The Hilltop Institute
UMBC

report

Evaluation of the Maryland Medicaid HealthChoice Program: CY 2016 to CY 2020

June 30, 2022

Suggested Citation: The Hilltop Institute. (2022, June 30). *Evaluation of the Maryland Medicaid HealthChoice program: CY 2016 to CY 2020*. Baltimore, MD: UMBC.

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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
AMR	asthma medication ratio
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
CMMI	Center for Medicare and Medicaid Innovation
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, Diagnostic, and Treatment
EQRO	external quality review organization
F&C	Families and Children

FFCRA	Families First Coronavirus Response Act
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
HSCRC	Health Services Cost Review Commission
HSI	Health Services Initiatives
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

MHD	mental health disorder
MMIS2	Maryland Medicaid Management Information System
MOE	Medicaid maintenance of effort
MOM	Maternal Opioid Misuse
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
OOCC	Opioid Operational Command Center
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
PHIP	Population Health Incentive Program
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
SED	serious emotional disturbance
SIHIS	Statewide Integrated Health Improvement Strategy
SMI	serious mental illness
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 2016 to CY 2020

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) 2020. 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 2016 through CY 2020.

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 through the provision of a medical home
- Emphasizing health promotion and disease prevention
- Expanding coverage to additional low-income Marylanders through managed care efficiencies

HealthChoice is a mature managed care program that covered nearly one in four Marylanders during CY 2020. Participants choose one of the nine participating managed care organizations (MCOs), along with a primary care provider (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 mixed results in providing targeted preventive screenings and ensuring that participants receive care at the appropriate level during the evaluation period. Some recent successes include increasing lead testing rates for children aged 24 to 35 months and increasing colorectal cancer screening rates. However, both breast and cervical cancer screening rates decreased during the evaluation period. Among individuals with HIV/AIDS, ambulatory care rates remained largely stable while emergency department (ED) utilization dropped during the evaluation period. The 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 decreased while antiretroviral therapy (ART) increased by 2.2 percentage points. The percentage of HealthChoice participants aged 18 to 64 years with at least one inpatient hospital admission declined by 2.1 percentage points during the evaluation period.

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 (SUDs) (Mohamoud et al., 2021). Other programs—such as the Residential Treatment for Individuals with Substance Use Disorder program and the Evidence-Based Home Visiting Services (HVS) pilot program—began in July 2017 and are improving access, reducing costs, and improving 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 American Society of Addiction Medicine (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.

The Department received approval for the §1115 waiver renewal in 2021 to expand critical programs and add additional programs, including expansion of Residential Treatment for adults with serious mental illness (SMI) and modification of Assistance in Community Integration Services (ACIS) Pilot program. In addition, the Maternal Opioid Misuse (MOM) Model became effective July 1, 2021.

Program improvements are necessary 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 areas targeted for improvements include asthma medication ratio (AMR) and ED utilization, diabetes prevention, and prenatal and birth outcomes; reducing racial and ethnic disparities; and increasing rates of follow-up care after ED visits for MHD or SUD. The Department collaborated with the Center for Medicare and Medicaid Innovation (CMMI) to

establish domains of health care quality and delivery through Maryland's Statewide Integrated Health Improvement Strategy (SIHIS) (Maryland Department of Health, 2020a). SIHIS framework focuses on collaboration of stakeholders and investing in improving health, addressing disparities, and reducing health care costs. SIHIS will target improvements in three domains 1) hospital quality 2) care transformation across the system, and 3) total population health. Priority areas for the third domain include diabetes, opioid use, and maternal and child health (Maryland Department of Health, 2020a).

The COVID-19 pandemic, which began in March 2020, had a large impact on the HealthChoice program during CY 2020. Enrollment in the Medicaid program significantly increased in CY 2020 as a result of the public health emergency, while rates of service utilization and screenings decreased for many measures. Maryland will continue to monitor the effects of the COVID-19 pandemic on the HealthChoice program.

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 18%—from 1,133,524 participants in CY 2016 to 1,337,378 participants in CY 2020.[2] There was also a sharp (11.2%) increase in enrollment from CY 2019 to CY 2020, in part due to the COVID-19 pandemic policy responses propelling enrollment in health insurance. Under the Families First Coronavirus Response Act (FFCRA), states had to meet certain Medicaid maintenance of effort (MOE) requirements, which included continuous coverage for participants enrolled in Medicaid as of March 2020 (Dolan et al., 2020). These MOE requirements also contributed to increased Medicaid enrollment in CY 2020.

The addition of a new MCO in CY 2017 influenced overall program performance due to initial lower service volumes. While enrollment increased dramatically in CY 2020 in part due to the public health emergency, all MCOs experienced a decrease in overall service utilization and screenings for CY 2020. Nonetheless, trends in service utilization through 2019 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 jurisdiction in Maryland. All jurisdictions except Prince George's County achieved a 200:1 ratio of participants to PCPs in CY 2020.

Care for Special Populations

HealthChoice continues to seek ways to improve the quality of and access to health services for vulnerable populations, including children in foster care, Rare and Expensive Case Management

[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.

(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 2020, they had a 2.0 percentage point lower rate of ambulatory care service utilization and a 7.3 percentage point higher rate of ED visits compared to other children in HealthChoice.[3] The REM program experienced decreases in dental care during the evaluation period by 13.1 percentage points, with the largest decrease (14.4 percentage points) from CY 2019 to CY 2020. The percentage of REM participants who had an ambulatory care visit remained largely stable, while outpatient ED visits and inpatient admissions declined during the evaluation period.

As for racial and ethnic disparities in access to care, Black children had lower rates—and Hispanic children had higher rates—of ambulatory care visits than other children in both CY 2016 and CY 2020. Among the entire HealthChoice population, Black participants also had the highest ED utilization rates, while Asian participants had the lowest.

Enrollment continued to grow among the ACA Medicaid expansion population (it increased by 11.7 percentage points over the evaluation period). As of December 2020, 347,552 HealthChoice participants were enrolled under ACA expansion. Expansion participants had a lower rate of ambulatory care visits than the rest of the Medicaid population from CY 2016 through CY 2020. The ED visit rates for ACA participants with 12 months of enrollment decreased from 37.2% in CY 2016 to 26.9% in CY 2020. Additional changes occurred in service utilization patterns during the evaluation period, including a slight decrease in the overall number of ACA expansion participants who received services for a behavioral health condition.

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. 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.

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

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 for four out of five components.

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 43.2% in CY 2016 to 37.9% in CY 2020. The percentage of HealthChoice adults with an inpatient admission designated as potentially preventable also decreased slightly, from 0.9% in CY 2016 to 0.7% in CY 2020. 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

The HealthChoice program prioritizes 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. Since the COVID-19 pandemic affected utilization rates in CY 2020, it also affected HealthChoice HEDIS® scores.

Nevertheless, some indicators showed improvement while others remained fairly stable or declined over the evaluation period. Breast cancer screening rates decreased 4.6 percentage

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

points over the evaluation period, with a 5.4 percentage point decrease between CY 2019 and CY 2020. However, the breast cancer screening rates remained above the national Medicaid average for the entire evaluation period, contributing to better preventive care for women. Rates for immunizations decreased slightly over the evaluation period but remained higher than national Medicaid averages until CY 2020. Blood lead screening rates for children aged 24 to 35 months improved while there was a slight decrease for children aged 12 to 23 months.

Although the percentage of women in HealthChoice who received a cervical cancer screening declined from 64.9% in CY 2016 to 57.9% in CY 2020, the rate continued to be above the national HEDIS® mean until CY 2020. 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 9th and 13th birthdays increased from 28.1% in CY 2016 to 34.6% in CY 2020. Colorectal screening rates increased 2.1 percentage points during the evaluation period.

The percentage of pregnant women who received prenatal services in a timely manner decreased slightly by 0.6 percentage points from CY 2016 to CY 2020. HealthChoice outperformed the national HEDIS® mean throughout the evaluation period except for CY 2020.

The HealthChoice program also prioritizes management of chronic conditions such as asthma, diabetes, HIV/AIDS, and behavioral health diagnoses. 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 36.5% less likely to have an asthma-related ED visit that year and 16.1% less likely to have an asthma-related ED visit the following year.

The rate of hemoglobin A1c (HbA1c) screenings among participants with diabetes remained stable and above the national HEDIS® mean between CY 2016 and CY 2019 before decreasing by 5.4 percentage points in CY 2020. The percentage of participants with diabetes who received an eye exam decreased by 5.3 percentage points between CY 2016 and CY 2020. The decrease may be a result of the removal of this measure from the VBP incentive program in CY 2015, as well as the COVID-19 pandemic in CY 2020. During the evaluation period, inpatient and ED utilization decreased by 1.9 and 8.5 percentage points, respectively, among HealthChoice participants with diabetes, while ambulatory care utilization remained stable. Although receipt of just the HbA1c screening was associated with an increased likelihood of experiencing a diabetes-related ED visit, receipt of either a HbA1c test or eye exam the previous year mitigated the likelihood of having a diabetes-related ED visit the following year.

Participants with HIV/AIDS ambulatory care service utilization decreased slightly by 2.3 percentage points during the evaluation period. Antiretroviral therapy (ART) increased by 2.2 percentage points, while viral load testing and CD4 cell count testing rates decreased by 6.1 and 9.4 percentage points, respectively. ED utilization by this population decreased by 12.3 percentage points during the evaluation period.

The percentage of participants with a behavioral health diagnosis increased slightly from 16.9% in CY 2016 to 17.3% in CY 2020. Utilization of ambulatory care services increased by 0.4 percentage points during the evaluation period among HealthChoice participants with a behavioral health diagnosis, while inpatient and ED utilization decreased by 3.6 and 12 percentage points, respectively.

Demonstration Programs

The HealthChoice program uses §1115 waiver 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; HVS and ACIS community health pilots; and dental services for former foster care individuals.

With CMS approval, Maryland Medicaid participants aged 21 years and older 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 11,034 participants in FY 2020 and then decreased to 8,317 participants in FY 2021.[5] Amendments to the §1115 waiver beginning in January 2019 included coverage of more 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.

The HVS pilot program provides home visiting services to high-risk pregnant women and children up to age two. Preliminary results indicate high utilization of ambulatory care services for mothers and that all children had at least one well-care visit within 15 months of birth. The ACIS Pilot program provides tenancy-based case management services/tenancy support services and housing case management services to 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 (81.9%), and 58.3% of participants achieved stable housing after enrollment (The Hilltop Institute, 2021).

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 and then decreased to 16.6% in CY 2020. The Department anticipates that these rates will increase over time. In 2019, the Department received approval for a pilot to provide dental services to adults between the ages of 21 and 64 who are eligible for both Medicare and Medicaid. In the first seven months (June 1, 2019, through December 31, 2019) of the adult dental pilot, 4,508 (12.2% of) participants had at least one dental visit. During the first full year of the program in CY 2020, that rate decreased to 4,439 (8.2% of) participants who had at least one dental visit.

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

The National DPP lifestyle change program was authorized for HealthChoice members beginning September 1, 2019. By participating in HealthChoice DPP, HealthChoice participants who are considered at risk for developing type 2 diabetes and meet the eligibility criteria engage with certified DPP providers to learn how to reduce their risk of developing type 2 diabetes through lifestyle changes to improve their overall health. Hilltop uses Medicaid claims and encounter data to provide the Department with periodic service utilization reports that track, among other things, current and cumulative DPP enrollment. From its implementation in September 2019 through December 31, 2020, there have been 215 DPP encounters. More data are needed to conduct a formal evaluation of the program.

Additionally, in partnership with the Department and HealthChoice MCOs, Hilltop 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 was provided to the MCOs in the spring of 2021 and has been tested extensively and continues to be 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. Most ICS quality measures had 100% compliance from implementation through CY 2020.

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. Effective July 1, 2018, the Department expanded eligibility under its Family Planning program to lift the age limit and open coverage to include men. While the number of women in the Family Planning program for any period of enrollment decreased 9.9% from CY 2019 to CY 2020, the number of women continuously enrolled dramatically increased by 73.3%.

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.

In 2021, the Department received approval for the §1115 waiver renewal for the period of January 1, 2022, through December 31, 2026, to focus on maintaining high-quality, cost-effective services and pilot programs initiated in the last waiver renewal period. The Family Planning program was not renewed, as it was incorporated into the State Plan. Key demonstrations components include the following:

- Expansion of IMD services for adults with SMI

- MOM Model
- Modification to ACIS pilot program
- Modification to the HVS Pilot for high-risk pregnant women and children

Evaluation of the Maryland Medicaid HealthChoice Program: CY 2016 to CY 2020

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, 2016, and 2021. 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 2022 annual evaluation—includes data from calendar year (CY) 2016 through CY 2020. 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 with resources generated through managed care efficiencies

This report is a collaborative effort between the Department and The Hilltop Institute at UMBC.

It is important to note that the COVID-19 pandemic in 2020 had a significant impact on the HealthChoice program, resulting in increased enrollment and decreased utilization of services. Because the Families First Coronavirus Response Act (FFCRA) required continuous Medicaid eligibility during the public health emergency, starting in March 2020, there was a pause in disenrollment that led to a large increase in Medicaid enrollment. Rates of service utilization and screenings decreased in CY 2020 during the COVID-19 pandemic. Maryland will continue to monitor the effects of the COVID-19 pandemic on the HealthChoice program.

Overview of the HealthChoice Program

As of the end of CY 2020, 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
- 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 age 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 2020, including the following:

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

- 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
- 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[7]
- 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[8]
- 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[9]

Program Updates

The Department implemented the following programmatic changes to the HealthChoice program that influenced the evaluation period:

[7] Although not required by regulation, some MCOs cover adults for limited vision, hearing, and dental benefits.
[8] 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.
[9] 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.

- 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 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 (SED), 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, emergency department (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.[10] As of December 2020, there were 369,829 individuals enrolled in the ACA expansion.
    - Former foster care children up to the age of 26 years.

The Department included several initiatives for innovative programs that were 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

[10] The PAC program offered a limited benefit package to adults with low income, covering primary care visits, certain outpatient mental health and SUD services, ED services, and prescription drugs.

