30 days increased from 56.9% in CY 2017 to 58.1% in CY 2019.

**Table 62. Number and Percentage of ED Visits for MHD and a Follow-Up Visit within 7 or 30 Days, CY 2017–CY 2019**

| Calendar Year | Total Number of Visits | At Least One Follow-Up within 7 Days | | At Least One Follow-Up within 30 Days | |
|---|---|---|---|---|---|
| | | Number of Visits | Percentage of Visits | Number of Visits | Percentage of Visits |
| **MHD-Only** | | | | | |
| **2017** | 9,307 | 3,854 | 41.4% | 5,661 | 60.8% |
| **2018** | 9,702 | 4,011 | 41.3% | 5,992 | 61.8% |
| **2019** | 8,947 | 3,682 | 41.2% | 5,525 | 61.8% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2017** | 4,424 | 1,209 | 27.3% | 2,149 | 48.6% |
| **2018** | 4,195 | 1,124 | 26.8% | 2,037 | 48.6% |
| **2019** | 3,916 | 1,113 | 28.4% | 1,953 | 49.9% |
| **Total** | | | | | |
| **2017** | 13,731 | 5,063 | 36.9% | 7,810 | 56.9% |
| **2018** | 13,897 | 5,135 | 37.0% | 8,029 | 57.8% |
| **2019** | 12,863 | 4,795 | 37.3% | 7,478 | 58.1% |

### Antipsychotic Medication Coverage and Utilization

Table 63 shows the results of the logistic regression models using standard HEDIS® measures of antipsychotic medication utilization to estimate the association between someone being dispensed antipsychotic medication and remaining on antipsychotic medication coverage for 80% or more of a measurement year and having at least one ED (Model 1) or inpatient (Model 2) claim with a primary diagnosis of schizophrenia or schizoaffective disorder during CY 2017 to CY

[47] This measure—Follow-Up After Emergency Department Visit for Mental Illness, or FUM—was calculated using the HEDIS® proprietary software from Cognizant.

2019. Both Model 1 and Model 2 controlled for age, gender, geographic region of residence, race, and comorbidity score.[48]

According to the results of Model 1, holding all other covariates constant, individuals with 80% antipsychotic medication compliance in a measurement year had significantly lower odds of having an ED visit with a primary diagnosis of schizophrenia or schizoaffective disorder in that measurement year (OR = 0.71, p<0.001). The odds of an ED visit with these primary diagnoses appeared to decrease with a person's age: 35- to 49-year-olds (OR = 0.55, p<0.001) and 50- to 64-year-olds (OR = 0.31, p<0.001) were much less likely than 18- to 34-year-olds to have an ED visit with a primary diagnosis of schizophrenia or schizoaffective disorder in that measurement year. Females were also found to have lower odds than males (OR = 0.71, p<0.001). No statistically significant associations were observed for race.

Relative to Baltimore City residents, residents of all regions except Baltimore Suburban had significantly lower odds of an ED visit with schizophrenia or schizoaffective disorder as the primary diagnosis, with the lowest odds among Western Maryland residents (OR = 0.58, p<0.001). Although the odds of an ED visit for Baltimore Suburban residents were lower than Baltimore City residents, they were not statistically significant at the 95% level (OR = 0.91; 95% CI: 0.81, 1.01).

Relative to those with a low score for comorbidities according to the ACG grouper, individuals with very high comorbidities had 64% higher odds (OR = 1.64, p<0.01) of having an ED visit with a schizophrenia or schizoaffective disorder primary diagnosis, while no statistically significant associations were found for those in the moderate or high comorbidity groups.

Many of the associations with ED utilization estimated by Model 1 remained for inpatient admissions tested in Model 2. Most importantly, people with antipsychotic medication coverage for 80% of a measurement year had much lower odds of an inpatient admission with a primary diagnosis of schizophrenia or schizoaffective disorder than those without (OR = 0.61, p<0.001), when holding all included covariates constant. Individuals in the 35- to 49-year-old (OR = 0.51 p<0.001) and 50- to 64-year-old (OR = 0.28, p<0.001) age groups again had much lower odds than 18- to 34-year-olds of experiencing the outcome of interest, as did females relative to males (OR = 0.84, p<0.001). Individuals categorized in the "other" race group had higher odds than White participants (OR = 1.25, p<0.01), but no other statistically significant associations were found for race.

Compared to the odds of an inpatient admission for schizophrenia or schizoaffective disorder for residents of Baltimore City, Model 2 also estimated similar associations as Model 1 for residents of the Eastern Shore (OR = 0.76, p<0.001) and Southern Maryland (OR = 0.69, p<0.001), though the reduced odds did not persist for Western Maryland. Interestingly, residents of the Washington Suburban region had higher odds compared to Baltimore City residents (OR = 1.17,

[48] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For our analyses, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017, 2018, 2019).

p<0.01). People with a moderate comorbidity score had much lower odds of an inpatient admission than those in the low category (OR = 0.58, p<0.001), but no statistically significant associations were found for those with a high or very high comorbidity score.

**Table 63. Association between Antipsychotic Medication Coverage and ED Visits or Inpatient Admissions with a Primary Diagnosis of Schizophrenia or Schizoaffective Disorder, CY 2017–CY 2019**

| Variable | Model 1: ED Visit with Primary Diagnosis of Schizophrenia | | | Model 2: Inpatient Admission with Primary Diagnosis of Schizophrenia | | |
|---|---|---|---|---|---|---|
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **Antipsychotic Medication Coverage[&]** | 0.71*** | 0.66 | 0.77 | 0.61*** | 0.57 | 0.65 |
| **Age, Years** | | | | | | |
| *35–49* | 0.55*** | 0.50 | 0.60 | 0.51*** | 0.47 | 0.56 |
| *50–64* | 0.31*** | 0.28 | 0.35 | 0.28*** | 0.26 | 0.31 |
| **Female†** | 0.71*** | 0.65 | 0.77 | 0.84*** | 0.78 | 0.90 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.91 | 0.81 | 1.01 | 0.97 | 0.87 | 1.07 |
| *Eastern Shore* | 0.65*** | 0.54 | 0.77 | 0.76*** | 0.66 | 0.89 |
| *Southern Maryland* | 0.74** | 0.60 | 0.91 | 0.69*** | 0.57 | 0.83 |
| *Washington Suburban* | 0.83*** | 0.75 | 0.93 | 1.17** | 1.06 | 1.28 |
| *Western Maryland* | 0.58*** | 0.47 | 0.71 | 0.97 | 0.83 | 1.13 |
| **Race†** | | | | | | |
| *Asian* | 0.80 | 0.60 | 1.06 | 0.85 | 0.68 | 1.08 |
| *Black* | 0.99 | 0.89 | 1.09 | 0.93 | 0.85 | 1.02 |
| *Hispanic* | 1.09 | 0.82 | 1.45 | 1.11 | 0.87 | 1.40 |
| *Other* | 1.05 | 0.88 | 1.25 | 1.25** | 1.09 | 1.45 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 0.74 | 0.54 | 1.02 | 0.58*** | 0.45 | 0.74 |
| *High* | 1.26 | 0.91 | 1.73 | 0.82 | 0.63 | 1.05 |
| *Very High* | 1.64** | 1.19 | 2.27 | 1.04 | 0.80 | 1.34 |

[&] Defined as being dispensed and remaining on an antipsychotic medication for at least 80% of the treatment period, with treatment period beginning on the index prescription start date and ending on the last day of the measurement year.

*** p<.001, **p<.01, *p<.05

†, Reference Groups: 18-34, Baltimore City, White, Low

### Antidepressant Adherence and ED Visits

Tables 64 and 65 present the results of the logistic regression analyses examining the relationships between antidepressant medication adherence and ED visits in the HealthChoice

population aged 18 to 64 years from CY 2017 to CY 2019. The regression controlled for demographic characteristics (race/ethnicity, age, and gender) and comorbidity levels.[49]

Hilltop examined two levels of antidepressant adherence: 12-week adherence and 6-month adherence, which are derived from the HEDIS® standards. Detailed HEDIS® measurements and methodology have been described at length in Section II.[50]

Hilltop also examined two different outcomes: ED visits with a primary diagnosis of depression in the same calendar year and ED visits with a primary diagnosis of depression in the following calendar year.

There was no significant association between 12-week (Table 64) or 6-month (Table 65) adherence to antidepressants and ED visit with a primary diagnosis of depression within the same calendar year. However, comparing these measures to outcomes in the following year, Hilltop found that 12-week antidepressant adherence was associated with slightly higher odds of an ED visit with a primary diagnosis of depression in the following year (OR=: 1.27, p<0.05; 95% CI: 1.04-1.55). Hilltop continued to observe no statistically significant association between 6-month antidepressant adherence and ED visits.