- National Diabetes Prevention Program (NPP)
- Increased Community Services (ICS)
- Family Planning program
- Collaborative Care Model (CoCM) pilot

The Department submitted an §1115 waiver renewal application in July 2021 and received approval in December 2021 for the period of January 1, 2022, through December 31, 2026. The Family Planning program was not renewed, as it was added to the State Plan, but several initiatives were added, expanded, or modified, including the following:

- Addition of the MOM Model
- Addition of the Medicaid Alternative Destination Transport pilot program
- Expansion of IMD services for adults to include primary diagnoses of SMI
- Modification to the ACIS pilot program to increase the statewide capacity to 900 spaces
- Modification to the HVS Pilot for high-risk pregnant women and children to expand child eligibility from age two to three

The Department, in collaboration with the Center for Medicare and Medicaid Innovation (CMMI), established Maryland's Statewide Integrated Health Improvement Strategy (SIHIS)[11] (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 goals, measures, milestones, and targets for SIHIS.

SIHIS is structured to drive improvements in three domains: 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 care coordination for patients with chronic conditions, improving adult BMI, improving overdose mortality rates, reducing severe maternal morbidity rates, and decreasing asthma-related ED visits rates for ages 2 to 17. CMMI approved Maryland's proposal in 2021, which 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 SIHIS 2021 goals and milestones were important building blocks necessary to progress toward the 2023 and 2026 targets.

[11] https://hscrc.maryland.gov/Pages/Statewide-Integrated-Health-Improvement-Strategy-.aspx

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 2016 to CY 2020 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 either expressed as five-year trends in the frequency of persons enrolled or treated, within each of various groups of detailed interest, or as comparisons directly between the first and the last year of the evaluation period (i.e., CY 2016 and CY 2020).

For standardized definitions of particular clinical, pharmaceutical, and health utilization measures, Hilltop used the Healthcare Effectiveness Data and Information Set (HEDIS®)[12] 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 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., 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. Specifically, 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

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

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® measure population definitions 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
- Relationship between asthma patients with an asthma medication ratio (AMR) and ED utilization compared to those without
- 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.[13] 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 during the evaluation period (CY 2016 through CY 2020. The total number of participants increased by 8.4% during this time. 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 67.8% from CY 2016 to CY 2020, most likely due to changes in race reporting requirements in CY 2014.

[13] 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 2016 and CY 2020

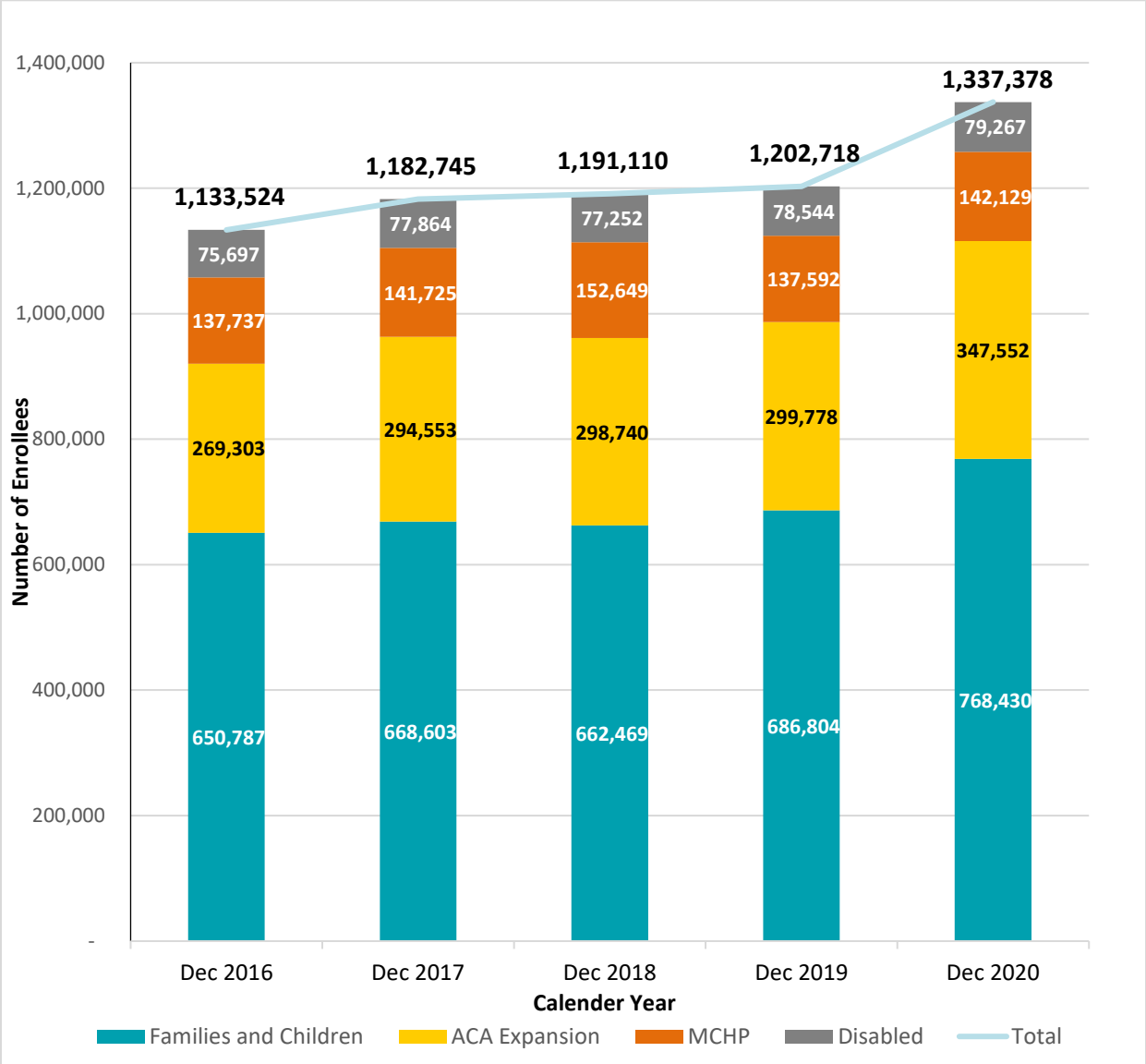
Demographic Characteristic	CY 2016		CY 2020	
	# of Participants	% of Total	# of Participants	% of Total
Sex				
Female	698,742	54.4%	747,023	53.6%
Male	586,528	45.6%	645,853	46.4%
Total	**1,285,270**	**100%**	**1,392,876**	**100%**
Age Group (Years)				
0–<1	36,353	2.8%	34,505	2.5%
1–2	78,928	6.1%	75,067	5.4%
3–5	108,063	8.4%	110,973	8.0%
6–9	147,167	11.5%	143,773	10.3%
10–14	156,427	12.2%	181,146	13.0%
15–18	108,855	8.5%	120,077	8.6%
19–20	46,006	3.6%	52,009	3.7%
21–39	341,621	26.6%	385,628	27.7%
40–64	261,850	20.4%	289,698	20.8%
Total	**1,285,270**	**100%**	**1,392,876**	**100%**
Race/Ethnicity				
Asian	57,240	4.5%	65,840	4.7%
Black	562,506	43.8%	565,870	40.6%
White	369,984	28.8%	356,663	25.6%
Hispanic	115,450	9.0%	104,379	7.5%
Native American	3,711	0.3%	4,135	0.3%
Other*	176,379	13.7%	295,989	21.3%
Total	**1,285,270**	**100%**	**1,392,876**	**100%**
Region**				
Baltimore City	230,726	18.0%	239,613	17.2%
Baltimore Metro	380,835	29.6%	415,159	29.8%
Eastern Shore	120,648	9.4%	125,799	9.0%
Southern Maryland	65,984	5.1%	70,517	5.1%
Washington Metro	378,846	29.5%	426,953	30.7%
Western Maryland	106,451	8.3%	113,981	8.2%
Out of State	1,780	0.1%	854	0.1%
Total	**1,285,270**	**100%**	**1,392,876**	**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 2016 through CY 2020.[14] Since CY 2016, the overall HealthChoice population has grown by 18%. Enrollment grew each year, with the largest increase seen between CY 2019 and 2020.[15]

Figure 1. HealthChoice Enrollment by Coverage Category as of December 31, CY 2016–CY 2020*



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

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

[15] 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 2020, national enrollment in Medicaid and CHIP was 80.2 million (Kaiser Family Foundation, n.d.a). In fiscal year (FY) 2021, overall enrollment increased sharply by 10.3% in part due to the Medicaid Maintenance of Effort (MOE) requirements and is expected to slow to 4.5% in FY 2022 (Williams, 2021). The national enrollment rate peaked in FY 2015 partly because of the tapering of the ACA enrollment. Between January 2014 and the end of 2020, Maryland experienced the ninth 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 6.1% in CY 2016 to 5.9% in CY 2019 (Kaiser Family Foundation, n.d.b) and to 4.3% in CY 2020 (Kaiser Family Foundation, n.d.c). Table 2 shows the percentage of Maryland's population enrolled in HealthChoice between CY 2016 and CY 2020. Almost all new Maryland Medicaid participants are enrolled in managed care.

Table 2. HealthChoice Enrollment as a Percentage of the Maryland Population, CY 2016–CY 2020

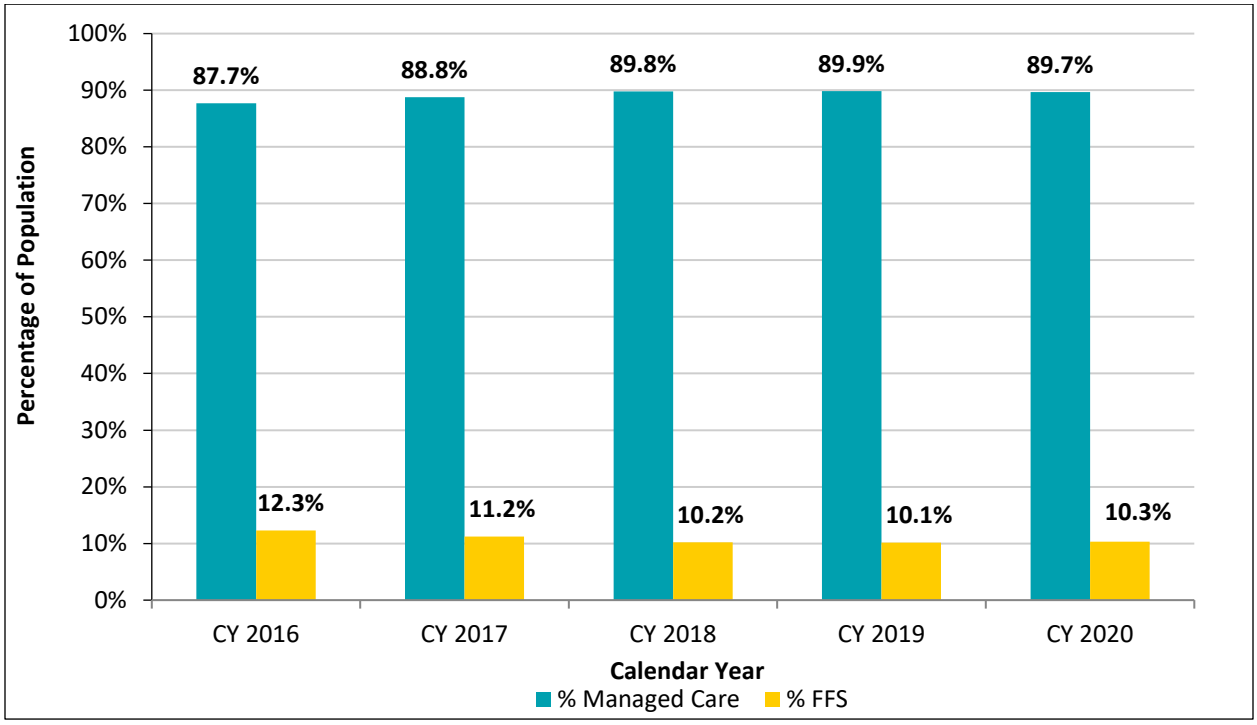
	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Maryland Population*	6,024,752	6,052,177	6,042,718	6,045,680	6,165,129
Individuals Enrolled in HealthChoice for Any Period During the Year					
HealthChoice Population	1,285,807	1,355,443	1,389,716	1,377,493	1,392,876
% of Population in HealthChoice	21.3%	22.4%	23.0%	22.8%	22.6%
Individuals Enrolled in HealthChoice as of December 31					
HealthChoice Population	1,133,524	1,182,745	1,191,110	1,202,718	1,337,378
% of Population in HealthChoice	18.8%	19.5%	19.7%	19.9%	21.7%

*Data source: U.S. Census Bureau, Population Division. Annual Estimates of the Resident Population: April 1, 2010, to July 1, 2021. 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 2016 and CY 2020, managed care enrollment remained consistently above 87.0%, with the highest rate of 89.9% in CY 2019, followed by 89.7% in CY 2020.

Figure 2. Percentage of Medicaid[16] Participants in Managed Care Compared to FFS, CY 2016–CY 2020



The Department began monitoring HealthChoice participants to ensure that they did not have a gap or interruption in Medicaid coverage as a result of a change in the system for eligibility redetermination in CY 2015. 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 2020, as well as whether the gap lasted longer than 180 days (i.e., over 6 months). Participants who reenroll within 120 days are enrolled into their previous MCO. Participants who reenroll 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 and 1.2% in CY 2020. Among participants with a gap in coverage in CY 2020, 70.1% had a gap of 180 days or less and 29.9% had a gap of 181 days or more. Compared to previous years, CY 2019 and CY 2020 had fewer gaps overall, but a greater share of those gaps extended beyond 180 days.