**Table 64. Association between 12-Week Antidepressant Adherence and ED Visit with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017–CY 2019**

| Variable | ED Visit with a Primary Diagnosis of Depression | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current Calendar Year | | | Regression 2: Following Calendar Year | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **12-Week Adherence** | 1.06 | 0.98 | 1.14 | 1.27* | 1.04 | 1.55 |
| **Male** | 2.15*** | 1.99 | 2.32 | 3.00*** | 2.46 | 3.68 |
| **Age Category (Years) †** | | | | | | |
| *35–49* | 0.61*** | 0.56 | 0.67 | 0.61*** | 0.49 | 0.78 |
| *50–64* | 0.39*** | 0.35 | 0.43 | 0.53*** | 0.40 | 0.70 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.97 | 0.88 | 1.08 | 0.91 | 0.69 | 1.21 |
| *Eastern Shore* | 0.79** | 0.68 | 0.91 | 0.67 | 0.44 | 1.03 |
| *Southern Maryland* | 0.82* | 0.68 | 0.99 | 0.95 | 0.57 | 1.58 |
| *Washington Suburban* | 0.83** | 0.73 | 0.96 | 0.79 | 0.53 | 1.17 |
| *Western Maryland* | 0.90 | 0.77 | 1.04 | 0.95 | 0.65 | 1.40 |
| **Race†** | | | | | | |
| *Asian* | 0.71 | 0.50 | 1.02 | 0.84 | 0.33 | 2.15 |
| *Black* | 0.96 | 0.88 | 1.06 | 0.87 | 0.67 | 1.12 |
| *Hispanic* | 0.78 | 0.60 | 1.02 | 0.75 | 0.35 | 1.59 |

[49] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For our analyses, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017, 2018, 2019).

[50] See https://www.ncqa.org/hedis/.

| Variable | ED Visit with a Primary Diagnosis of Depression | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current Calendar Year | | | Regression 2: Following Calendar Year | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| *Other* | 0.97 | 0.84 | 1.12 | 0.93 | 0.61 | 1.44 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 1.55*** | 1.24 | 1.94 | 2.52 | 0.80 | 7.94 |
| *High* | 2.70*** | 2.17 | 3.37 | 3.05 | 0.97 | 9.60 |
| *Very High* | 4.70*** | 3.76 | 5.88 | 4.73** | 1.51 | 14.85 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: 18-34, Baltimore City, White, Low

**Table 65. Association between 6-Month Antidepressant Adherence & ED Visit with Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017– CY 2019**

| Variable | ED Visit with a Primary Diagnosis of Depression | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1b: Current Calendar Year | | | Regression 2b: Following Calendar Year | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **6-Month Adherence** | 1.06 | 0.98 | 1.14 | 1.08 | 0.85 | 1.38 |
| **Male** | 2.15*** | 1.99 | 2.32 | 2.99*** | 2.44 | 3.66 |
| **Age Category (Years) †** | | | | | | |
| *35-49* | 0.61*** | 0.56 | 0.67 | 0.62*** | 0.49 | 0.79 |
| *50-64* | 0.39*** | 0.35 | 0.43 | 0.53*** | 0.40 | 0.71 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 0.97 | 0.88 | 1.08 | 0.91 | 0.69 | 1.21 |
| *Eastern Shore* | 0.79** | 0.68 | 0.91 | 0.66 | 0.43 | 1.02 |
| *Southern Maryland* | 0.82* | 0.68 | 0.99 | 0.95 | 0.57 | 1.59 |
| *Washington Suburban* | 0.83* | 0.73 | 0.96 | 0.79 | 0.53 | 1.17 |
| *Western Maryland* | 0.90 | 0.77 | 1.04 | 0.96 | 0.65 | 1.41 |
| **Race†** | | | | | | |
| *Asian* | 0.71 | 0.50 | 1.02 | 0.84 | 0.33 | 2.13 |
| *Black* | 0.96 | 0.88 | 1.06 | 0.85 | 0.66 | 1.10 |
| *Hispanic* | 0.78 | 0.60 | 1.02 | 0.75 | 0.35 | 1.58 |
| *Other* | 0.97 | 0.84 | 1.12 | 0.93 | | |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 1.55*** | 1.24 | 1.94 | 2.53 | 0.81 | 7.94 |
| *High* | 2.70*** | 2.17 | 3.37 | 3.07 | 0.98 | 9.60 |
| *Very High* | 4.70*** | 3.76 | 5.88 | 4.75** | 1.52 | 14.83 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: 18-34, Baltimore City, White, Low

Tables 66 and 67 present the results of Hilltop's logistic regression analyses examining the relationships between antidepressant medication adherence in the HealthChoice population aged 18 to 64 years from CY 2017 to CY 2019 and the following: 1) inpatient admission with a primary diagnosis of depression in the same calendar year and 2) inpatient admission with a primary diagnosis of depression in the following calendar year.

Hilltop found that both 12-week antidepressant adherence (OR= 1.13, 95% CI: 1.05-1.22) and 6-month antidepressant adherence (OR=1.14, 95% CI: 1.06-1.24) were associated with higher odds of an inpatient admission with a primary diagnosis of depression in the same calendar year. There was no significant association between 12-week or 6-month antidepressant adherence and inpatient admission with a primary diagnosis of depression in the following measurement year.

**Table 66. Association between 12-Week Antidepressant Adherence and Inpatient Admission with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017–CY 2019**

| Variable | Inpatient Admission with Depression as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1: Current Calendar Year | | | Regression 2: Following Calendar Year | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **12-Week Adherence** | 1.13** | 1.05 | 1.22 | 1.22 | 1.00 | 1.50 |
| **Male** | 2.32*** | 2.15 | 2.50 | 3.11*** | 2.51 | 3.85 |
| **Age Category (Years) †** | | | | | | |
| *35-49* | 0.67*** | 0.61 | 0.72 | 0.88 | 0.70 | 1.12 |
| *50-64* | 0.47*** | 0.42 | 0.52 | 0.72 | 0.53 | 0.96 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 1.01 | 0.90 | 1.13 | 0.96 | 0.71 | 1.31 |
| *Eastern Shore* | 0.71*** | 0.60 | 0.83 | 0.58* | 0.36 | 0.93 |
| *Southern Maryland* | 0.93 | 0.77 | 1.12 | 0.69 | 0.38 | 1.24 |
| *Washington Suburban* | 1.24*** | 1.18 | 1.51 | 1.17 | 0.82 | 1.67 |
| *Western Maryland* | 1.35*** | 1.18 | 1.55 | 1.43 | 0.99 | 2.07 |
| **Race†** | | | | | | |
| *Asian* | 0.87 | 0.65 | 1.16 | 0.46 | 0.14 | 1.50 |
| *Black* | 0.89* | 0.81 | 0.98 | 0.74* | 0.56 | 0.97 |
| *Hispanic* | 1.01 | 0.80 | 1.26 | 1.26 | 0.70 | 2.28 |
| *Other* | 1.09 | 0.94 | 0.25 | 1.31 | 0.88 | 1.93 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 1.42** | 1.15 | 1.75 | 0.77 | 0.37 | 1.62 |
| *High* | 2.21*** | 1.79 | 2.72 | 1.02 | 0.49 | 2.15 |
| *Very High* | 4.43*** | 3.60 | 5.45 | 1.63 | 0.78 | 3.41 |

*** p<.001, **p<.01, *p<.05

†, Reference Groups: 18-34, Baltimore City, White, Low

**Table 67. Association between 6-Month Antidepressant Adherence and Inpatient Admission with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017– CY 2019**

| Variable | Inpatient Admission with Depression as a Primary Diagnosis | | | | | |
|---|---|---|---|---|---|---|
| | Regression 1b: Current Calendar Year | | | Regression 2b: Following Calendar Year | | |
| | Odds Ratio | 95% CI | | Odds Ratio | 95% CI | |
| **6-Month Adherence** | 1.14*** | 1.06 | 1.24 | 1.04 | 0.81 | 1.34 |
| **Male** | 2.32*** | 2.15 | 2.50 | 3.09*** | 2.50 | 3.83 |
| **Age Category (Years)†** | | | | | | |
| *35–49* | 0.66*** | 0.61 | 0.73 | 0.89 | 0.70 | 1.13 |
| *50–64* | 0.46*** | 0.42 | 0.51 | 0.72* | 0.54 | 0.97 |
| **Region†** | | | | | | |
| *Baltimore Suburban* | 1.01 | 0.91 | 1.13 | 0.97 | 0.71 | 1.31 |
| *Eastern Shore* | 0.70*** | 0.60 | 0.83 | 0.58* | 0.36 | 0.92 |
| *Southern Maryland* | 0.93 | 0.77 | 1.13 | 0.69 | 0.39 | 1.25 |
| *Washington Suburban* | 1.34*** | 1.18 | 1.51 | 1.17 | 0.83 | 1.67 |
| *Western Maryland* | 1.35*** | 1.18 | 1.55 | 1.55 | 1.00 | 2.09 |
| **Race†** | | | | | | |
| *Asian* | 0.87 | 0.65 | 1.17 | 0.45 | 0.14 | 1.49 |
| *Black* | 0.89* | 0.81 | 0.99 | 0.73* | 0.56 | 0.96 |
| *Hispanic* | 1.01 | 0.81 | 1.27 | 1.26 | 0.70 | 2.28 |
| *Other* | 1.09 | 0.95 | 1.25 | 1.30 | 0.88 | 1.92 |
| **Comorbidity Score†** | | | | | | |
| *Moderate* | 1.42** | 1.15 | 1.75 | 0.77 | 0.37 | 1.62 |
| *High* | 2.20*** | 1.79 | 2.71 | 1.03 | 0.50 | 2.16 |
| *Very High* | 4.41*** | 3.58 | 5.43 | 1.63 | 0.78 | 3.41 |

*** p<.001, **p<.01, *p<.05
†, Reference Groups: 18-34, Baltimore City, White, Low

The relationship between medication adherence and higher ED and inpatient utilization seems counter-intuitive. Perhaps persons with more severe depression are more likely to adhere to their prescribed medications but remain at high risk of ED and inpatient utilization because of the nature of the disorder.