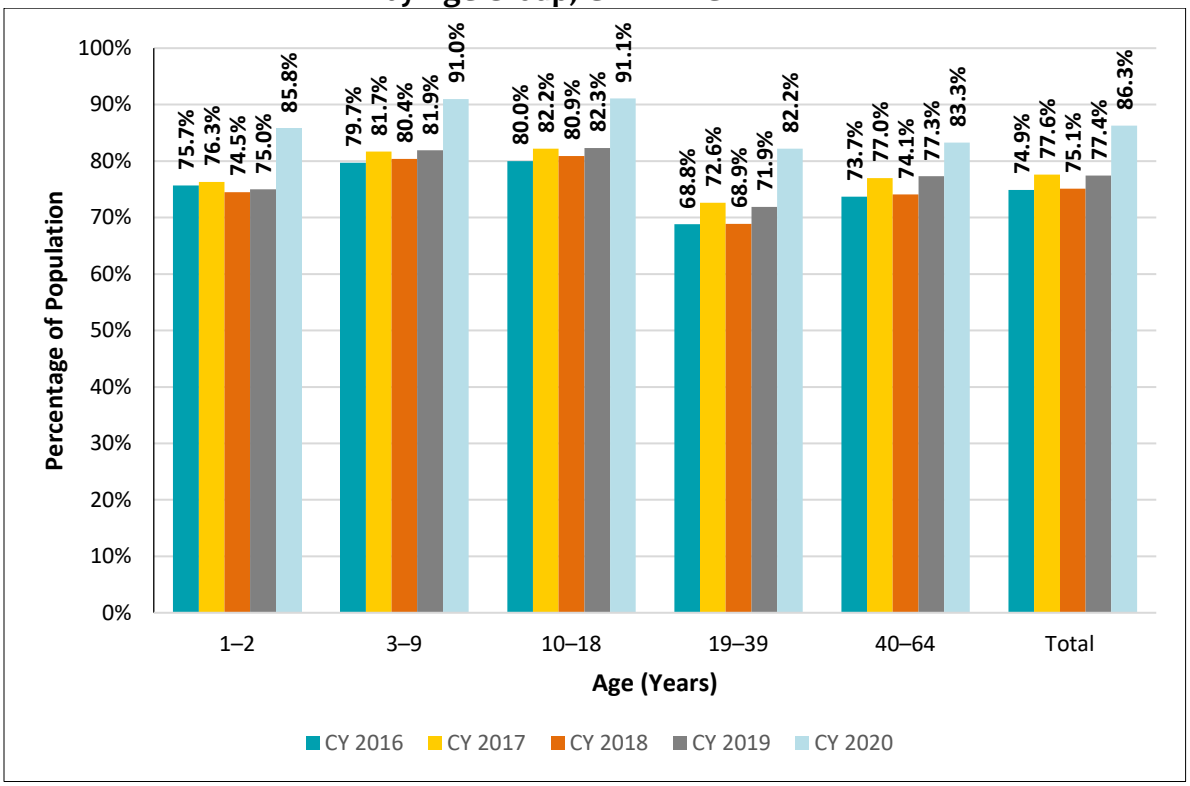
[16] "Medicaid" is representative of both Medicaid and MCHP.

Table 3. Number of HealthChoice Participants with a Gap in Medicaid Coverage, by Length of Gap, CY 2016–CY 2020

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%
2020	1,392,876	16,241	1.2%	11,391	70.1%	4,850	29.9%

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 2020. Participants with continuous enrollment increased by 11.4 percentage points during the evaluation period. Participants aged 19 to 39 years experienced the largest increase in continuous enrollment (by 13.4 percentage points).

Figure 3. Percentage of HealthChoice Participants with Continuous Medicaid Enrollment, by Age Group, CY 2016–CY 2020



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 up to 40 local access areas (LAAs) in the state that they serve to consider the network coverage to be adequate.[17] 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 2020. The network adequacy analysis counted the number of PCP offices included in provider networks in each county in Maryland. In CY 2020, Prince George's County was the only jurisdiction that was unable to achieve a 200:1 ratio of participants to PCPs.

Table 4. PCP Capacity, by County, December 2020[18]

County	Number of PCP Offices	Capacity at 200:1	Total Enrollment as of Dec 2020	Excess Capacity
				Difference 200:1 Ratio
Allegany	143	28,600	19,094	9,506
Anne Arundel	894	178,800	93,985	84,815
Baltimore City	2052	410,400	230,910	179,490
Baltimore County	1661	332,200	195,013	137,187
Calvert	141	28,200	13,904	14,296
Caroline	95	19,000	11,197	7,803
Carroll	250	50,000	21,616	28,384
Cecil	161	32,200	25,094	7,106
Charles	211	42,200	32,347	9,853
Dorchester	92	18,400	11,753	6,647
Frederick	319	63,800	41,030	22,770
Garrett	70	14,000	7,539	6,461

[17] COMAR 10.67.05.05(B).

[18] 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 each MCO individually, this analysis aggregated data from all nine MCOs.

County	Number of PCP Offices	Capacity at 200:1	Total Enrollment as of Dec 2020	Excess Capacity
				Difference 200:1 Ratio
Harford	350	70,000	43,606	26,394
Howard	481	96,200	44,117	52,083
Kent	30	6,000	4,395	1,605
Montgomery	1354	270,800	178,448	92,352
Prince George's	1110	222,000	231,609	-9,609
Queen Anne's	100	20,000	7,902	12,098
Somerset	60	12,000	7,907	4,093
St. Mary's	178	35,600	21,376	14,224
Talbot	179	35,800	7,713	28,087
Washington	252	50,400	41,196	9,204
Wicomico	213	42,600	32,607	9,993
Worcester	135	27,000	12,355	14,645
Total (in MD)	**10,531**	**2,106,200**	**1,336,713**	**769,487**
Other	479			
Washington, D.C.	1,114			

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.[19] These medical specialties include eight core specialties—cardiology, otolaryngology, gastroenterology, neurology, ophthalmology, orthopedics, surgery, and urology—and six major specialties—allergy and immunology, dermatology, endocrinology, infectious disease, nephrology, and pulmonology. Additionally, for each of the ten 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.

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

[19] COMAR 10.67.05.05-1.

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 2016 and CY 2020, 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 1 from CY 2016 to CY 2020, there was a range of a 1.3 and 7.4 percentage point decrease among participants aged 1 year and older during the same period. From CY 2019 to CY 2020, the largest decreases were experienced by children aged 3 to 9 years and 10 to 18 years: 7.9 and 7.5 percentage points, respectively.

Figure 4. Percentage of the HealthChoice Population Who Had an Ambulatory Care Visit, by Age Group, CY 2016–CY 2020

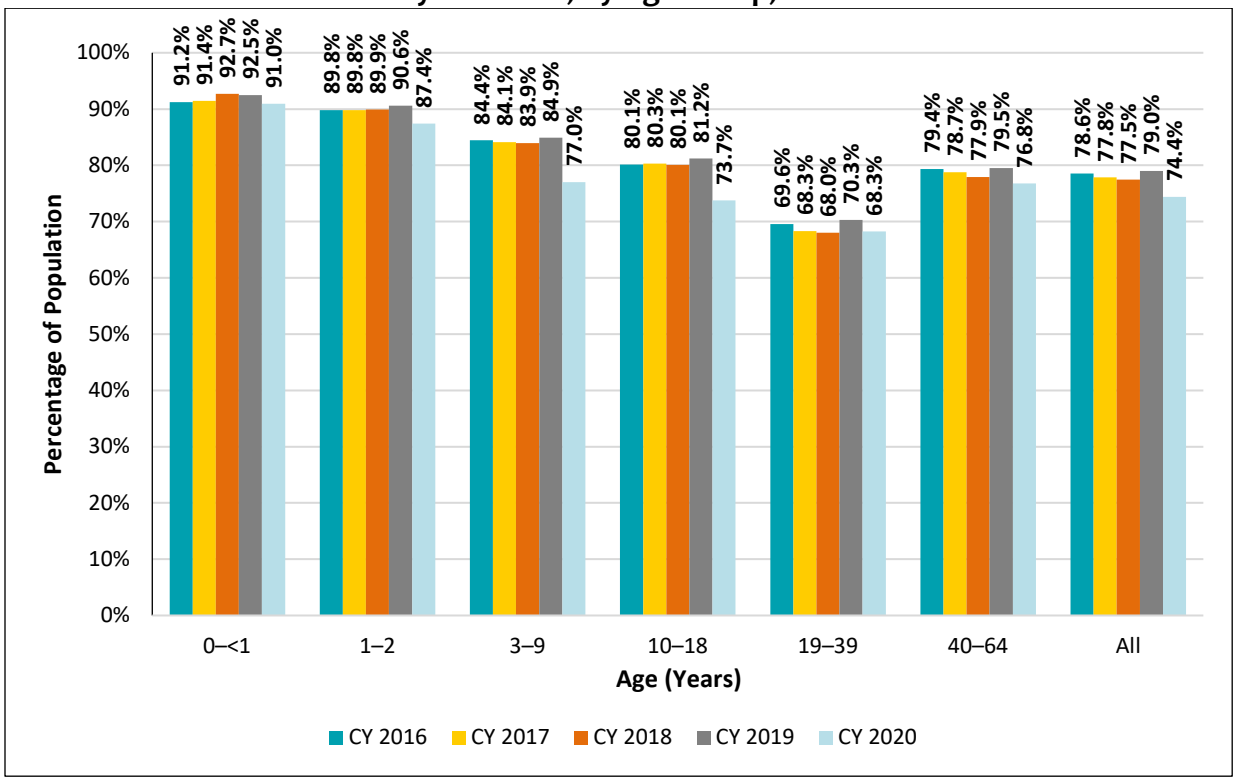


Figure 5 presents ambulatory care use by coverage category. ACA expansion participants accessed ambulatory care services at lower rates than participants in other coverage categories, and their rate of ambulatory care visits decreased by 3.6 percentage points during the evaluation period. ACA expansion participants constitute more than 25% of the HealthChoice population (see Figure 1), so their low utilization of ambulatory care visits affects the trend for the entire population.

Figure 5. Percentage of the HealthChoice Population Who Had an Ambulatory Care Visit, by Coverage Category, CY 2016–CY 2020

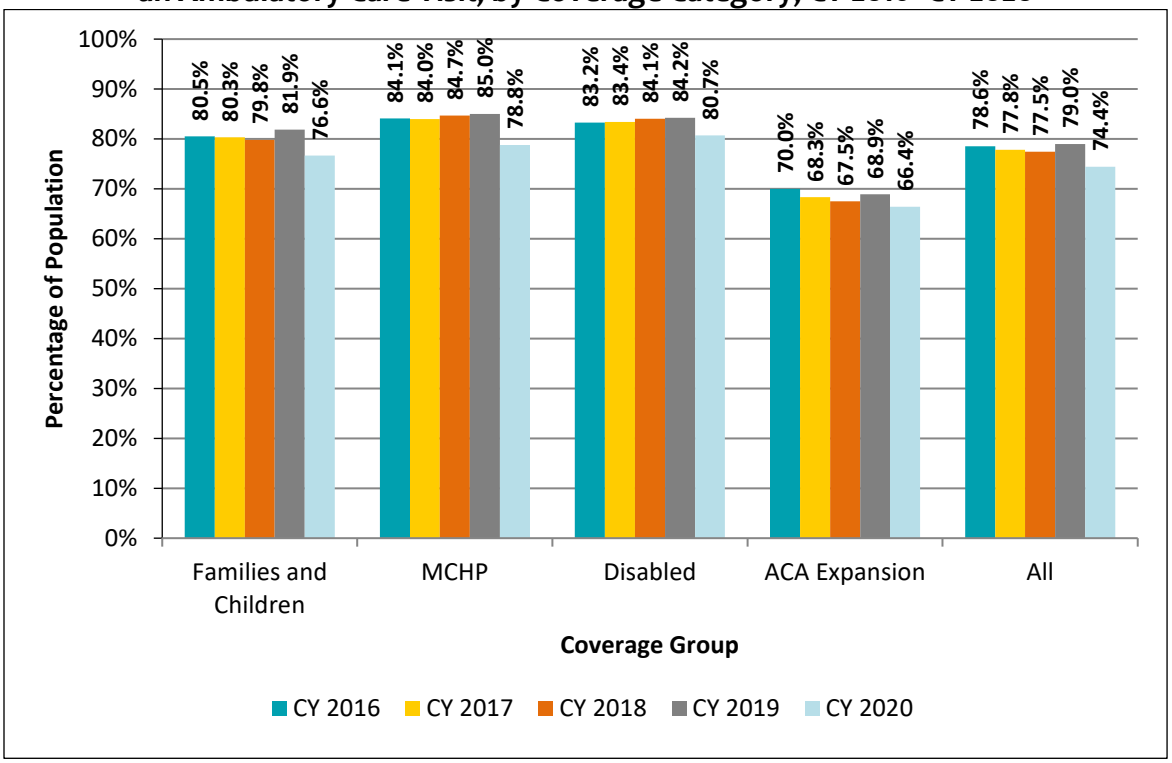
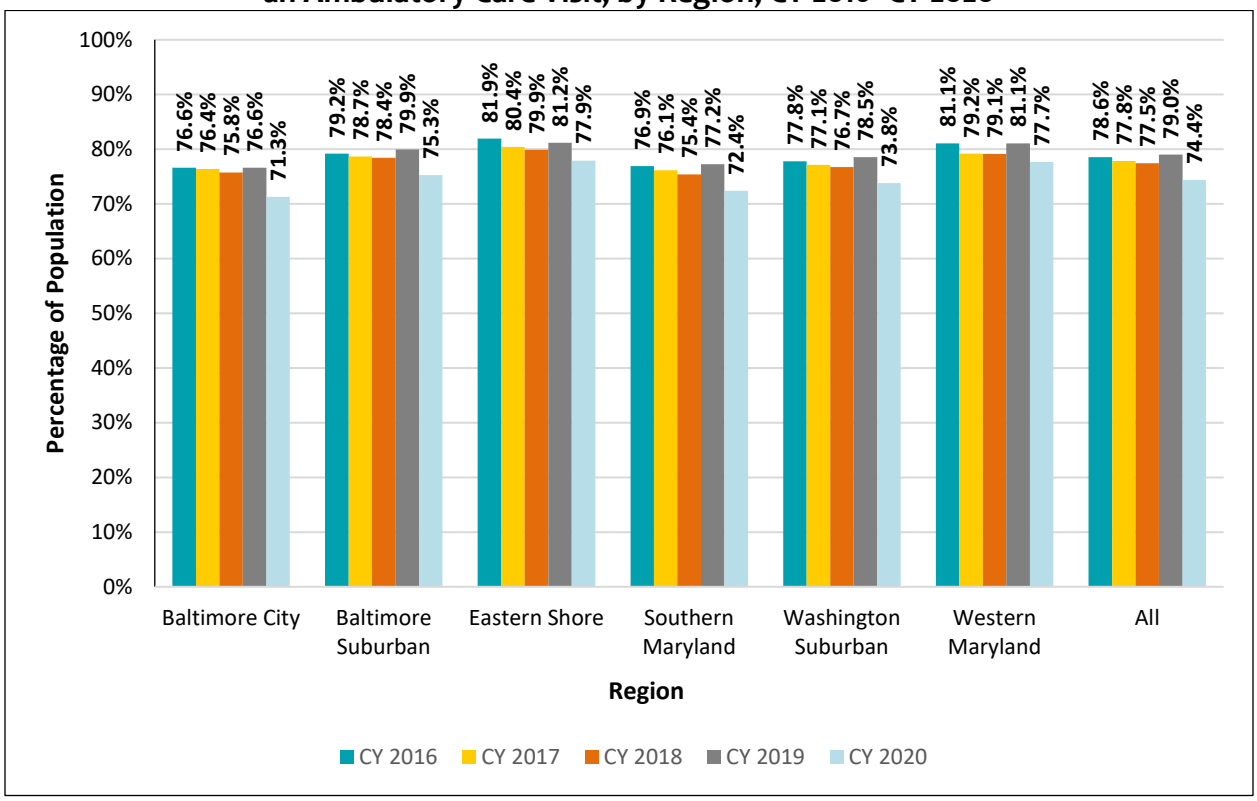