Outside of antidepressant adherence status, Hilltop identified several variables that may be of interest in terms of their association with ED visits or inpatient admission with a primary diagnosis of depression. Being male was consistently associated with significantly higher odds of an ED or inpatient admission. This held true regardless of adherence status (12-week vs. 6-month adherence) and outcome timing (current year vs. following year). Outside of sex, we found that, regardless of adherence status, participants aged 35-49 or 50-64 had lower odds of a same-year visit, lagged ED visit, or same-year inpatient admission as compared to participants aged 18 to 34. While there were no significant associations between race/ethnicity and odds of an ED visit, we found that participants identifying as Black had lower odds of an inpatient

admission with a primary diagnosis of depression within the same year or within the following year as compared to participants identifying as White. This held true regardless of adherence status. Participants in moderate or higher comorbidity groups had increased odds of same-year ED or inpatient admission with a primary diagnosis of depression.

### *Substance Use Disorder Services*

This section evaluates the quality and comprehensiveness of SUD-related care provided to HealthChoice participants.

SUD services are carved out and administered by the ASO in alignment with specialty mental health services.[51] Table 68 presents the demographic characteristics of HealthChoice participants with an SUD diagnosis. Among racial and ethnic groups, White participants made up the highest proportion of persons with an SUD, followed by Black participants. The share of White and Black participants with an SUD decreased from CY 2015 to CY 2019, with the percentage of Black participants decreasing by close to 2 percentage points. Between CY 2015 and CY 2019, males remained the majority of persons with an SUD, making up 56.8% of the CY 2019 population. Also, the region with the highest share of persons with SUD switched from Baltimore City in CY 2015 to the Baltimore Suburban region in CY 2019.

**Table 68. Demographic Characteristics of HealthChoice Participants with an SUD, CY 2015–CY 2019**

| Demographic Characteristics | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| | % of Total | % of Total | % of Total | % of Total | % of Total |
| **Race/Ethnicity** | | | | | |
| **Asian** | 0.6% | 0.6% | 0.6% | 0.7% | 0.7% |
| **Black** | 38.8% | 37.8% | 37.5% | 37.3% | 36.9% |
| **White** | 53.5% | 53.9% | 53.6% | 52.6% | 52.4% |
| **Hispanic** | 1.9% | 1.6% | 1.5% | 1.6% | 1.6% |
| **Native American** | 0.4% | 0.4% | 0.4% | 0.4% | 0.4% |
| **Other** | 4.9% | 5.7% | 6.5% | 7.4% | 8.0% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Sex** | | | | | |
| **Female** | 44.4% | 43.8% | 43.4% | 43.6% | 43.2% |
| **Male** | 55.6% | 56.2% | 56.6% | 56.4% | 56.8% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Region** | | | | | |
| **Baltimore City** | 32.0% | 30.5% | 30.1% | 29.3% | 28.9% |
| **Baltimore Suburban** | 30.2% | 31.3% | 31.6% | 32.0% | 32.1% |

[51] Individuals were identified as having an SUD if they had a claim that met the COMAR 10.67.08.02 definition of SUD, which includes presence of one of the following: (ICD-10 diagnosis codes: F10-19, O99310-99315, O99320-99325, R780-785; OR ICD-9 diagnosis codes:291-292, 303-304, 305.0, 305.2-305.9),648.3; WITH (Revenue codes 0114, 0116, 0124, 0126, 0134, 0136, 0154, 0156, 0762, 0900, 0905-0906, 0911-0916, 0918-0919, 0944-0945, 0450-0452, 0456, 0459 OR Procedure codes 99.201-99.205, 99.211-99.215, J8499, J2315); HCPCS H0001, H0004, H0005, H0014-H0016, H0020, H0047, H2036, J8499–OR Revenue code of "0100" and a provider type of "55."

| Demographic Characteristics | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| | % of Total | % of Total | % of Total | % of Total | % of Total |
| **Eastern Shore** | 12.1% | 12.5% | 12.7% | 12.6% | 12.9% |
| **Southern Maryland** | 5.3% | 5.7% | 5.8% | 5.7% | 5.7% |
| **Washington Suburban** | 9.8% | 9.1% | 8.5% | 8.9% | 8.8% |
| **Western Maryland** | 10.5% | 10.9% | 11.2% | 11.3% | 11.6% |
| **Out of State** | 0.2% | 0.1% | 0.1% | 0.1% | 0.1% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Age Group (Years)** | | | | | |
| **0-18** | 6.3% | 4.9% | 4.1% | 4.2% | 4.0% |
| **19-64** | 93.7% | 95.2% | 95.9% | 95.8% | 96.0% |
| **Total** | **100%** | **100%** | **100%** | **100%** | **100%** |
| **Total Participants** | **63,229** | **68,584** | **74,717** | **77,889** | **78,874** |

Note: "Other" race/ethnicity category includes Pacific Islanders, Alaskan Natives, and unknown.

### *Screening, Brief Intervention, and Referral to Treatment*

Screening, Brief Intervention, and Referral to Treatment (SBIRT) is a public health approach for delivering population screening, early intervention, and treatment services[52] targeting SUD. Health care providers using SBIRT ask participants about substance use during routine medical and dental visits, provide brief advice, and then, if appropriate, refer participants who are at risk of SUDs to more intensive treatment (SAMHSA, 2012). In July 2016, new SBIRT codes were introduced to give providers greater flexibility when billing SBIRT services (Maryland Department of Health, 2016).

Table 69 presents the number of HealthChoice participants who received an SBIRT service during the evaluation period. The total number of people receiving SBIRT services increased across the evaluation period. The number of assessments completed per 1,000 HealthChoice participants doubled between CY 2015 and CY 2016 and more than doubled between CY 2017 and CY 2018. The number of assessments between CY 2018 and CY 2019 increased by 65.7%.

Adolescents aged 15 to 18 years had the highest rate of SBIRT services completed in CY 2016 through CY 2019. Adults aged 40 to 64 had the second highest rate from CY 2016 until CY 2019, when adults aged 19 to 20 had the second highest rate for the first time. The number of assessments completed per 1,000 HealthChoice participants aged 15 to 18 increased by 41.5% between CY 2017 and CY 2019.

[52] An SBIRT service is identified by the following procedure codes: 99408, 99409, W7000, W7010, W7020, W7021, and W7022 during the calendar year.

**Table 69. Number and Percentage of Health Choice Participants Receiving an SBIRT Service, by Age Group, CY 2015–CY 2019**

| | Age Group (Years) | | | | | Total |
|---|---|---|---|---|---|---|
| | 14 and under | 15–18 | 19–20 | 21–39 | 40–64 | |
| **CY 2015*** | | | | | | |
| **# of Participants** | 532,231 | 110,125 | 46,193 | 345,781 | 269,777 | **1,304,107** |
| **# with Service** | 115 | 199 | 65 | 634 | 649 | **1,662** |
| **Per 1000** | 0.2 | 1.8 | 1.4 | 1.8 | 2.4 | **1.3** |
| **CY 2016*** | | | | | | |
| **# of Participants** | 527,049 | 108,872 | 46,018 | 341,629 | 261,863 | **1,285,431** |
| **# with Service** | 491 | 571 | 159 | 1,108 | 1,052 | **3,381** |
| **Per 1000** | 0.9 | 5.2 | 3.5 | 3.2 | 4 | **2.6** |
| **CY 2017*** | | | | | | |
| **# of Participants** | 544,260 | 113,790 | 49,229 | 371,558 | 276,606 | **1,355,443** |
| **# with Service** | 717 | 1,131 | 256 | 1,676 | 2,005 | **5,785** |
| **Per 1000** | 1.3 | 9.9 | 5.2 | 4.5 | 7.2 | **4.3** |
| **CY 2018*** | | | | | | |
| **# of Participants** | 553,063 | 117,167 | 51,214 | 385,419 | 282,853 | **1,389,716** |
| **# with Service** | 3,321 | 3,485 | 704 | 3,577 | 3,870 | **14,957** |
| **Per 1000** | 6 | 29.7 | 13.7 | 9.3 | 13.7 | **10.8** |
| **CY 2019*** | | | | | | |
| **# of Participants** | 552,517 | 118,243 | 51,600 | 377,114 | 278,019 | **1,377,493** |
| **# with Service** | 6,590 | 6,076 | 1,278 | 4,164 | 4,537 | **22,645** |
| **Per 1000** | 11.9 | 51.4 | 24.8 | 11.0 | 16.3 | **16.4** |

*SBIRT services began in CY 2015, and new codes were introduced in CY 2016, which influenced the increase.

The Department also monitors the extent to which HealthChoice participants with an SUD access ambulatory care services. Table 70 displays the percentage of HealthChoice participants with an SUD with an ambulatory care visit, as well as those having at least one ambulatory care visit whose primary diagnosis was SUD. From CY 2015 to CY 2016, ambulatory care utilization by participants with an SUD increased from 71.2% to 82.8%.