Figure 6 presents the percentage of the HealthChoice population with an ambulatory care visit by region between CY 2016 and CY 2020. Ambulatory care utilization remained stable across all regions from CY 2016 to CY 2019. From CY 2019 to CY 2020, however, all regions experienced a decrease between 3.3 and 5.3 percentage points. Residents of the Eastern Shore 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 2016–CY 2020



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, then 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 2016 and CY 2020 for all age groups. The largest declines were observed in the age groups of 1 to 2 years and less than 1 year by 16.0 and 13.8 percentage points, respectively.

Figure 7. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Age Group, CY 2016–CY 2020

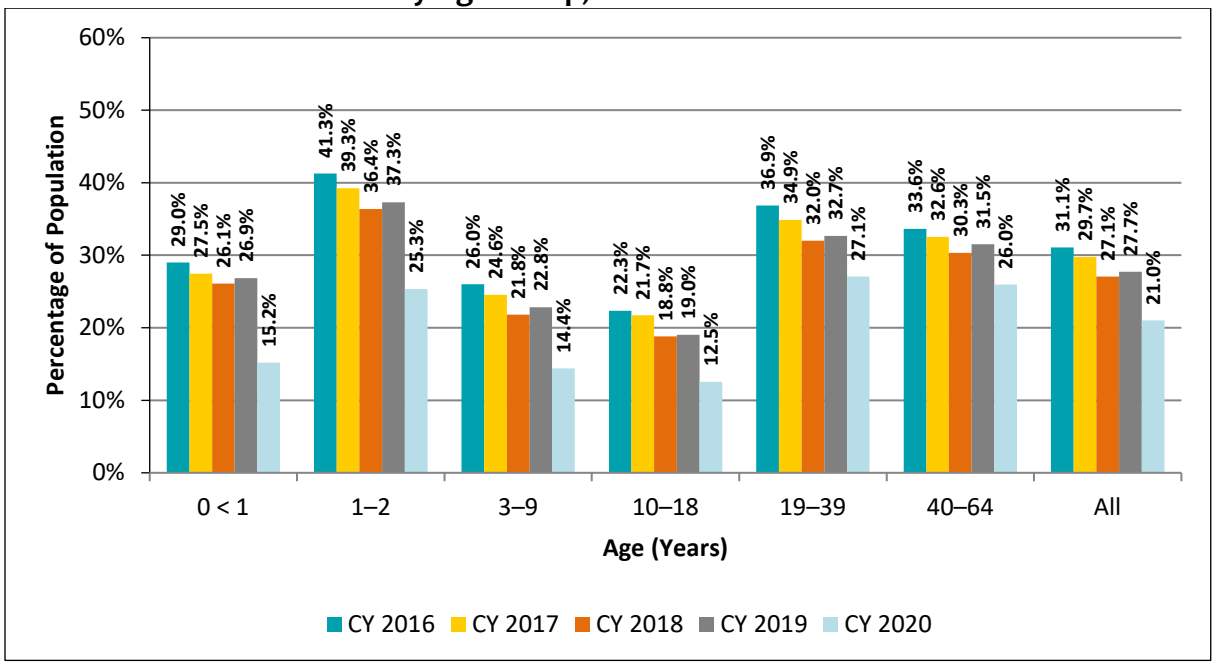


Figure 8 shows ED use by coverage category. Overall, the outpatient ED visit rate among all HealthChoice participants declined from CY 2016 to CY 2020. Among the coverage categories, disabled enrollees were the most likely to utilize ED services, although they still experienced a decrease: from 43.0% in CY 2016 to 32.2% in CY 2020.

Figure 8. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Coverage Category, CY 2016–CY 2020

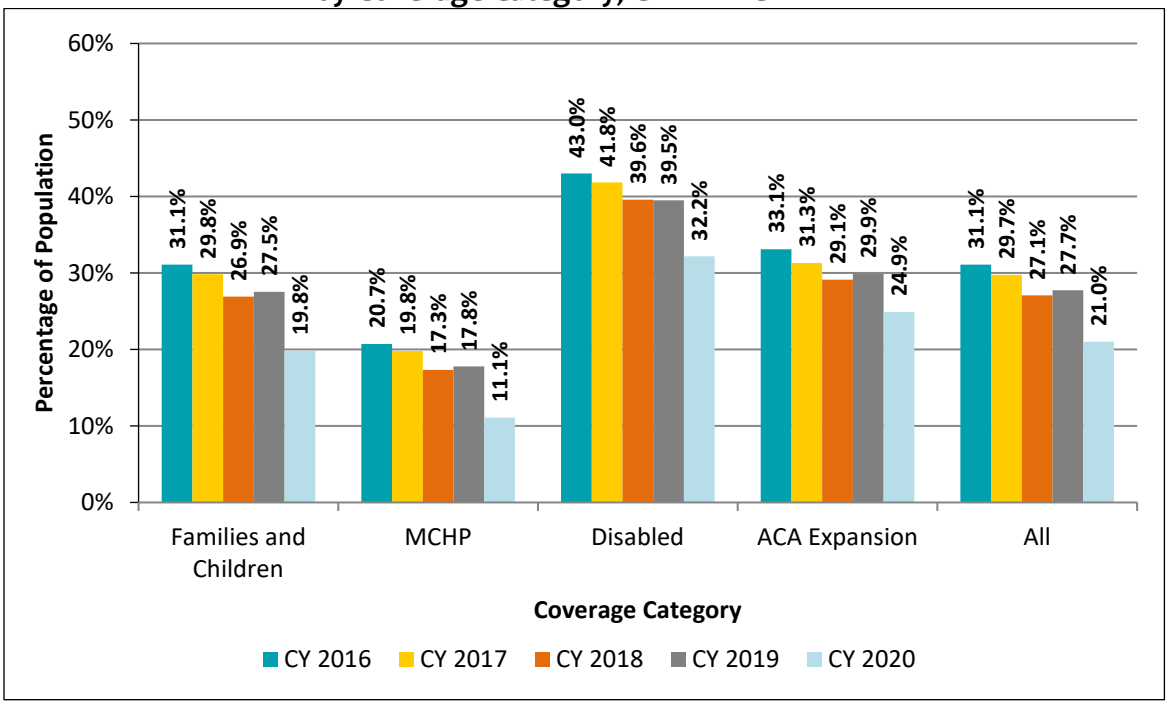


Figure 9 shows the percentage of HealthChoice participants with an ED visit by region between CY 2016 and CY 2020. Participants living in Baltimore City used ED services at the highest rates throughout the evaluation period; however, their rates fell by 12.2 percentage points from CY 2016 to CY 2020. In other regions, rates also declined, ranging from a reduction of 8.9 percentage points in the Western Maryland to 11.7 percentage points in Southern Maryland.

Figure 9. Percentage of the HealthChoice Population Who Had an Outpatient ED Visit, by Region, CY 2016–CY 2020

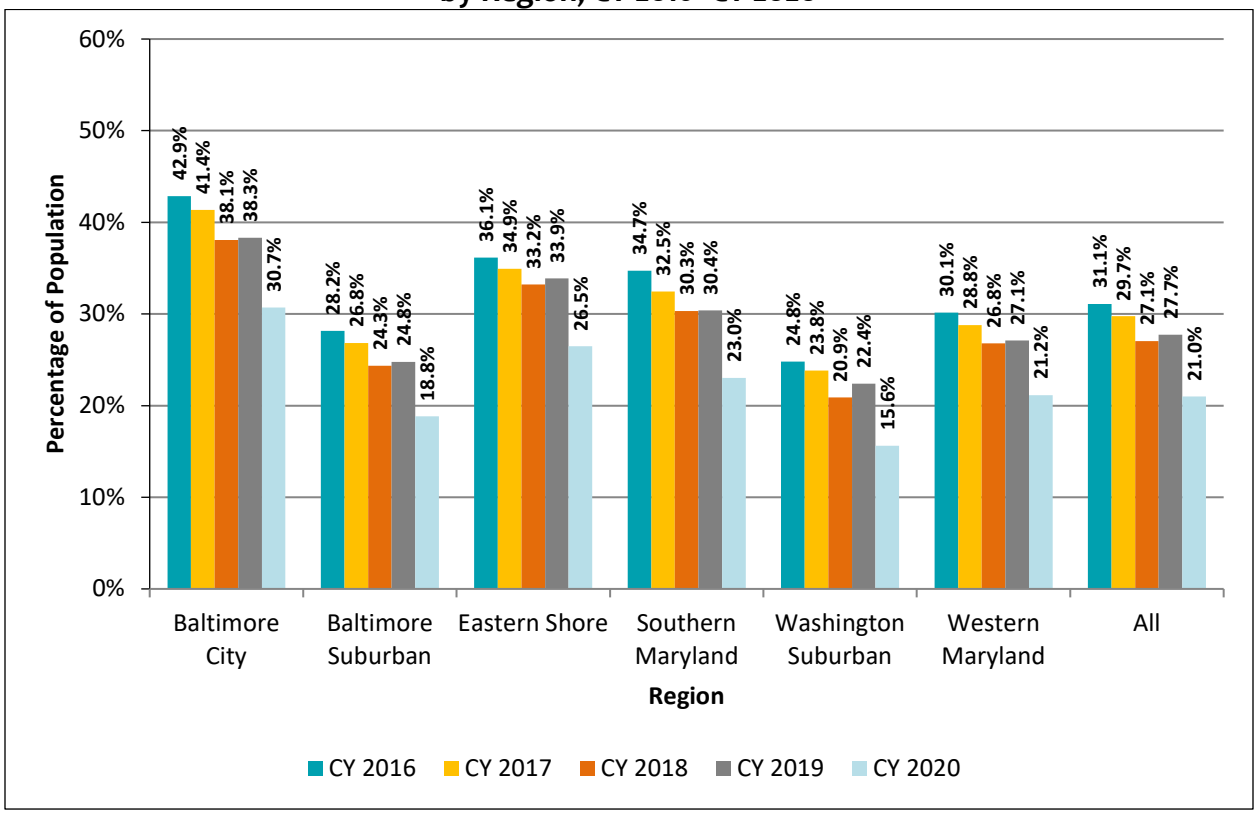


Table 5 presents the number and percentage of HealthChoice participants aged 0 to 64 years with an outpatient ED visit, by age group, during CY 2016 and CY 2020. The percentage of participants with an ED visit decreased in each age group from CY 2016 to CY 2020, with the largest decline of 16 percentage points in 1- to 2-year-olds. The average number of ED visits per user (meaning the average number of ED visits among participants that had at least one ED visit) declined by 0.3 during the evaluation period.

Table 5. Percentage of HealthChoice Participants Who Had an Outpatient ED Visit and Average Number of Visits per User, by Age Group, CY 2016 and CY 2020

Age (Years)	Outpatient ED Visits							
	CY 2016				CY 2020			
	# of Participants	# with Visit	% with Visit	Average # Visits by User	# of Participants	# with Visit	% with Visit	Average # Visits by User
0 < 1	36,353	10,532	29.0%	1.7	34,505	5,239	15.2%	1.4
1–2	78,928	32,602	41.3%	1.9	75,067	19,012	25.3%	1.5
3–9	255,230	66,320	26.0%	1.6	254,746	36,669	14.4%	1.3
10–18	265,282	59,256	22.3%	1.6	301,223	37,756	12.5%	1.4
19–39	387,627	142,939	36.9%	2.4	437,637	118,445	27.1%	2.1
40–64	261,850	88,059	33.6%	2.4	289,698	75,201	26.0%	2.1
All	**1,285,270**	**399,708**	**31.1%**	**1.9**	**1,392,876**	**292,322**	**21.0%**	**1.6**

ED Visits with Inpatient Admission

Table 6 shows the number and percentage of HealthChoice participants who had an ED visit that resulted in an inpatient admission, by demographic characteristics in CY 2016 and CY 2020. The overall percentage of participants with an ED visit that resulted in an inpatient admission decreased from CY 2016 to CY 2020. That decrease is reflected in each age group, region, MCO, and coverage category; none experienced an increase in ED visits with an inpatient admission during the evaluation period.