The percentage of participants with any SUD—which includes participants diagnosed with only an SUD and those with a co-occurring MHD and SUD—who had at least one ambulatory care visit increased from 80.0% in 2015 to 88.4% in 2019. Participants with a co-occurring MHD and SUD were consistently more likely to receive an ambulatory care visit. The rate of ambulatory care utilization among participants with a co-occurring MHD and SUD increased from 91.5% in CY 2015 to 94.7% in CY 2019.

Participants diagnosed with an SUD-only diagnosis experienced the greatest increase—5.8 percentage points—between CY 2016 and CY 2017. The percentage of participants who had at least one ambulatory care visit with a primary diagnosis of an SUD increased across the measurement period as well. Among all participants with an SUD, the percentage with at least one SUD-related ambulatory care visit increased by 30.5 percentage points between CY 2015 and CY 2019.

**Table 70. HealthChoice Participants Who Had an Ambulatory Care Visit, by SUD Status, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Ambulatory Care Visit | | At Least One Ambulatory Care Visit with Primary Diagnosis of SUD | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants | Number of Participants | Percentage of Total Participants |
| **SUD-Only** | | | | | |
| **2015** | 35,628 | 25,355 | 71.2% | 6,027 | 16.9% |
| **2016** | 37,938 | 27,154 | 71.6% | 6,837 | 18.0% |
| **2017** | 41,632 | 32,222 | 77.4% | 15,038 | 36.1% |
| **2018** | 43,274 | 35,152 | 81.2% | 19,060 | 44.0% |
| **2019** | 42,062 | 34,839 | 82.8% | 19,859 | 47.2% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2015** | 27,601 | 25,257 | 91.5% | 5,836 | 21.1% |
| **2016** | 30,646 | 27,973 | 91.3% | 6,909 | 22.5% |
| **2017** | 33,085 | 30,674 | 92.7% | 12,773 | 38.6% |
| **2018** | 34,615 | 32,499 | 93.9% | 16,146 | 46.6% |
| **2019** | 36,812 | 34,876 | 94.7% | 19,059 | 51.8% |
| **Total** | | | | | |
| **2015** | 63,229 | 50,612 | 80.0% | 11,863 | 18.8% |
| **2016** | 68,584 | 55,127 | 80.4% | 13,746 | 20.0% |
| **2017** | 74,717 | 62,896 | 84.2% | 27,811 | 37.2% |
| **2018** | 77,889 | 67,651 | 86.9% | 35,206 | 45.2% |
| **2019** | 78,874 | 69,715 | 88.4% | 38,918 | 49.3% |

Table 71 displays the percentage of HealthChoice participants with an SUD who had at least one outpatient ED visit and at least one ED visit with an SUD as a primary diagnosis.[53] From CY 2015 to CY 2019, the number of participants with an SUD-only and dual diagnosis (MHD and SUD) who had at least one ED visit decreased by 3.1 and 4.1 percentage points, respectively. The percentage of participants who had at least one SUD-related ED visit decreased slightly, from 13.0% in CY 2015 to 12.0% in CY 2019.

[53] This measure excludes ED visits that resulted in an inpatient hospital admission.

**Table 71. HealthChoice Participants Who Had an Outpatient ED Visit, by SUD Status, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One ED Visit | | At Least One ED Visit with Primary Diagnosis of SUD | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants | Number of Participants | Percentage of Total Participants |
| **SUD-Only** | | | | | |
| **2015** | 35,628 | 18,010 | 50.6% | 3,410 | 9.6% |
| **2016** | 37,938 | 19,251 | 50.7% | 3,407 | 9.0% |
| **2017** | 41,632 | 20,972 | 50.4% | 3,884 | 9.3% |
| **2018** | 43,274 | 20,430 | 47.2% | 3,969 | 9.2% |
| **2019** | 42,062 | 19,965 | 47.5% | 3,929 | 9.3% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2015** | 27,601 | 18,685 | 67.7% | 4,833 | 17.5% |
| **2016** | 30,646 | 20,887 | 68.2% | 4,794 | 15.6% |
| **2017** | 33,085 | 22,530 | 68.1% | 5,430 | 16.4% |
| **2018** | 34,615 | 22,663 | 65.5% | 5,437 | 15.7% |
| **2019** | 36,812 | 23,419 | 63.6% | 5,564 | 15.1% |
| **All** | | | | | |
| **2015** | 63,229 | 36,695 | 58.0% | 8,243 | 13.0% |
| **2016** | 68,584 | 40,138 | 58.5% | 8,201 | 12.0% |
| **2017** | 74,717 | 43,502 | 58.2% | 9,314 | 12.5% |
| **2018** | 77,889 | 43,093 | 55.3% | 9,406 | 12.1% |
| **2019** | 78,874 | 43,384 | 55.0% | 9,493 | 12.0% |

Table 72 presents the number and percentage of HealthChoice participants with an SUD who received at least one methadone replacement therapy or at least one medication-assisted treatment (MAT).[54] Overall, the percentage of all participants with an SUD-only diagnosis who received at least one methadone replacement therapy decreased across the evaluation period—from 39.2% in CY 2015 to 35.2% in CY 2019. The percentage of all participants with an SUD-only who received at least one MAT consistently increased during the evaluation period—from 56.6% in CY 2015 to 61.5% in CY 2019.

[54] MAT was defined as any treatment with buprenorphine, naloxone, methadone, or naltrexone.

**Table 72. Number and Percentage of HealthChoice Participants Who Received Methadone Replacement Therapy or MAT, by SUD Status, CY 2015–CY 2019**

| Calendar Year | Total Number of Participants | At Least One Methadone Replacement Therapy | | At Least One MAT | |
|---|---|---|---|---|---|
| | | Number of Participants | Percentage of Total Participants | Number of Participants | Percentage of Total Participants |
| **SUD-Only** | | | | | |
| **2015** | 35,628 | 13,973 | 39.2% | 20,164 | 56.6% |
| **2016** | 37,938 | 15,215 | 40.1% | 22,185 | 58.5% |
| **2017** | 41,632 | 16,344 | 39.3% | 24,830 | 59.6% |
| **2018** | 43,274 | 16,109 | 37.2% | 26,323 | 60.8% |
| **2019** | 42,062 | 14,799 | 35.2% | 25,884 | 61.5% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2015** | 27,601 | 8,891 | 32.2% | 15,784 | 57.2% |
| **2016** | 30,646 | 10,132 | 33.1% | 18,374 | 60.0% |
| **2017** | 33,085 | 10,221 | 30.9% | 20,131 | 60.8% |
| **2018** | 34,615 | 10,141 | 29.3% | 21,440 | 61.9% |
| **2019** | 36,812 | 10,870 | 29.5% | 23,894 | 64.9% |
| **All** | | | | | |
| **2015** | 63,229 | 22,864 | 36.2% | 35,948 | 56.9% |
| **2016** | 68,584 | 25,347 | 37.0% | 40,559 | 59.1% |
| **2017** | 74,717 | 26,565 | 35.6% | 44,961 | 60.2% |
| **2018** | 77,889 | 26,250 | 33.7% | 47,763 | 61.3% |
| **2019** | 78,874 | 25,669 | 32.5% | 49,778 | 63.1% |

The Department also monitors the extent to which HealthChoice participants with an ED visit and a primary diagnosis of SUD receive a follow-up outpatient visit with any practitioner within 7 or 30 days.

Table 73 shows the number and percentage of ED visits with a primary diagnosis of SUD with an outpatient follow-up visit (FUA) from CY 2017 to CY 2019.[55] The results are displayed by the participant's status as having an SUD-only or co-occurring MHD and SUD. In CY 2017, 17.4% of all ED visits with a primary diagnosis of SUD had a follow-up visit within 7 days, and 29.2% had an appointment within 30 days; in CY 2019, these values increased to 21.9% and 33.6%, respectively. The percentage of ED visits with a primary diagnosis of SUD with a follow-up appointment within 7 and 30 days increased for both participants with an SUD-only and those with a co-occurring diagnosis during the evaluation period.

[55] This measure was calculated using the HEDIS® proprietary software from Cognizant.

**Table 73. Number of ED Visits for SUD with a Follow-Up Visit within 7 or 30 days, CY 2017–CY 2019**

| Calendar Year | Total Number of Visits | At Least One Follow-Up within 7 Days | | At Least One Follow-Up within 30 Days | |
|---|---|---|---|---|---|
| | | Number of Visits | Percentage of Visits | Number of Visits | Percentage of Visits |
| **SUD-Only** | | | | | |
| **2017** | 4,708 | 581 | 12.3% | 953 | 20.2% |
| **2018** | 4,562 | 649 | 14.2% | 1,045 | 22.9% |
| **2019** | 4,644 | 673 | 14.5% | 1,034 | 22.3% |
| **Dual Diagnosis (MHD + SUD)** | | | | | |
| **2017** | 7,097 | 1,475 | 20.8% | 2,489 | 35.1% |
| **2018** | 7,327 | 1,743 | 23.8% | 2,801 | 38.2% |
| **2019** | 7,567 | 2,004 | 26.5% | 3,066 | 40.5% |
| **Total** | | | | | |
| **2017** | 11,805 | 2,056 | 17.4% | 3,442 | 29.2% |
| **2018** | 11,889 | 2,392 | 20.1% | 3,846 | 32.3% |
| **2019** | 12,211 | 2,677 | 21.9% | 4,100 | 33.6% |

## *Section VI Conclusion*

The HealthChoice program focuses on providing a variety of preventive services to participants. Over the evaluation period, many performance measures improved, such as breast cancer screening rates, colorectal cancer screening rates, rates for well-child visits, well-care visits, immunizations, and blood lead screening rates. In addition, the percentage of pregnant women who received prenatal services in a timely manner increased by 3.8 percentage points from CY 2015 to CY 2019. Hilltop's multiple regression analysis of the effects of obtaining early prenatal care in the HealthChoice population found it was associated with a 28% decrease in the odds of LBW and nearly 70% reduction in the odds of VLBW. Greater adherence to asthma medication was associated with reductions in Asthma ED use, although the effects on asthma inpatient admissions only had associations with admissions in the year after measurement. Reductions in diabetes-related ED and inpatient utilization were significantly associated with HEDIS® measures if both eye examinations and Hba1c measures occurred. Schizophrenia-related ED and inpatient use was reduced as expected with adherence to antipsychotic medication use. Antidepressant medication adherence modestly reduced the odds of inpatient admissions for depression, according to the results of Hilltop's regression analysis. The observed change in depression-related ED use was mixed, however.

HealthChoice covers a broad range of populations with low income and various service needs. Therefore, health promotion activities under HealthChoice have an extensive scope. From care for persons with chronic diseases like asthma, diabetes, and HIV infection to those with behavioral health conditions, most measures of performance are improving. However, the increases in behavioral health use may represent the need for better access to care for persons

with MHD and SUD. The Department will monitor the use of services to assure that necessary care is being delivered and that, where possible, prevention and early intervention can minimize the severity and duration of such conditions. The Department considers constant monitoring of performance measures for each aspect of health promotion and disease prevention to be a necessary part of demonstrating the HealthChoice program's effectiveness.

## Section VII. Expanding Coverage to Additional Low-Income Marylanders with Resources Generated through Managed Care Efficiencies

Section 1115 demonstrations, like HealthChoice, can use calculated cost savings under budget neutrality provisions to fund a federal match for services otherwise not covered by Medicaid. In addition to testing the effectiveness of a managed care program to improve health outcomes and generate expenditure savings, the HealthChoice demonstration has the opportunity to test new services anticipated to benefit the enrolled population. This section of the report analyzes the innovative programs designed to address the social determinants of health and improve the health and wellbeing of the Maryland population using savings from the HealthChoice managed care program. These programs include Residential Treatment for Individuals with SUD, HVS and ACIS, dental services for former foster care individuals, Adult Dental pilot, Increased Community Services (ICS), and the Family Planning program.

In mid-2018, the Department submitted an amendment to the currently approved waiver, containing requests to expand the Residential Treatment for Individuals with SUD and ACIS programs, provide dental services to dually eligible adults, implement the National DPP, and adjust the criteria for the Family Planning program. The waiver amendment application was approved in March 2019.

In mid-2019, the Department submitted an amendment request to implement a Collaborative Care Model (CoCM) pilot. This request was approved in April 2020, and coverage for collaborative care services began in July 2020. The CoCM pilot integrates primary care and behavioral health services for HealthChoice participants who have experienced a behavioral health need (either an MHD or SUD) but have not received effective treatment.

### *Residential Treatment for Individuals with SUD*

In 2016, CMS approved Maryland Medicaid to expand coverage to include SUD treatment in IMDs. Effective July 1, 2017, the approval permitted otherwise-covered services to be provided to Medicaid-eligible individuals aged 21 to 64 who are enrolled in an MCO and reside in a non-public IMD for American Society of Addiction Medicine (ASAM) residential levels 3.1, 3.3, 3.5, 3.7, and 3.7-WM for up to two non-consecutive 30-day stays annually.

On January 1, 2019, the Department phased in coverage of ASAM level 3.1. In March 2019, the Department received approval for a waiver amendment to allow coverage for ASAM level 4.0 for beneficiaries with a primary SUD and a secondary MHD in inpatient hospital settings only. The Department extended coverage to individuals dually eligible for Medicare and Medicaid as of January 1, 2020.

Table 74 displays IMD utilization for individuals aged 21 and older under the HealthChoice demonstration from FY 2018 through FY 2020 (July 2017 through June 2020). The number of unique users of IMD services increased by 12.3% during the waiver period. The total count of IMD services (excluding level 3.1 services) increased by 34.1%.

**Table 74. Utilization of Residential Treatment for SUDs, FY 2018–FY 2020**

| Level of Service | FY 2018 | | | FY 2019 | | | FY 2020*** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Recipient Count | Unique Recipient Count** | Service Count | Recipient Count | Unique Recipient Count** | Service Count | Recipient Count | Unique Recipient Count** | Service Count |
| **3.7-WM** | 4,650 | 4,391 | 29,334 | 5,125 | 4,819 | 31,098 | 3,705 | 3,435 | 21,469 |
| **3.7** | 5,689 | 2,530 | 87,097 | 6,126 | 2,836 | 96,343 | 4,159 | 2,024 | 61,045 |
| **3.5** | 1,873 | 886 | 37,478 | 2,926 | 1,871 | 61,307 | 3,491 | 2,520 | 100,348 |
| **3.3** | 1,243 | 940 | 32,484 | 1,566 | 1,074 | 36,840 | 1,760 | 1,133 | 67,062 |
| **3.1*** | N/A | N/A | N/A | 453 | 192* | 11,857 | 1,821 | 707 | 99,371 |
| **Total** | **13,455** | **8,747** | **186,393** | **16,196** | **10,792** | **237,445** | **14,936** | **9,819** | **349,295** |

*Level 3.1 services were covered as of January 1, 2019.
**The unique recipient count (unique number of users) does not equal the sum of all recipients. The unique number of users had at least one service, and some recipients had more than one service.
***Due to changes to the quality of the behavioral health data during 2020, these results should be interpreted with caution.

## *Evidence-Based Home Visiting Services Community Health Pilot*

The HVS pilot program is based on two evidence-based models for supporting the health of pregnant women: Nurse Family Partnership and Healthy Families America (HFA). The HVS program implements home visiting services to Medicaid-eligible high-risk pregnant women and children up to age two. Each HVS pilot program is managed locally by a lead local governmental entity (lead entity, or LE) that can fund 50% of total HVS pilot costs, provide leadership, and coordinate with key community partners to implement the pilot. Each LE may also identify other entities (participating entities) that will participate and assist the LE in providing services in the HVS pilot.

In 2017, the Department approved the first LE—Harford County Health Department—to provide home visiting services for up to 30 families under the HVS pilot. A second applicant—Garrett County Health Department—was approved in 2018 to serve up to 13 families. HVS was authorized for the current waiver period, and the Department intends to apply to CMS to extend this program into the next waiver period. The Department also intends to request the extension of the enrollment age limit from two to three years of age, to align with the national HFA model. Each LE chose to implement the HFA model, which uses home visits to assess the family's needs and provides resources for the health and wellbeing of the child and caregiver. The HVS pilot program allows participants to receive services until the child's second birthday.

Mothers can enroll in the HVS pilot program at any point during pregnancy (prenatal) or after the birth of the child (postpartum). Mothers complete a prescreening visit to determine eligibility for the program. Once determined eligible, the date the mother accepted home visiting

services is considered the date of enrollment.[56] Nearly all mothers in the HVS program were aged 19 years or older, with an average of 27.1 years.[57]

The Department and Hilltop monitor and evaluate the health and services provided to each participant in the HVS pilot and will continue to enroll new participants and provide services through December 31, 2021. Table 75 lists the measures used to evaluate HVS program participants.

**Table 75. HVS Annual Evaluation Measures**

| Measure | Mother | Child |
|---|---|---|
| **Depression screening** | ✓ | |
| **Treatment for a behavioral health condition** | ✓ | |
| **Ambulatory care visit by behavioral health condition** | ✓ | |
| **Initiation and engagement of alcohol and other drug dependence treatment (IET)** | ✓ | |
| **Receipt of an oral contraceptive prescription** | ✓ | |
| **Postpartum visit** | ✓ | |
| **Well-care visit** | | |
| **Emergency department visit** | | ✓ |
| **ED Visit for Injury, poisoning, or trauma** | | ✓ |
| **Receipt of NICU services** | | ✓ |
| **Inpatient admission** | | ✓ |
| **Inpatient admission for injury, poisoning, or trauma** | | ✓ |
| **Dental visit** | | ✓ |
| **Blood lead screening*** | | ✓ |
| **VLBW kick payment** | ✓ | ✓ |

Preliminary results of these measures include all program participants, regardless of year of enrollment and whether they disenrolled prior to program completion. Measures were reported based on the mother's year of enrollment or the child's year of birth. From CY 2018 to CY 2019, 77.8% of mothers completed the depression screening within three months of delivery for those enrolled before the birth of their child or within three months of enrollment for those enrolled postpartum. Approximately 44% of mothers had a behavioral health visit following program enrollment. Of these, a quarter received a visit for an MHD, 9.5% received a visit for an SUD, and an additional 9.5 percent had at least one visit for an MHD and SUD. Among HVS participants with a diagnosis of an MHD, 88.9 % had at least one ambulatory care visit following enrollment, and all participants with a diagnosis of an SUD had at least one ambulatory care visit. All children had at least one well-care visit within the first 15 months of their lives. More than half of the children (51.9%) had at least one ED visit.