In CY 2020, Baltimore City had the highest percentage (4.9%) of participants with an ED visit that resulted in an inpatient hospitalization. Among coverage groups, those who were disabled had the highest percentage (10.4%) 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 2016 and CY 2020

Demographic and Coverage Characteristics	CY 2016			CY 2020		
	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)						

Demographic and Coverage Characteristics	CY 2016			CY 2020		
	Total Participants	# ED Visit with Inpatient Admission	% ED Visit with Inpatient Admission	Total Participants	# ED Visit with Inpatient Admission	% ED Visit with Inpatient Admission
<1	36,353	1,311	3.6%	34,505	727	2.1%
1–2	78,928	1,819	2.3%	75,067	1,151	1.5%
3–9	255,230	2,104	0.8%	254,746	1,256	0.5%
10–18	265,282	2,576	1.0%	301,223	2,236	0.7%
19–39	387,627	19,621	5.1%	437,637	17,719	4.0%
40–64	261,850	22,503	8.6%	289,698	20,019	6.9%
Total	**1,285,270**	**49,934**	**3.9%**	**1,392,876**	**43,108**	**3.1%**
Region*						
Baltimore City	230,726	14,216	6.2%	239,613	11,697	4.9%
Baltimore Suburban	380,835	14,512	3.8%	415,159	12,880	3.1%
Eastern Shore	120,648	4,126	3.4%	125,799	3,390	2.7%
Southern Maryland	65,984	2,942	4.5%	70,517	2,554	3.6%
Washington Suburban	378,846	10,139	2.7%	426,953	9,130	2.1%
Western Maryland	106,451	3,895	3.7%	113,981	3,424	3.0%
Out of State	1,780	104	5.8%	854	33	3.9%
Total	**1,285,270**	**49,934**	**3.9%**	**1,392,876**	**43,108**	**3.1%**
Managed Care Organization,†**						
Aetna	N/A			47,525	1,607	3.4%
Amerigroup	312,147	10,274	3.3%	312,323	7,948	2.5%
CareFirst Community Health Plan* **	43,636	2,105	4.8%	56,201	2,185	3.9%
Jai Medical Systems	28,176	2,071	7.4%	30,470	1,684	5.5%
Kaiser	62,822	1,627	2.6%	98,660	1,877	1.9%
Maryland Physicians Care	240,850	10,266	4.3%	238,601	8,507	3.6%
MedStar	94,224	4,524	4.8%	104,768	3,904	3.7%
Priority Partners	314,641	11,821	3.8%	338,858	10,361	3.1%
UnitedHealthcare	188,774	7,246	3.8%	165,470	5,035	3.0%
Total	**1,285,270**	**49,934**	**3.9%**	**1,392,876**	**43,108**	**3.1%**
Medicaid Coverage Category**						

Demographic and Coverage Characteristics	CY 2016			CY 2020		
	Total Participants	# ED Visit with Inpatient Admission	% ED Visit with Inpatient Admission	Total Participants	# ED Visit with Inpatient Admission	% ED Visit with Inpatient Admission
Families and Children	727,680	17,329	2.4%	792,242	15,239	1.9%
MCHP	158,007	1,170	0.7%	147,067	748	0.5%
Disabled	87,067	11,143	12.8%	85,326	8,657	10.1%
ACA Expansion	312,516	20,292	6.5%	368,241	18,464	5.0%
Total	**1,285,270**	**49,934**	**3.9%**	**1,392,876**	**43,108**	**3.1%**

*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.
*** Formerly University of Maryland Health Partners

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 length of stay (LOS)—the average total number of inpatient hospital 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 decreased in inpatient admissions and LOS during the evaluation period.

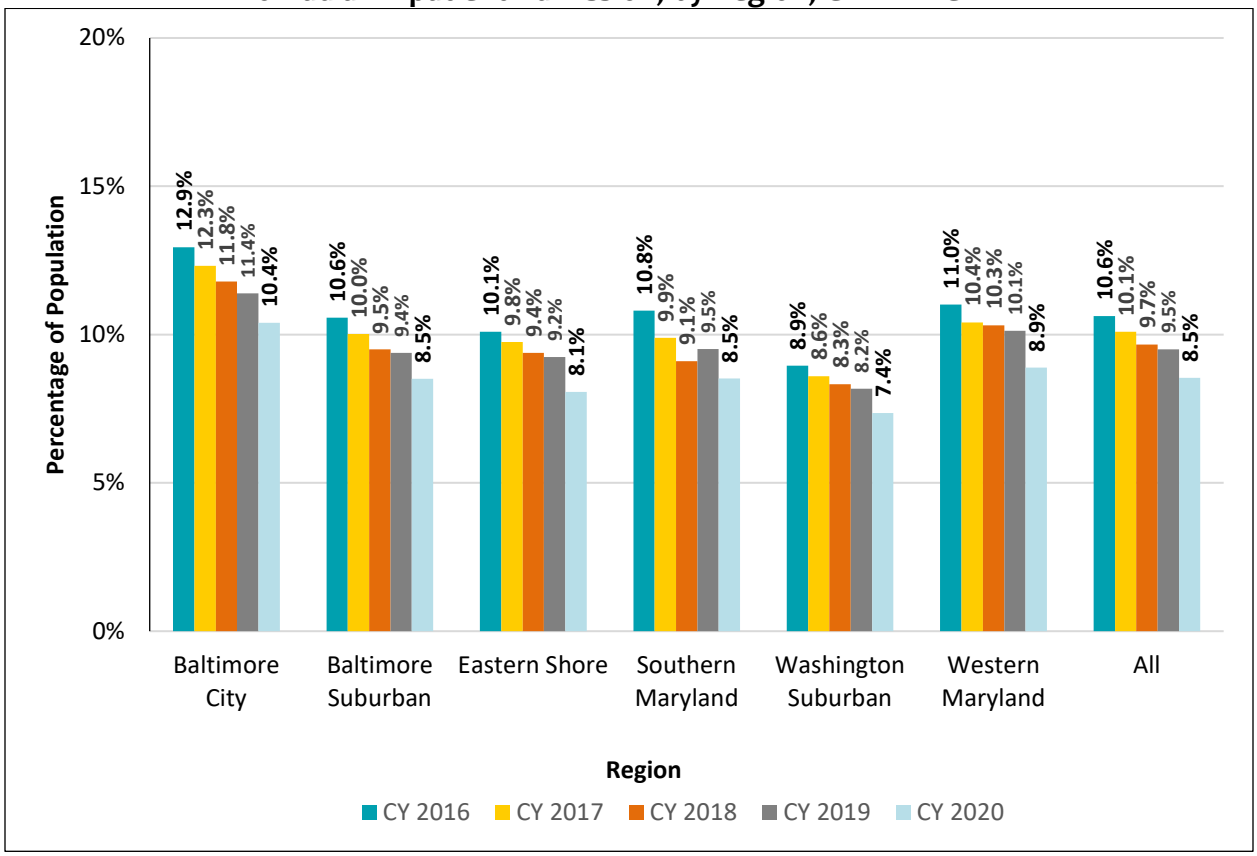
Table 7. Percentage of HealthChoice Participants Aged 18–64 Years Who Had an Inpatient Admission and Average LOS, by Age Group, CY 2016 and CY 2020

Age Group	All Inpatient Admissions							
	CY 2016				CY 2020			
	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	425,065	44,167	10.4%	0.7	481,529	40,467	8.4%	0.5
41–64	250,251	27,583	11.0%	1.2	274,383	24,116	8.8%	1.0
Total	**675,316**	**71,750**	**10.6%**	**1.0**	**755,912**	**64,583**	**8.5%**	**0.8**

Figure 10 displays the percentages of HealthChoice participants aged 18 to 64 years with an inpatient admission by region. Between CY 2016 and CY 2020, inpatient admission rates decreased across all regions. The Washington Suburban region had the lowest admission rate

during the evaluation period, with 7.4% in CY 2020 as compared to 8.9% in CY 2016. The greatest decline was observed in Baltimore City, which decreased by 2.5 percentage points. Baltimore City is the only region 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 2016–CY 2020



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.[20] It also compares service utilization for

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

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 2016 and CY 2020. Across the evaluation period, children aged 10 to 21 years made up the largest proportion of HealthChoice children in foster care (64.0% in CY 2016 and 62.6% in CY 2020).

Table 8. Percentage of HealthChoice Children in Foster Care, by Age Group, CY 2016 and CY 2020

Age Group (Years)	CY 2016		CY 2020	
	Number of Participants	Percentage of Total	Number of Participants	Percentage of Total
0 to <1	235	2.7%	178	2.4%
1–2	699	8.1%	636	8.5%
3–5	962	11.1%	911	12.2%
6–9	1,209	14.0%	1,085	14.5%
10–14	1,741	20.2%	1,581	21.1%
15–18	2,178	25.2%	1,773	23.7%
19–21	1,612	18.7%	1,331	17.8%
Total	**8,636**	**100.0%**	**7,495**	**100.0%**

Table 9 shows the percentage of HealthChoice children in foster care, by service received and age group. Between CYs 2016 and 2020, the percentage of children in foster care who did not receive any services remained fairly stable. Outpatient ED visits were highest among children aged 2 years and younger in CY 2016 and aged 19 to 21 years in CY 2020. Except among those younger than five years, inpatient admission rates declined across the measurement period.

Table 9. Percentage of HealthChoice Children in Foster Care, by Service and Age Group, CY 2016 and CY 2020

Age Group (Years)	CY 2016			CY 2020		
	Total Participants	Number of Participants	Percentage of Total	Total Participants	Number of Participants	Percentage of Total
No Medicaid Service						
0 to <1	235	*	*	178	11	6.2%
1–2	699	*	*	636	31	4.9%
3–5	962	105	10.9%	911	96	10.5%
6–9	1,209	185	15.3%	1,085	150	13.8%
10–14	1,741	306	17.6%	1,581	247	15.6%
15–18	2,178	287	13.2%	1,773	259	14.6%
19–21	1,612	333	20.7%	1,331	298	22.4%
Total	**8,636**	**1,242**	**14.4%**	**7,495**	**1,092**	**14.6%**
Ambulatory Care Visit						
0 to <1	235	217	92.3%	178	161	90.4%

Age Group (Years)	CY 2016			CY 2020		
	Total Participants	Number of Participants	Percentage of Total	Total Participants	Number of Participants	Percentage of Total
1–2	699	658	94.1%	636	597	93.9%
3–5	962	801	83.3%	911	752	82.5%
6–9	1,209	912	75.4%	1,085	808	74.5%
10–14	1,741	1,273	73.1%	1,581	1,136	71.9%
15–18	2,178	1,653	75.9%	1,773	1,295	73.0%
19–21	1,612	1,066	66.1%	1,331	829	62.3%
Total	**8,636**	**6,580**	**76.2%**	**7,495**	**5,578**	**74.4%**
Outpatient ED Visit						
0 to <1	235	99	42.1%	178	42	23.6%
1–2	699	325	46.5%	636	167	26.3%
3–5	962	269	28.0%	911	140	15.4%
6–9	1,209	283	23.4%	1,085	136	12.5%
10–14	1,741	420	24.1%	1,581	266	16.8%
15–18	2,178	835	38.3%	1,773	490	27.6%
19–21	1,612	693	43.0%	1,331	479	36.0%
Total	**8,636**	**2,924**	**33.9%**	**7,495**	**1,720**	**22.9%**
Inpatient Admission						
0 to <1†	235	194	82.6%	178	147	82.6%
1–2	699	62	8.9%	636	56	8.8%
3–5	962	17	1.8%	911	15	1.6%
6–9	1,209	47	3.9%	1,085	30	2.8%
10–14	1,741	175	10.1%	1,581	98	6.2%
15–18	2,178	333	15.3%	1,773	172	9.7%
19–21	1,612	207	12.8%	1,331	116	8.7%
Total	**8,636**	**1,035**	**12.0%**	**7,495**	**634**	**8.5%**

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

Table 10 compares the service utilization of HealthChoice children in foster care to those not in foster care. Overall, the percentage of foster children who did not receive a service is higher than non-foster care children in CYs 2016 and 2020. A higher percentage of children in foster care had an outpatient ED visit and an inpatient admission compared to non-foster care children.

Table 10. Percentage of HealthChoice Foster Care Children vs. Non-Foster Care Children by Service, CY 2016 and CY 2020

Age Group (Years)	CY 2016			CY 2020		
	Total Participants	Number of Participants	Percentage of Total	Total Participants	Number of Participants	Percentage of Total
No Medicaid Service						

Foster	8,636	1,242	14.4%	7,495	1,092	14.6%
Non-Foster	693,252	62,579	9.0%	733,038	88,860	12.1%
Ambulatory Care Visit						
Foster	8,636	6,580	76.2%	7,495	5,578	74.4%
Non-Foster	693,252	570,573	82.3%	733,038	560,401	76.4%
Outpatient ED Visit						
Foster	8,636	2,924	33.9%	7,495	1,720	22.9%
Non-Foster	693,252	187,401	27.0%	733,038	114,473	15.6%
Inpatient Admission†						
Foster	8,636	1,035	12.0%	7,495	634	8.5%
Non-Foster	693,252	46,716	6.7%	733,038	40,285	5.5%

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

Table 11 compares the dental utilization rate in CY 2020 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 (57.5%) than other HealthChoice children (51.6%). The largest differences between the two populations were observed in the younger age groups. The dental visit rate was 69.0% for children in foster care aged 4 to 5 years and 52.4% for other HealthChoice children: a difference of 16.6 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 2020

Age Group (Years)	Foster Care			Non-Foster Care		
	Total Participants	Number of Participants	Percentage of Total	Total Participants	Number of Participants	Percentage of Total
4–5	590	407	69.0%	73,733	38,672	52.4%
6–9	1,085	688	63.4%	142,688	81,299	57.0%
10–14	1,581	938	59.3%	179,565	97,512	54.3%
15–18	1,773	985	55.6%	118,304	57,175	48.3%
19–20	925	407	44.0%	51,084	17,055	33.4%
Total	**5,954**	**3,425**	**57.5%**	**565,374**	**291,713**	**51.6%**

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 2016 and CY 2020. 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 2016 to CY 2020 for both foster care and non-foster care participants. The percentage of participants with a co-occurring MHD and SUD decreased by 0.1 percentage points for non-foster care participants between CY 2016 and CY 2020, while the rate for foster care participants fell by 1.5 percentage points.