[56] Since the HVS population is small, the number of individuals enrolled is not shown.
[57] Since the HVS population is small, these results are not shown.

## *Assistance in Community Integration Services Community Health Pilot*

The ACIS pilot provides case management support services and housing case management services to an at-risk population that meets the needs-based criteria for health and housing. Housing case management includes assisting participants in connecting with health care and social service providers and supporting the acquisition of independent living skills. Tenancy-based case management refers to assisting participants in obtaining the services of state and local housing programs to locate and support the individual's medical needs in the home.[58]

Participation in ACIS was initially capped at 300 individuals annually. In July 2018, the Department sought a waiver amendment to expand ACIS with an additional 300 participant spaces. This was approved in April 2019. Thus, the new statewide capacity is 600 spaces. In July 2021, the Department intends to apply for an additional 300 participant spaces. Similar to the HVS pilot, each ACIS pilot program is managed by an LE that funds 50% of total pilot costs with local dollars, provides leadership, and coordinates with key community partners—including participating entities—to implement the pilots. The Department currently oversees four LEs: the Baltimore City Mayor's Office of Homeless Services, the Montgomery County Department of Health and Human Services, the Cecil County Health Department, and the Prince George's County Health Department.

In July 2019, the Department released a third round of ACIS Pilot Request for Applications for the remaining available spaces. The Department and Hilltop monitor and evaluate the ACIS pilot. The measures used to evaluate ACIS participants are as follows:

- Programmatic Data Summary Measures
  - General and specific living situation at time of enrollment
  - ACIS service usage
  - Living situation at time of ACIS service delivery
  - Discharge reason/destination of ACIS participants
  - ACIS participants stably housed
  - Number of months to stable housing from ACIS enrollment date
  - Per member per month (PMPM) billing summaries
- Health Service Utilization Measures
  - ED visits
  - Avoidable ED visits

[58] https://mmcp.health.maryland.gov/Documents/HealthChoice%20Community%20Pilots/Attachment%20E%20-%20FINAL%20MD%20HealthChoice%20STCs%20with%20Approved%20ACIS%20protocol%2006162017.2.pdf

- Inpatient admissions
- MHD and SUD inpatient admissions
- Nursing facility admissions
- Ambulatory care visits
- MHD and SUD ambulatory care visits
- Participants with a primary diagnosis of an MHD or SUD

In CY 2019, the four LEs enrolled a total of 253 participants: an increase from 107 participants in CY 2018. During CY 2019, Baltimore City served the largest percentage of ACIS participants, followed by Montgomery County, Prince George's County, and Cecil County. Since the ACIS population is small, these results are not shown.

Table 76 displays demographic characteristics of the ACIS participants served during CY 2019. Overall, there were just slightly more males than females (50.6% and 49.4%). This varied by LE: Cecil (62.5%) and Montgomery County (54.5%) both served more females. Age is defined as the participant's age as of the end of CY 2019. Participants aged 51 years and older made up the largest age group overall: 43.9%.

**Table 76. Demographics of ACIS Participants, by Lead Entity, CY 2019**

| Demographic Characteristic | Baltimore City | Cecil County | Montgomery County | Prince George's County | Total |
|---|---|---|---|---|---|
| **Sex** | | | | | |
| **Female** | 48.8% | 62.5% | 54.5% | 28.1% | 49.4% |
| **Male** | 51.2% | 37.5% | 45.5% | 71.9% | 50.6% |
| **Age Group (Years)** | | | | | |
| **>30** | 15.4% | 6.3% | 15.2% | 18.8% | 14.6% |
| **31–40** | 17.9% | 28.1% | 19.7% | 18.8% | 19.8% |
| **41–50** | 22.0% | 18.8% | 25.8% | 15.6% | 21.7% |
| **51 +** | 44.7% | 46.9% | 39.4% | 46.8% | 43.9% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |

## Programmatic and Utilization Measures

The general living situation of each ACIS participant was calculated at the time of program enrollment. The categories include homelessness, institutional, transitional and permanent housing, and other. The majority (76.7%) of participants were homeless at the time of enrollment. Data was also collected for the living situation of participants at the time of service. The majority (71.1%) of living situations at the time of a service event were permanent supportive housing for formerly homeless persons.

Most participants (73.5%) achieved a stable housing status in CY 2019. The number of months to stable housing from ACIS enrollment date ranged from 3 to 5 months across LEs; Montgomery County had the lowest average with 3.8 months, followed by Baltimore City (4.3), Cecil County (4.9), and Prince George's County (5).

Table 77 illustrates the average number of services delivered per person by PMPM status and LE. On average, Baltimore City delivered the most PMPM-eligible services per person (6.2) as well as the most non-PMPM-eligible services per person (1.6).

**Table 77. Average Number of Services Delivered per Person, by PMPM Status and Lead Entity, CY 2019**

| Lead Entity | Average Eligible Services per Person | Average Non-Eligible Services per Person |
|---|---|---|
| **Baltimore City** | 6.2 | 1.6 |
| **Cecil County** | 3.5 | 0.5 |
| **Montgomery County** | 4.2 | 1.4 |
| **Prince George's County** | 3.4 | 1.3 |

The percentage of total ACIS participants with at least one ED visit was 51.4% during CY 2019. Of these ED visits, 35.2% were classified as avoidable. Notably, Montgomery County had fewer participants with at least one ED visit (37.9) when compared to the other LEs. The percentage of total ACIS participants with at least one inpatient admission was 22.5%. Of all ACIS participants, 81.4% had at least one ambulatory care visit. The percentage of Baltimore City ACIS participants with at least one ambulatory care visit (87.8%) was higher than the other LEs. SUD and MHD ambulatory visits are subsets of all ambulatory visits. There were no ACIS participants with at least one SUD ambulatory care visit, but there was a very small percentage with at least one MHD visit.

Almost 25% of all ACIS participants had an SUD diagnosis. This varied significantly by LE. Cecil County had the highest percentage of participants with a primary diagnosis of an SUD (43.8%). With respect to MHD, 70.8% of all ACIS participants carried such a primary diagnosis. Baltimore City had the highest percentage of participants with a primary diagnosis of an MHD (87.8%), followed by Cecil County (62.5%).

## *Dental Services for Former Foster Care Individuals*

Chapters 57 and 58 of the Maryland Acts of 2016 (SB 252/HB 511) authorized Medicaid to cover dental services for former foster care participants until they reach age 26. They also required Medicaid to apply to CMS for the necessary waiver to receive a federal match for these services. CMS authorized this benefit as part of the 2016 waiver renewal, and Maryland has provided dental services as a benefit to former foster care individuals since January 1, 2017.

Table 78 shows the number and percentage of former foster care participants who were enrolled in Medicaid for at least 320 days and who received dental services in CY 2017 through CY 2019. The percentage of former foster care participants who had at least one dental visit increased slightly by 0.5 percentage points from CY 2017 to CY 2018 before increasing by 3.7 percentage points by CY 2019. In CY 2019, the percentage of visits across regions varied from 21.2% to 31.8%. The Department anticipates that, over time, the number and percentage of former foster care participants receiving services will continue to increase.

**Table 78. Number and Percentage of Former Foster Care Participants Enrolled in Medicaid for 320 Days Who Had Dental Services, by Region, CY 2017–CY 2019**

| Region | CY 2017 | | | CY 2018 | | | CY 2019 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Number of Enrollees | Number with at Least One Visit | Percentage with Dental Visits | Total Number of Enrollees | Number with at Least One Visit | Percentage with Dental Visits | Total Number of Enrollees | Number with at Least One Visit | Percentage with Dental Visits |
| **Baltimore City** | 563 | 108 | 19.2% | 540 | 104 | 19.3% | 415 | 98 | 23.6% |
| **Baltimore Suburban** | 374 | 88 | 23.5% | 339 | 86 | 25.4% | 306 | 84 | 27.5% |
| **Eastern Shore** | * | * | 23.3% | * | * | 24.3% | * | * | 26.3% |
| **Southern Maryland** | * | * | 19.4% | * | * | 25.0% | * | * | 21.2% |
| **Washington Suburban** | 173 | 43 | 24.9% | 161 | 37 | 23.0% | 154 | 49 | 31.8% |
| **Western Maryland** | 100 | 23 | 23.0% | 91 | 22 | 24.2% | 92 | 21 | 22.8% |
| **Total** | **1,331** | **289** | **21.7%** | **1,237** | **275** | **22.2%** | **1,076** | **279** | **25.9%** |

*Cell values of 10 or less have been suppressed.

Table 79 shows the number and percentage of former foster care participants who had an outpatient ED visit with a dental diagnosis by region in CY 2017 through CY 2019. Overall, the percentage of former foster care participants who had an ED visit with a dental diagnosis decreased from 4.0% to 3.5% from CY 2017 to CY 2019. Participants living in Western Maryland used ED services at the highest rate in CY 2019—4.9%—a 4.1 percentage point increase from CY 2018. Participants living on the Eastern Shore used ED services at the highest rate in CY 2018—6.9%—but this decreased to 4.3% in CY 2019.

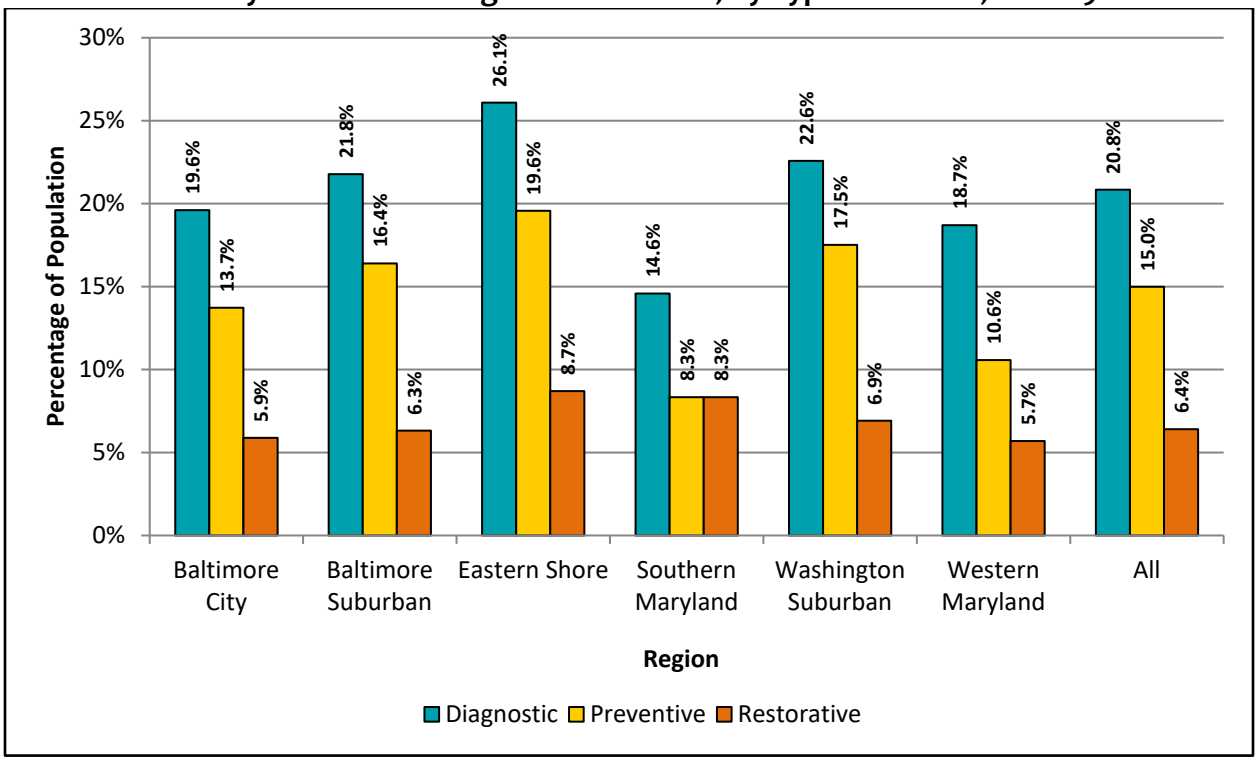
**Table 79. Number and Percentage of Former Foster Care Participants Enrolled in Medicaid for Any Period Who Had an Outpatient ED Visit with Any Dental Diagnosis, by Region, CY 2017–CY 2019**

| Region | CY 2017 | | | CY 2018 | | | CY 2019 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Number of Participants | Total with at Least One ED Visit | Percentage with One ED Visit | Total Number of Participants | Total with at Least One ED Visit | Percentage with One ED Visit | Total Number of Participants | Total with at Least One ED Visit | Percentage with One ED Visit |
| Baltimore City | 750 | 37 | 4.9% | 692 | 34 | 4.9% | 561 | 25 | 4.5% |
| Baltimore Suburban | 457 | 15 | 3.3% | 452 | 13 | 2.9% | 427 | 11 | 2.6% |
| Eastern Shore | * | * | 4.6% | * | * | 6.9% | * | * | 4.3% |
| Southern Maryland | * | * | 0.0% | * | * | 4.5% | * | * | 4.2% |
| Washington Suburban | * | * | 3.8% | * | * | 0.0% | * | * | 1.4% |
| Western Maryland | * | * | 2.4% | * | * | 0.8% | * | * | 4.9% |
| **Total** | **1,687** | **68** | **4.0%** | **1,629** | **57** | **3.5%** | **1,468** | **51** | **3.5%** |

*Cell values of 10 or less have been suppressed.

Figure 20 shows the percentage of former foster care participants by region and type of service for CY 2019 enrolled in Medicaid for any period of time. Overall, 20.8% received diagnostic services, 15.0% received preventive services, and 6.4% received restorative services. The Department expects the share of preventive and diagnostic services to increase and the percentage of restorative services to decrease as more participants receive dental services on a regular basis.

**Figure 20. Percentage of Former Foster Care Participants by Region Enrolled in Medicaid for Any Period Receiving Dental Services, by Type of Service, CY 2019**




## *Adult Dental Pilot Program*

On July 2, 2018, the Department submitted an amendment to its §1115 waiver for the adult dental pilot to provide dental services to adults between the ages of 21 and 64 who are eligible for both Medicare and Medicaid. Dually eligible individuals do not receive dental care through Medicaid; they receive limited coverage through Medicare. The Department received approval in the spring of 2019 and implemented the program effective June 1, 2019. The Department's aim is to determine whether adult dental benefits will improve health outcomes for vulnerable adults.

The pilot includes coverage for diagnostic, preventive, and restorative services, as well extractions. In the first seven months (June 1, 2019, through December 31, 2019) of the adult dental pilot, 4,508 (12.2%) participants had at least one dental visit, 4,354 (11.8%) had a diagnostic visit, 2,325 (6.3%) had a preventive care visit, and 1,321 (3.6%) had a restorative visit.[59]

## *National Diabetes Prevention Program*

The Department expanded coverage of the National DPP lifestyle change program to all eligible HealthChoice participants as of September 1, 2019. The National DPP is an evidence-based

[59] Data not shown.

program established by the CDC to prevent or delay the onset of type 2 diabetes through healthy eating and physical activity. Hilltop has partnered with the Department and MCOs to develop an algorithm that MCOs can use to search their members' electronic medical records to identify individuals who may be at risk of developing type 2 diabetes and therefore potentially be eligible for enrollment in the DPP. The MCOs have been provided with this algorithm and are still in the testing stages. The Department is also focusing on establishing needed infrastructure such as provider enrollment and MCO contracting. By identifying participants early through screening and testing for prediabetes, the Department hopes to reduce the incidence of diabetes and increase the quality of life for participants in the Maryland Medicaid program. This program also aligns with the population health goals under Maryland's Total Cost of Care Model.

## *Increased Community Services*

The ICS program provides cost-effective HCBS to certain adults with physical disabilities as an alternative to institutional care in a nursing facility. Identical to the Department's Community Options §1915(c) waiver in all aspects except financial eligibility, the ICS program was initially approved as part of the HealthChoice demonstration in 2009. The 2016 waiver renewal expanded the program from 30 to 100 potential participants. The ICS program aims to provide quality services for individuals in the community, ensure the safety and wellbeing of its participants, and increase opportunities for self-advocacy and self-reliance. The number of participants in the ICS program increased from 27 in CY 2015 to 35 in December 2019.

The Department monitors the health, welfare, and services rendered to each participant to ensure timely and quality provision of care. All participants from CY 2016 (when results became available) to CY 2019 had a plan of service (POS) that addressed their health and safety risk factors, as well as personal goals. All participants also received an annual level of care determination and signed a Freedom of Choice waiver instead of individually selecting institutional care, services, and providers. All ICS participants and designated supports planning supervisors received annual training to identify, address, and prevent abuse, neglect, and exploitation. In addition, all supervisors received annual training on falls prevention, and the case management agencies received annual training on behavioral health from the Department.

## *Family Planning Program*

The HealthChoice waiver allows the Department to provide a limited benefit package of family planning services to eligible participants. The program covers medical services related to family planning, including office and clinic visits, physical examinations, certain laboratory services, treatments for sexually transmitted infections, family planning supplies, permanent sterilization and reproductive health counseling, education, and referrals.

In CY 2017, women younger than 51 years—regardless of postpartum status—who were not otherwise eligible for Medicaid, CHIP, or Medicare and who had a family income at or below 200% of the FPL were eligible for the Family Planning program. The Department has expanded eligibility under its Family Planning Program to lift the age limit, and open coverage to include

men, as well as cover services for postpartum individuals effective July 1, 2018. Specifically, the §1115 waiver allows women to receive full Medicaid benefits for two months postpartum. Those who no longer qualify for Medicaid pregnancy benefits after the end of the postpartum period because they exceed income limits will be automatically enrolled in the Family Planning program for 12 months. After 12 months, these women can re-apply to continue their enrollment.