Table 12. Behavioral Health Diagnosis of HealthChoice Foster Care Children vs. Non-Foster Care Children Aged 0–21 Years, CY 2016 and CY 2020

Foster Care Status	CY 2016			CY 2020		
	Total Participants	Number of Participants	Percentage of Total	Total Participants	Number of Participants	Percentage of Total
MHD-Only						
Foster	8,636	3,590	41.6%	7,495	3,216	42.9%
Non-Foster	693,252	71,578	10.3%	733,038	80,920	11.0%
SUD-Only						
Foster	8,636	80	0.9%	7,495	42	0.6%
Non-Foster	693,252	2,994	0.4%	733,038	1,948	0.3%
Dual Diagnosis (MHD and SUD)						
Foster	8,636	308	3.6%	7,495	157	2.1%
Non-Foster	693,252	2,213	0.3%	733,038	1,679	0.2%
No Behavioral Health Diagnosis						
Foster	8,636	4,658	53.9%	7,495	4,080	54.4%
Non-Foster	693,252	616,467	88.9%	733,038	648,491	88.5%

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 CYs 2016 and 2020. In both years, most REM participants were males aged 18 years or younger.[21] Within the REM population, there was a lower percentage of female participants than in the general HealthChoice population. The majority of REM participants were not in foster care.

Table 13. REM Enrollment by Age Group, Sex, and Foster Care Status, CY 2016 and CY 2020

	CY 2016	CY 2020

[21] 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.

Demographic Characteristic	Number of Enrollees	Percentage of Total	Number of Enrollees	Percentage of Total
Age Group (Years)				
0-18	3,218	66.4%	2,993	64.0%
19 and older	1,632	33.6%	1,680	36.0%
Total	**4,850**	**100.0%**	**4,673**	**100.0%**
Sex/Gender				
Female	2,097	43.2%	2,006	42.9%
Male	2,753	56.8%	2,667	57.1%
Total	**4,850**	**100.0%**	**4,673**	**100.0%**
Foster Care				
Foster Care	368	7.6%	318	6.8%
Non-Foster Care	4,482	92.4%	4,355	93.2%
Total	**4,850**	**100.0%**	**4,673**	**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 2016 and CY 2020. The dental, inpatient, and ambulatory care visit measures serve as indicators of access to care. The percentage of participants with a dental visit decreased during the evaluation period, from 53.8% in CY 2016 to 40.7% in CY 2020. The percentage of REM participants who had an inpatient visit declined by 6.5 percentage points between CY 2016 and CY 2020. Ambulatory care utilization decreased by 1.8 percentage points throughout the evaluation period. Outpatient ED visits decreased by 12.7 percentage points over the entire evaluation period. 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 2016–CY 2020

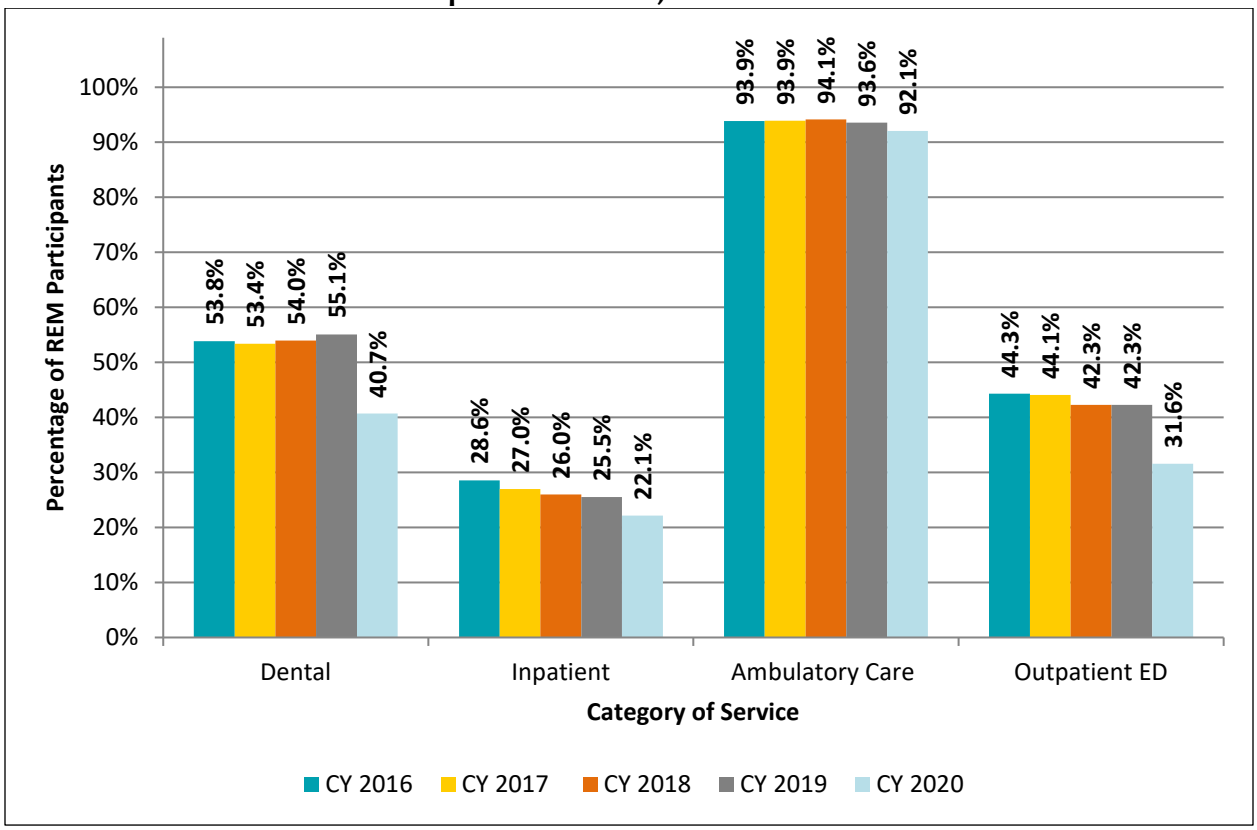


Table 14 shows the behavioral health diagnosis rates among REM participants at the beginning and end of the evaluation period. The rates for MHD-only and SUD-only decreased slightly (0.7 and 0.4 percentage points, respectively). REM participants with no behavioral health diagnosis increased by 1.3 percentage points over the evaluation period.

Table 14. Behavioral Health Diagnoses of REM Participants, CY 2016 and CY 2020

CY 2016			CY 2020		
Number of Participants	**Total Participants**	**Percentage of Total**	**Number of Participants**	**Total Participants**	**Percentage of Total**
MHD-Only					
955	4,850	19.7%	890	4,673	19.0%
SUD-Only					
128	4,850	2.6%	101	4,673	2.2%
Dual Diagnosis (MHD + SUD)					
48	4,850	1.0%	39	4,673	0.8%
No Behavioral Health Diagnosis					
3,719	4,850	76.7%	3,643	4,673	78.0%

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. MFR is a strategic planning and performance measurement process used to improve government programs. 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" continued to increase. The Department is reviewing race and ethnicity data from the Maryland Health Benefit Exchange (MHBE) and MMIS2 with the goal of improving the quality of race and ethnicity data.

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 2016 and CY 2020, the percentage of self-identified Native American participants remained the same, and the percentage of Asian and "Other" participants increased by 0.2 and 7.6 percentage points, respectively.

Table 15. HealthChoice Enrollment by Race/Ethnicity, CY 2016 and CY 2020

Race/Ethnicity	CY 2016		CY 2020	
	Number of Participants	Percentage of Total	Number of Participants	Percentage of Total
Asian	57,240	4.5%	65,840	4.7%
Black	562,506	43.8%	565,870	40.6%
White	369,984	28.8%	356,663	25.6%
Hispanic	115,450	9.0%	104,379	7.5%
Native American	3,711	0.3%	4,135	0.3%
Other*	176,379	13.7%	295,989	21.3%
Total	**1,285,270**	**100.0%**	**1,392,876**	**100.0%**

Note: "Other" race/ethnicity category includes Pacific Islands/Alaskan and Unknown.

Ambulatory Care Visits

Figure 12 presents the percentage of children aged 0 through 18 years with at least one ambulatory visit in CY 2016 and CY 2020, by race and ethnicity. The overall rate of ambulatory care visits fell from 83.8% in CY 2016 to 77.4% in CY 2020. All racial and ethnic groups experienced a decrease throughout the evaluation period. In CY 2016, the disparity between the racial/ethnic group with the highest percentage of ambulatory care visits (Hispanic) and the

lowest percentage (Black) was 9.8 percentage points. In CY 2020, this difference rose to 12.7 percentage points.

Figure 12. Percentage of HealthChoice Participants Aged 0–18 Years with an Ambulatory Care Visit, by Race/Ethnicity, CY 2016 and CY 2020

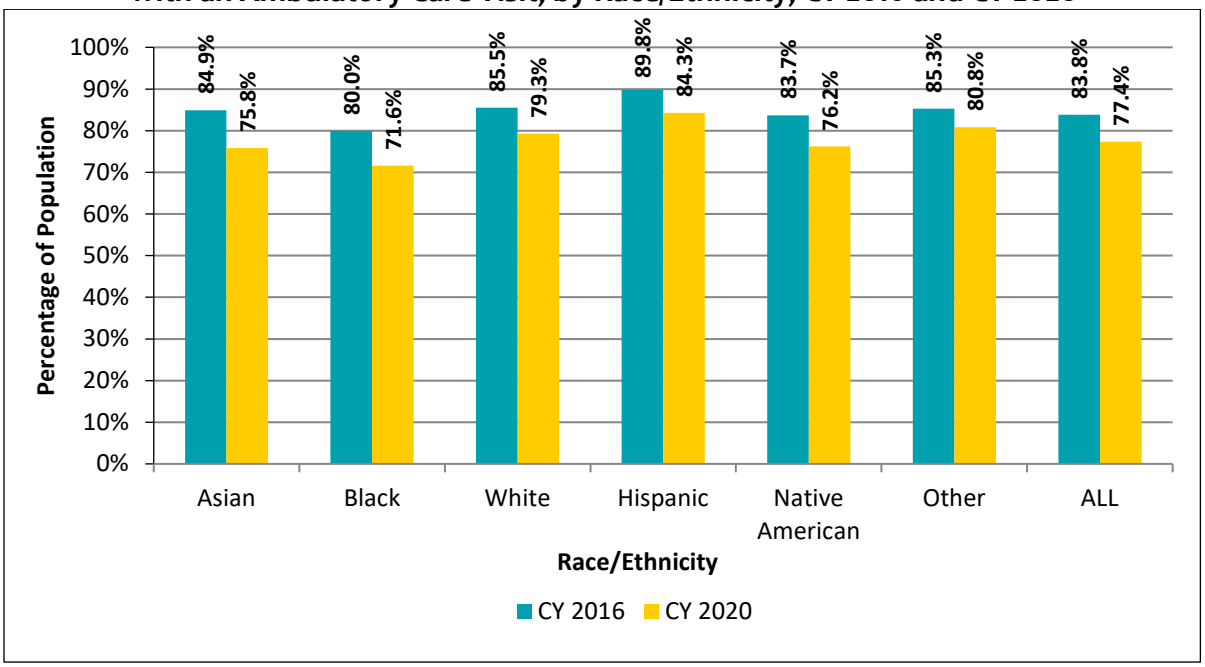
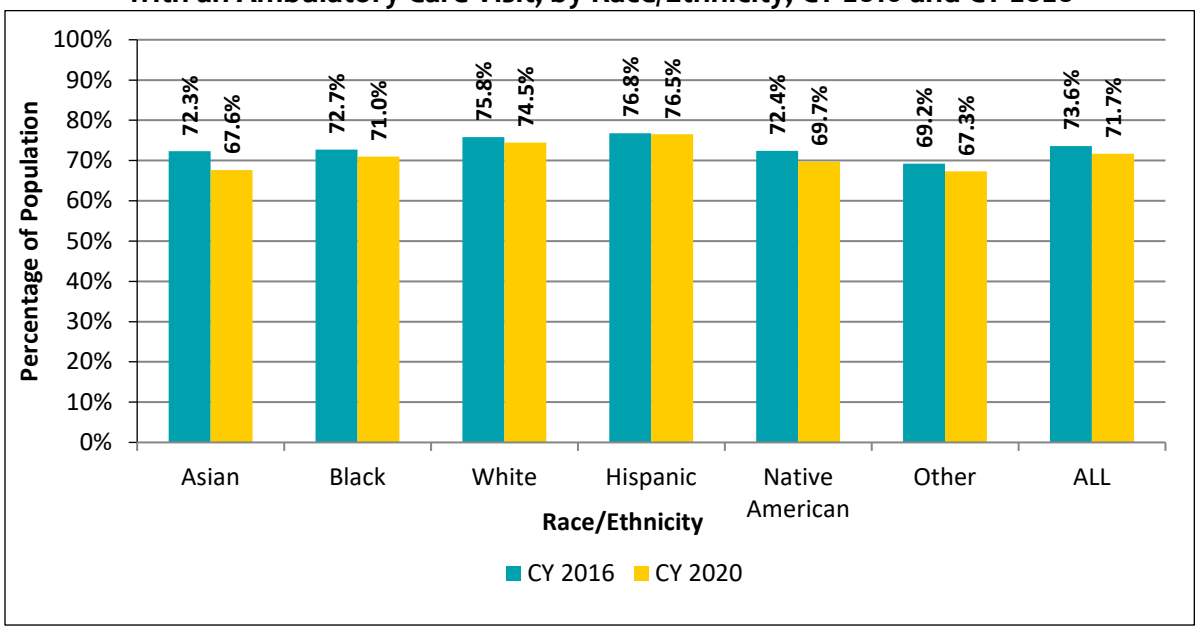


Figure 13 shows the percentage of adults aged 19 to 64 years with at least one ambulatory care visit in CY 2016 and CY 2020, by race and ethnicity. In CY 2016, 73.6% of adult HealthChoice participants received an ambulatory care visit. The rate of ambulatory care visits decreased to 71.7% in CY 2020, with a corresponding drop observed among all racial and ethnic groups.