Table 80 shows that Family Planning program enrollment decreased from CY 2015 to CY 2017, with a slight increase in CY 2018, followed by a 19.7% increase in CY 2019. The initial decline in enrollment may be attributed to the ACA expansion in CY 2014, which increased the number of women who were eligible for full Medicaid benefits, thereby decreasing the population who needed family planning-only services. The increase in enrollment in CY 2018 and CY 2019 may be attributed to expanded eligibility in July 2018.

**Table 80. Number and Percentage of Family Planning Participants (Any Period of Enrollment) Who Received a Corresponding Service, CY 2015–CY 2019**

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Number of Participants** | 19,754 | 15,447 | 13,154 | 13,680 | 16,375 |
| **Number with at Least 1 Service** | 4,671 | 2,925 | 2,271 | 1,901 | 2,034 |
| **Percentage with at Least 1 Service** | 23.6% | 18.9% | 17.3% | 13.9% | 12.4% |

The percentage of participants enrolled in the Family Planning program for 12 months with at least one service decreased from 22.3% in CY 2015 to 8.5% in CY 2019 (Table 81). The number of participants with 12-month enrollment in the program also decreased during the evaluation period. Women who lose Medicaid coverage after their postpartum period will automatically be enrolled in the Family Planning program, and their coverage will auto-renew annually, replacing the limit that provided this coverage for only up to five years. However, some women may be unaware that they are enrolled in the program because no action is required on their part. Consequently, they may not seek services or know they are eligible to receive them.

**Table 81. Number and Percentage of Family Planning Participants (12-Month Enrollment) Who Received a Corresponding Service, CY 2015–CY 2019**

| | CY 2015 | CY 2016 | CY 2017 | CY 2018 | CY 2019 |
|---|---|---|---|---|---|
| **Number of Participants** | 7,488 | 6,758 | 6,314 | 5,965 | 5,962 |
| **Number with at Least 1 Service** | 1,672 | 1,198 | 862 | 654 | 507 |
| **Percentage with at Least 1 Service** | 22.3% | 17.7% | 13.7% | 11.0% | 8.5% |

## *Section VII Conclusion*

Resources generated through managed care efficiencies allowed the Department to establish innovative programs to improve the health status of the HealthChoice population. The year 2017 saw the beginning of three initiatives. Residential Treatment for Individuals with SUD was made possible through a §1115 waiver of Medicaid's limitations for coverage of care in IMDs and is intended to improve outcomes for those with SUD. The HVS pilot program is serving high-risk

pregnant women and children up to age two; preliminary results show that the majority of mothers had at least one ambulatory care visit and all children had at least one well-care visit within the first 15 months. The ACIS Pilot program is serving individuals with complex health care needs who are at risk of institutionalization and/or homelessness. Most participants in the ACIS program were homeless at the time of enrollment (79.7%), but 73.5% of participants achieved stable housing within an average of five months or less after enrollment. An expansion of dental services was created for two groups; former foster care participants receive dental coverage up to age 26, and a pilot program to offer dental coverage to adults who are dually eligible for both Medicare and Medicaid began in 2019. Access to the National DPP lifestyle change program was expanded to all eligible HealthChoice participants as of September 1, 2019, to reduce the risk of type 2 diabetes and improve their health.

The Department monitors several ongoing programs, including the ICS program for disabled adults, whose enrollment grew to 35 participants in 2019. In the long-running Family Planning program, eligibility was expanded by removing the age limit and opening coverage to men as well. The Family Planning program's integration with MHC is now complete; as of 2019, more than 16,300 participants (with any period of enrollment) were enrolled in the program, and 12.4% received a family planning service.

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# Appendix. Definitions and Specifications

## Table A1. Coverage Category Inclusion Criteria

| Coverage Category | Inclusion Criteria | | |
|---|---|---|---|
| **Disabled** | Coverage Group = A04, H01, H98, H99, L01, L98, L99, S01, S02, S03, S04, S05, S06, S07, S08, S10, S13, S14, S16, S98, S99, T01, T02, T03, T04, T05, T99 | | |
| **MCHP** | Coverage Group = D02, D04, P13, P14 | | |
| | OR | | |
| | Coverage Group = F05, P06, P07 | AND | Coverage Type = "S" |
| **ACA Expansion** | Coverage Group = A01, A02, A03 | | |
| **Families & Children** | All other Coverage Groups/Coverage Types | | |

## Table A2. Medicaid Coverage Group Descriptions

| Coverage Group | Description |
|---|---|
| **A01** | Childless Adults < 65, 138% FPL, former PAC |
| **A02** | Childless Adults < 65, 138% FPL, inc disabled |
| **A03** | Parents and Caretaker Relative 124%-138% FPL |
| **A04** | Disabled Adults, no Medicare 77% FPL |
| **C13** | Presumptive Eligibility |
| **D01** | Employer Sponsored Insurance (ESI),200%-250% FPL |
| **D02** | MCHP Premium, 212%-264% FPL |
| **D03** | Employer Sponsored Insurance (ESI),250%-300% FPL |
| **D04** | MCHP Premium, 265%-322% FPL |
| **E01** | IV-E Adoption & Foster Care |
| **E02** | FAC Foster Care |
| **E03** | State-Funded Foster Care |
| **E04** | State-Funded Subsidized Adoption |
| **E05** | Former Foster Care up to 26 years old |
| **F01** | TCA Recipients |
| **F02** | Post-TCA: Earnings Extension |
| **F03** | Post-TCA: Support Extension |
| **F04** | FAC Non-MA Requirement |
| **F05** | Parents/Primary Caretakers and Children <123% FPL |
| **F98** | Children 19 and 20 123% FPL |
| **F99** | FAC - Med Needy Spenddown |
| **G01** | Refugee Cash Assistance |
| **G02** | Post RCA: Earnings Extension |
| **G98** | Refugee Med Needy Non-Spenddown |
| **G99** | Refugee Med Needy Spenddown |

| Coverage Group | Description |
|---|---|
| **H01** | HCB Waiver |
| **H98** | HCB Waiver Med Needy |
| **H99** | HCB Waiver Spenddown |
| **L01** | SSI Recipient in LTC |
| **L98** | ABD Long Term Care |
| **L99** | ABD Long Term Care Spenddown |
| **P01** | GPA to Pregnant Women (ended 7/97) |
| **P02** | Pregnant Women up to 189% FPL |
| **P03** | Newborns |
| **P04** | Med Needy Newborns (ended 6/30/98) |
| **P05** | Newborns of PWC Moms (ended 6/30/98) |
| **P06** | Newborns of Elig Mothers and their < 1 |
| **P07** | Children 1-19, 1-6 143% FPL, 6-19 138% FPL |
| **P08** | Child Under 19, up to 100% FPL |
| **P09** | Maryland Kids Count (ended 6/30/98) |
| **P10** | Family Planning Program (FPP) |
| **P11** | Pregnant Women 190% - 264% of FPL |
| **P12** | Newborns of P11 Mothers |
| **P13** | Child Under 19, up to 189% FPL |
| **P14** | Title XXI MCHP. under 19, 190-211% FPL |
| **S01** | Public Assistance to Adults (PAA) |
| **S02** | SSI Recipients |
| **S03** | Qualified Medicare Beneficiary (QMB) |
| **S04** | Pickle Amendment |
| **S05** | Section 5103 |
| **S06** | Qualified Disabled Working Individuals |
| **S07** | SLMB group I |
| **S08** | SLMB/MPAP |
| **S10** | QMB and MPAP |
| **S11** | TEMHA/MPAP |
| **S12** | Family Planning Program/MPAP |
| **S13** | ACE or EID |
| **S14** | SLMB group II |
| **S15** | SLMB group III |
| **S16** | Increased Community Services Program (ICS) formerly MPDP |
| **S17** | MPDP/SLMB I |
| **S18** | MPDP/SLMB II |
| **S98** | ABD - Med Needy |
| **S99** | ABD – Spenddown |
| **T01** | TCA Adult or Child In LTC |

| Coverage Group | Description |
|---|---|
| **T02** | Family LTC Med Needy |
| **T03** | Medicaid Child Under 1 in LTC |
| **T04** | Medicaid Child Under 6 in LTC |
| **T05** | Medicaid Child Under 19 in LTC |
| **T99** | Family LTC Med Needy Spenddown |
| **W01** | Women's Breast & CC |
| **X01** | State-Funded Aliens |
| **X02** | MAGI and Non-MAGI Undocumented or Ineligible Aliens, Emergency Services only |
| **X03** | MAGI Undocumented or Ineligible Aliens (dropped 2/15/17) |

**Table A3. Medicaid Coverage Type Descriptions**

| Coverage Type | Description |
|---|---|
| **A** | Aged |
| **B** | Blind |
| **C** | Complimentary Coverage |
| **D** | Disabled |
| **E** | FC and SA |
| **F** | Family |
| **G** | Refugee |
| **H** | HCB Waiver |
| **M** | Medicaid Only |
| **N** | Not in CARES |
| **P** | Pregnant |
| **R** | Regular |
| **T** | Family LTC |
| **U** | Unemployed |
| **X** | Miscellaneous |

The Hilltop Institute

UMBC

Sondheim Hall, 3rd Floor
1000 Hilltop Circle
Baltimore, MD 21250
410-455-6854
www.hilltopinstitute.org