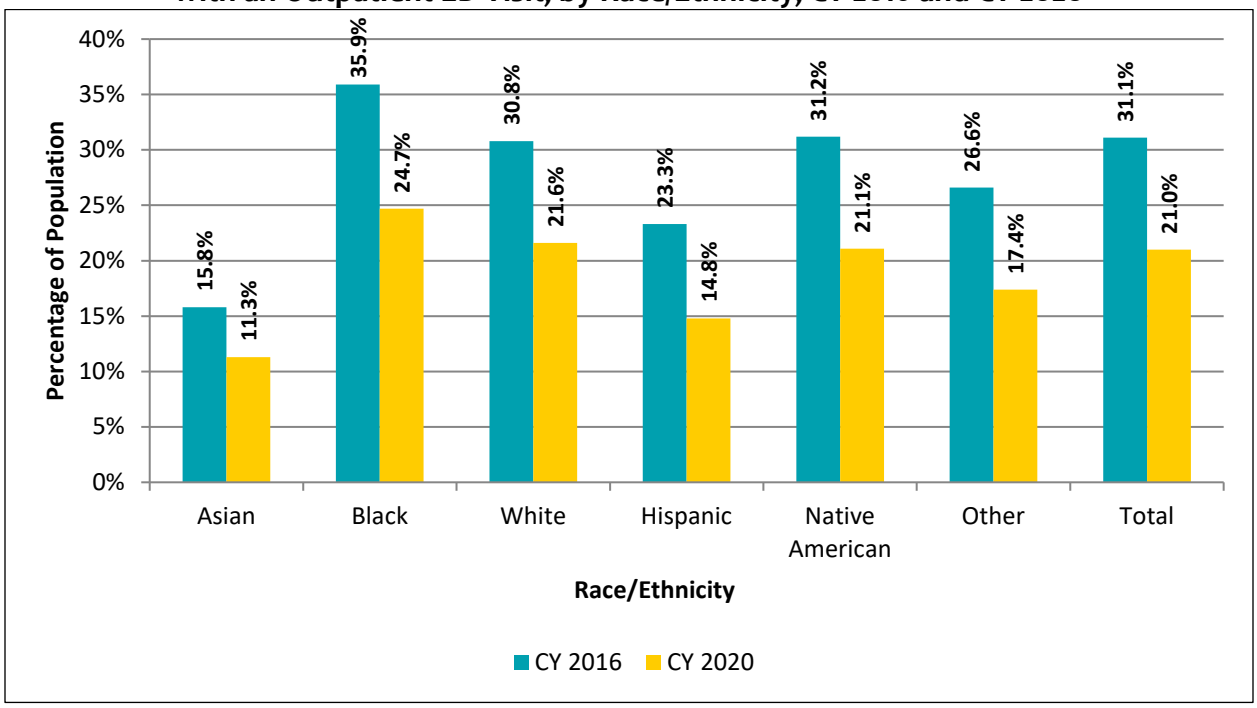
Figure 13. Percentage of HealthChoice Participants Aged 19–64 Years with an Ambulatory Care Visit, by Race/Ethnicity, CY 2016 and CY 2020



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 2016 and CY 2020. During the evaluation period, each racial and ethnic group experienced a drop in ED services. Black participants continued to have the highest ED visit rate, while Asian participants continued to have the lowest.

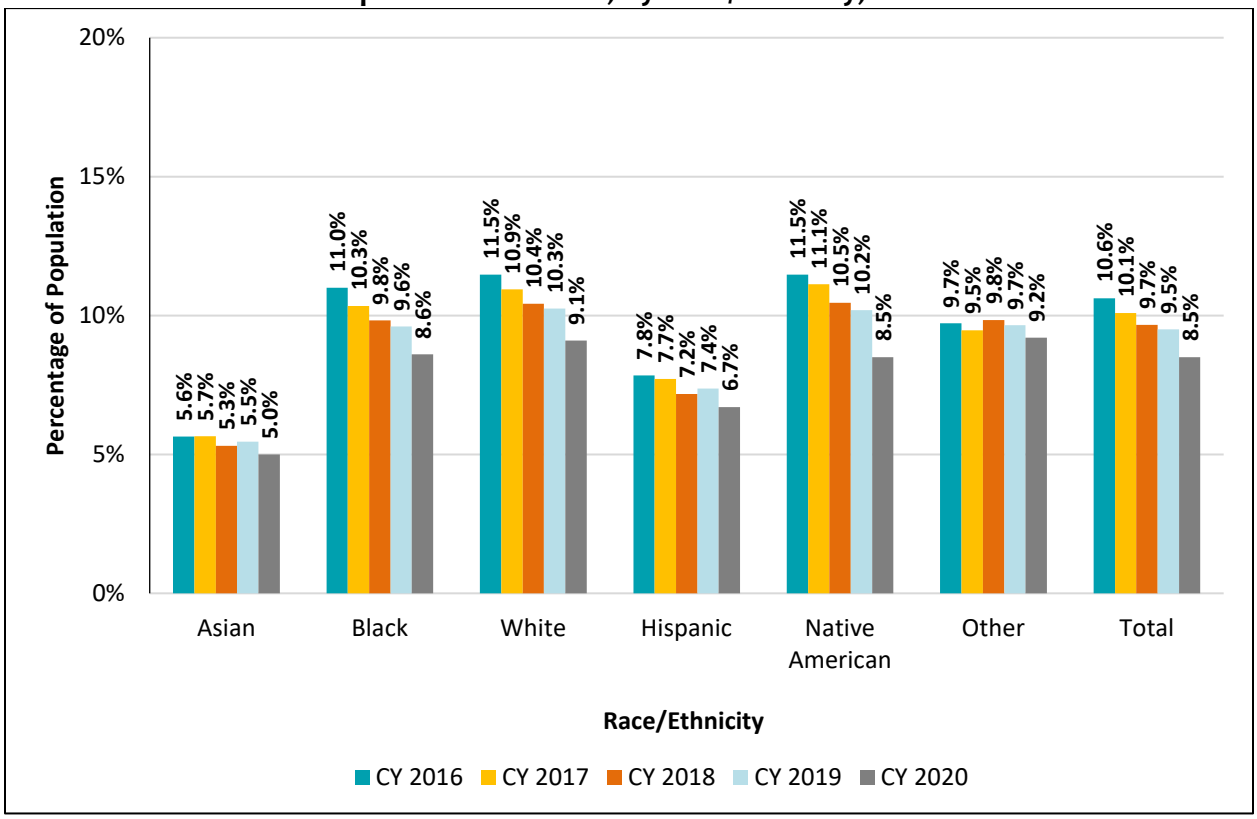
Figure 14. Percentage of HealthChoice Participants Aged 0–64 Years with an Outpatient ED Visit, by Race/Ethnicity, CY 2016 and CY 2020



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 2016 and CY 2020. Each group's rate declined between CY 2016 and CY 2020.

Figure 15. Percentage of HealthChoice Participants Aged 18–64 Years Who Had an Inpatient Admission, by Race/Ethnicity, CY 2016–CY 2020



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 2016 and CY 2020. The ACA Medicaid expansion population consists of three different coverage groups:

1. Former Primary Adult Care (PAC) participants
2. Childless adults not previously enrolled in PAC[22]
3. Parents and caretaker relatives

This section presents demographic and service utilization measures for participants with any period of 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 became more familiar with accessing care through Medicaid.

[22] 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 2016, the Maryland Medicaid program enrolled 355,271 adults (with any period of enrollment) through the ACA Medicaid expansion. By CY 2020, the number of participants (members) who received coverage for at least one month in an ACA expansion coverage group increased to 396,876.

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 2016–CY 2020

Demographic Characteristic	CY 2016		CY 2017		CY 2018		CY 2019		CY 2020	
	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total
Race/Ethnicity										
Asian	18,270	5.1%	20,344	5.2%	20,980	5.3%	20,222	5.2%	21,153	5.3%
Black	152,532	42.9%	165,673	42.7%	170,306	42.9%	169,903	43.4%	172,616	43.5%
White	127,416	35.9%	135,107	34.8%	134,702	33.9%	130,104	33.2%	127,984	32.2%
Hispanic	11,683	3.3%	13,335	3.4%	14,028	3.5%	13,764	3.5%	14,106	3.6%
Other	45,370	12.8%	53,539	13.8%	57,387	14.4%	57,791	14.8%	61,017	15.4%
Total	**355,271**	**100%**	**387,998**	**100.0%**	**397,403**	**100%**	**391,784**	**100%**	**396,876**	**100%**
Sex										
Female	169,710	47.8%	182,629	47.1%	185,902	46.8%	182,264	46.5%	182,675	46.0%
Male	185,561	52.2%	205,369	52.9%	211,501	53.2%	209,520	53.5%	214,201	54.0%
Total	**355,271**	**100%**	**387,998**	**100.0%**	**397,403**	**100%**	**391,784**	**100%**	**396,876**	**100%**
Region										
Baltimore City	73,183	20.6%	78,355	20.2%	79,582	20.0%	78,669	20.1%	78,145	19.7%
Baltimore Suburban	103,563	29.2%	113,780	29.3%	116,984	29.4%	116,089	29.6%	118,006	29.7%
Eastern Shore	34,517	9.7%	37,115	9.6%	37,799	9.5%	36,896	9.4%	35,956	9.1%
Southern Maryland	18,783	5.3%	20,609	5.3%	21,173	5.3%	20,860	5.3%	21,042	5.3%
Washington Suburban	96,027	27.0%	106,174	27.4%	108,865	27.4%	106,443	27.2%	111,364	28.1%
Western Maryland	28,390	8.0%	31,090	8.0%	32,179	8.1%	32,144	8.2%	31,753	8.0%
Out of State	808	0.2%	875	0.2%	821	0.2%	683	0.2%	610	0.2%
Total	**355,271**	**100%**	**387,998**	**100.0%**	**397,403**	**100%**	**391,784**	**100%**	**396,876**	**100.0%**
***Age Group* (Years)**										
19–34	157,804	44.4%	177,340	45.7%	184,973	46.6%	184,408	47.1%	183,703	46.3%
35–49	87,520	24.6%	93,685	24.2%	96,276	24.2%	93,936	24.0%	96,852	24.4%
50–64	109,947	31.0%	116,973	30.2%	116,154	29.2%	113,440	29.0%	116,321	29.3%

Demographic Characteristic	CY 2016		CY 2017		CY 2018		CY 2019		CY 2020	
	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total
Total	**355,271**	**100%**	**387,998**	**100.0%**	**397,403**	**100%**	**391,784**	**100%**	**396,876**	**100.0%**
Member Months										
1	17,097	4.8%	13,928	3.6%	12,270	3.1%	11,433	2.9%	14,907	3.8%
2	12,954	3.7%	12,460	3.2%	10,760	2.7%	11,095	2.8%	11,788	3.0%
3	9,951	2.8%	9,920	2.6%	10,761	2.7%	10,219	2.6%	7,001	1.8%
4	8,977	2.5%	9,103	2.4%	11,035	2.8%	9,689	2.5%	6,498	1.6%
5	9,139	2.6%	10,162	2.6%	13,062	3.3%	10,272	2.6%	6,734	1.7%
6	9,444	2.7%	9,603	2.5%	12,181	3.1%	9,696	2.5%	6,832	1.7%
7	10,062	2.8%	10,039	2.6%	10,645	2.7%	10,490	2.7%	6,794	1.7%
8	10,833	3.1%	10,603	2.7%	11,849	3.0%	11,631	3.0%	6,437	1.6%
9	11,610	3.3%	11,018	2.8%	11,632	2.9%	11,684	3.0%	8,531	2.1%
10	13,360	3.8%	12,474	3.2%	12,464	3.1%	12,966	3.3%	8,374	2.1%
11	19,167	5.4%	15,093	3.9%	16,228	4.1%	15,022	3.8%	6,773	1.7%
12	222,677	62.7%	263,595	67.9%	264,516	66.6%	267,587	68.3%	306,207	77.2%
Total	**355,271**	**100%**	**387,998**	**100.0%**	**397,403**	**100.0%**	**391,784**	**100%**	**396,876**	**100.0%**

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 2016–CY 2020

Demographic Characteristic	CY 2016		CY 2017		CY 2018		CY 2019		CY 2020	
	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total	# of Participants	% of Total
Race/Ethnicity										
Asian	11,764	5.3%	13,689	5.2%	13,757	5.2%	13,674	5.1%	15,384	5.0%
Black	96,225	43.2%	116,103	44.0%	116,955	44.2%	119,136	44.5%	136,757	44.7%
White	82,122	36.9%	93,301	35.4%	91,318	34.5%	90,680	33.9%	100,358	32.8%
Hispanic	7,723	3.5%	9,081	3.4%	9,222	3.5%	9,320	3.5%	11,018	3.6%
Other	24,843	11.2%	31,421	11.9%	33,264	12.6%	34,777	13.0%	42,690	13.9%
Total	**222,677**	**100%**	**263,595**	**100%**	**264,516**	**100%**	**267,587**	**100%**	**306,207**	**100%**
Sex										
Female	110,197	49.5%	125,907	47.8%	124,280	47.0%	124,508	46.5%	140,411	45.9%
Male	112,480	50.5%	137,688	52.2%	140,236	53.0%	143,079	53.5%	165,796	54.1%
Total	**222,677**	**100%**	**263,595**	**100%**	**264,516**	**100%**	**267,587**	**100%**	**306,207**	**100%**
Region										
Baltimore City	47,279	21.2%	56,187	21.3%	56,391	21.3%	56,616	21.2%	63,465	20.7%
Baltimore Suburban	64,706	29.1%	76,786	29.1%	77,767	29.4%	79,363	29.7%	91,025	29.7%
Eastern Shore	22,574	10.1%	25,896	9.8%	25,735	9.7%	25,501	9.5%	28,830	9.4%
Southern Maryland	11,920	5.4%	14,203	5.4%	14,117	5.3%	14,565	5.4%	16,515	5.4%
Washington Suburban	57,669	25.9%	68,901	26.1%	68,947	26.1%	69,766	26.1%	81,197	26.5%
Western Maryland	18,105	8.1%	21,093	8.0%	21,105	8.0%	21,357	8.0%	24,712	8.1%
Out of State	424	0.2%	529	0.2%	454	0.2%	419	0.2%	463	0.2%
Total	**222,677**	**100%**	**263,595**	**100%**	**264,516**	**100%**	**267,587**	**100%**	**306,207**	**100%**
Age Group (Years)										
19–34	94,136	42.3%	116,572	44.2%	118,398	44.8%	120,885	45.2%	139,786	45.7%
35–49	55,774	25.1%	65,267	24.8%	65,144	24.6%	65,438	24.5%	75,773	24.7%
50–64	72,767	32.7%	81,756	31.0%	80,974	30.6%	81,264	30.4%	90,648	29.6%
Total	**222,677**	**100%**	**263,595**	**100%**	**264,516**	**100%**	**267,587**	**100%**	**306,207**	**100%**

ACA Medicaid Expansion Population Service Utilization

This section discusses 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 2016 through CY 2020 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 2016, roughly 67% of ACA Medicaid expansion participants with any period of enrollment had an ambulatory care visit; this rate decreased to roughly 65% in CY 2020. Visit rates also decreased over the evaluation period for expansion participants enrolled for the entire year. Among those with 12 months of enrollment, 77.7% of participants in CY 2016 and 70.4% of participants in CY 2020 had an ambulatory care visit.
- In CY 2016, 32.3% of ACA Medicaid expansion participants with any period of enrollment had an outpatient ED visit. This rate increased to 37.2% for those enrolled for the entire year. ED visit rates remained stable at roughly 30% for participants with any period of enrollment for CY 2016 through CY 2019. In CY 2020, ED visit rates decreased to 24.9% for participants with any period of enrollment. The rates for participants with 12 months of enrollment decreased from 37.2% in CY 2016 to 33.5% in CY 2019, then dropped to 26.9% in CY 2020.
- Overall, 9.2% of ACA Medicaid expansion participants with any period of enrollment had an inpatient admission in CY 2016, decreasing to 7.2% in CY 2020. Participants who were enrolled for the entire year experienced a higher rate of inpatient admissions from CY 2016 through CY 2019; their rates were 10.2% in CY 2016 and 8.5% in CY 2019. At 7.2% in CY 2020, the rate of participants with an inpatient admission was the same for both any period of enrollment and 12 months of enrollment.

Table 18. Service Utilization of ACA Medicaid Expansion Population Aged 19–64 Years, by Enrollment Period, CY 2016–CY 2020

Enrollment Period	CY 2016			CY 2017			CY 2018			CY 2019			CY 2020		
	# 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	236,729	355,271	66.6%	257,280	387,998	66.3%	264,710**	397,403	66.6%	267,294	391,784	68.2%	258,789	396,876	65.2%
12 Months	172,901	222,677	77.7%	197,885	263,595	75.1%	200,499	264,516	75.8%	202,589	267,587	75.7%	215,701	306,207	70.4%
Outpatient ED Visits															
Any	114,624	355,271	32.3%	120,342	387,998	31.0%	116,393**	397,403	29.3%	117,383	391,784	30.0%	98,697	396,876	24.9%
12 Months	82,894	222,677	37.2%	93,130	263,595	35.3%	88,507	264,516	33.5%	89,555	267,587	33.5%	82,473	306,207	26.9%
Inpatient Admissions															
Any	32,622	355,271	9.2%	34,303	387,998	8.8%	33,421	397,403	8.4%	31,941	391,784	8.2%	28,419	396,876	7.2%
12 Months	22,670	222,677	10.2%	25,203	263,595	9.6%	24,248	264,516	9.2%	22,876	267,587	8.5%	21,931	306,207	7.2%

*The number of users is the number of participants that had at least one visit.

**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 2016 through CY 2020.

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 compared to 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 1.0 percentage point from CY 2016 to CY 2020. The percentage of participants with any period of enrollment and an MHD-only increased slightly (by 0.3 percentage points) across the evaluation period. The percentage of participants with any period of enrollment and an SUD-only was 6.7% in CY 2016 and 6.3% in CY 2020. The percentage of participants with any period of enrollment and a dual diagnosis of MHD and SUD remained stable at roughly 5%.

Table 19. Behavioral Health Diagnosis of ACA Medicaid Expansion Population Aged 19–64 Years, by Enrollment Period, CY 2016–CY 2020

Enrollment Period	CY 2016			CY 2017			CY 2018			CY 2019			CY 2020		
	# 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	37,637	355,271	10.6%	40,635	387,998	10.5%	42,558	397,403	10.7%	44,184	391,784	11.3%	43,128	396,876	10.9%
12 Months	27,742	222,677	12.5%	31,291	263,595	11.9%	32,129	264,516	12.2%	33,509	267,587	12.5%	36,246	306,207	11.8%
SUD-Only															
Any Period	23,739	355,271	6.7%	26,450	387,998	6.8%	27,258	397,403	6.9%	26,745	391,784	6.8%	25,024	396,876	6.3%
12 Months	16,717	222,677	7.5%	20,400	263,595	7.7%	20,818	264,516	7.9%	20,496	267,587	7.7%	21,367	306,207	7.0%
Dual Diagnosis (MHD and SUD)															
Any Period	18,100	355,271	5.1%	19,815	387,998	5.1%	20,719	397,403	5.2%	22,213	391,784	5.7%	20,408	396,876	5.1%
12 Months	14,501	222,677	6.5%	16,545	263,595	6.3%	17,159	264,516	6.5%	18,185	267,587	6.8%	18,112	306,207	5.9%
No Behavioral Health Diagnosis															
Any Period	275,795	355,271	77.6%	301,098	387,998	77.6%	90,535	397,403	77.2%	298,642	391,784	76.2%	308,316	396,876	77.7%
12 Months	163,717	222,677	73.5%	195,359	263,595	74.1%	194,410	264,516	73.5%	195,397	267,587	73.0%	230,482	306,207	75.3%

Section III Conclusion

During CY 2020, HealthChoice maintained access to primary care for its members, with all but one Maryland county having sufficient PCPs to outperform the benchmark ratio of 200 patients per practice. Managed care enrollment remained consistently above 87.0% from CY 2016 to CY 2017 and consistently above 89.0% from CY 2018 to CY 2020. Across a wide variety of measures, HealthChoice utilization trends were largely consistent with program goals from CY 2016 through CY 2019. However, the COVID-19 pandemic in CY 2020 negatively impacted utilization trends. The percentage of HealthChoice participants who received ambulatory care decreased from CY 2016 to CY 2020, with the largest decrease of 4.6 percentage points between CY 2019 and CY 2020. 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 decreased, and utilization of the ED and inpatient admissions for this population also decreased. However, outpatient ED visits and inpatient admissions were higher for children in foster care than for children not in foster care in CY 2020. The percentage of REM participants with a dental visit, ED visit, or inpatient admission decreased during the evaluation period.

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 2020 VBP program (see Table 20) were chosen from NCQA's HEDIS®. These measures were chosen 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 2020

Value-Based Purchasing Measures	Average Percentage Goal Achieved
Adolescent Well-Care Visits	53.1%
Ambulatory Care Visits for SSI Adults	77.0%
Ambulatory Care Visits for SSI Children	75.0%
Breast Cancer Screening	65.0%
Comprehensive Diabetes Care - HbA1c Control (<8.0%)*	51.0%
Lead Screenings for Children - Ages 12–23 months	61.0%
Controlling High Blood Pressure	55.0%
Asthma Medication Ratio	69.0%
Well-Child Visits for Children - Ages 0 to 15 Months, 6 or more Visits*	61.0%

* These measures are different than what was reported in the 2021 HealthChoice Evaluation and therefore cannot be compared.

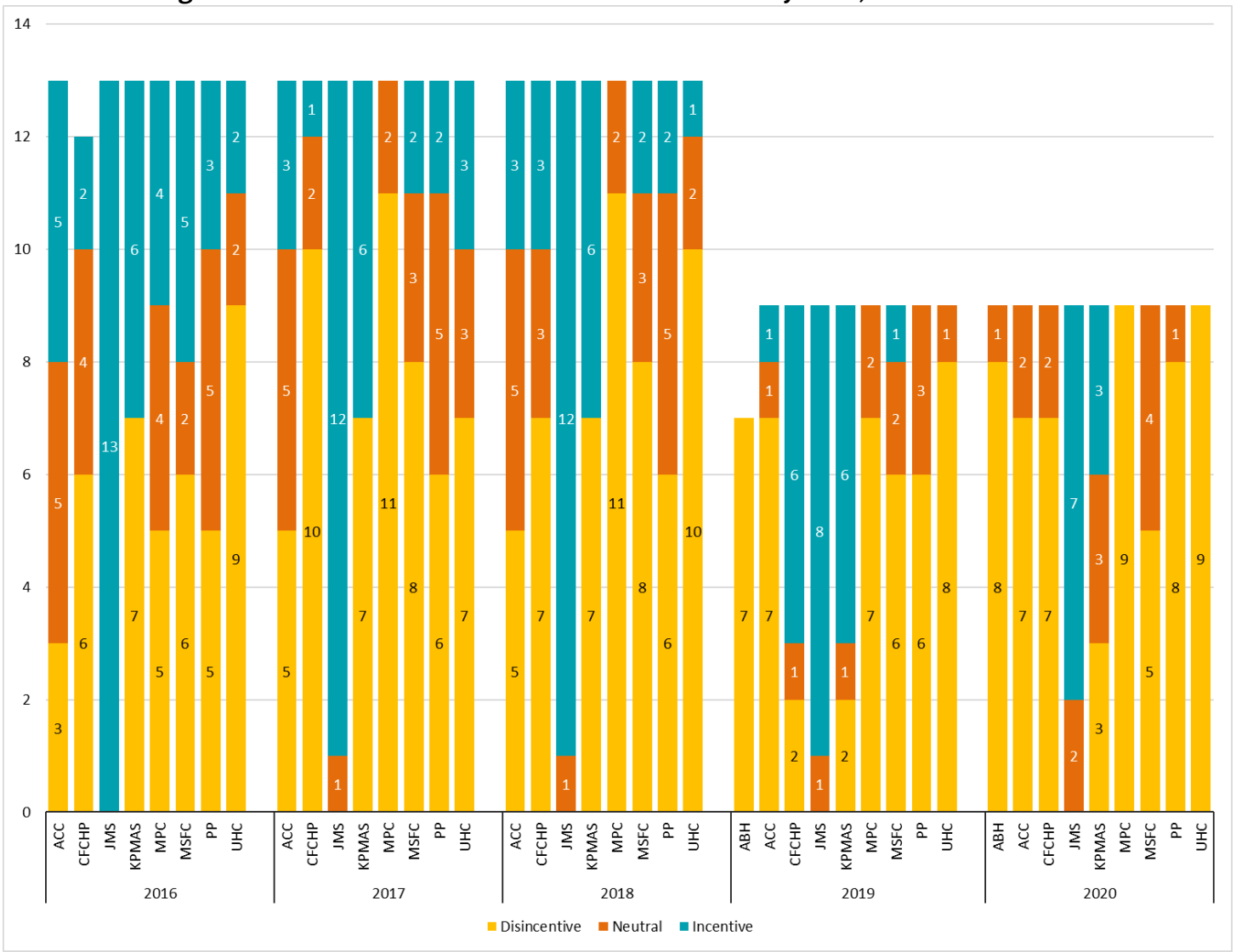
Per regulations,[23] the Department sets aside 1% of MCO revenue to generate financial incentives and disincentives to promote performance improvement. Using data on the listed measures

[23] 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, as well as those with neutral performances on the VBP measures from CY 2016 to CY 2020. Between CY 2016 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 (indicated in gold 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 2016–CY 2020



* ABH: Aetna Better Health; ACC: AMERIGROUP Community Care; CFCHP: CareFirst Community Health Plan; 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. Complete data were not available for CFCHP 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 (PHIP), 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[24] 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 age-appropriate encounter forms, risk assessment forms, and questionnaires with their provider networks 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

[24] 42 CFR § 440.345.

history, 2) comprehensive physical exam, 3) laboratory tests/at-risk screenings, 4) immunizations, and 5) health education/anticipatory guidance.

Between CY 2016 and CY 2020, provider compliance remained stable or increased for three components and decreased for two of the EPSDT components (Table 21). The HealthChoice aggregate total score increased from CY 2016 to CY 2018 but decreased in CY 2019. The increase from CY 2019 to CY 2020 resulted in the aggregate total score returning to its original value from CY 2016 (Qlarant, 2022). The Department achieved the minimum compliance score of 80% for all components for CY 2016 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. Only one component in CY 2020—Laboratory Tests/At-Risk Screenings—remained below the minimum compliance score. 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 2016–CY 2020

EPSDT Component	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Health and Developmental History	92%	92%	94%	88%	94%
Comprehensive Physical Exam	96%	96%	97%	93%	96%
Laboratory Tests/At-Risk Screenings	85%	82%	87%	66%*	77%
Immunizations	85%	90%	93%	71%*	86%
Health Education/Anticipatory Guidance	95%	94%	94%	92%	94%
HealthChoice Aggregate Total	**91%**	**92%**	**94%**	**83%**	**91%**

* CY 2019 results for these components are baseline as a result of the change in the MRR process due to the COVID-19 public health emergency. Underlined 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 set standards by which each MCO is evaluated, and those MCOs that exceed a performance threshold receive incentive payments. MCOs with less-than-standard performance 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 PHIP—supports overall quality improvement across HealthChoice.

Second, the EPSDT annual review assesses plan performance on services to children under the age of 21. Because EPSDT services are a national requirement for Medicaid, 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 2016 through CY 2018. In CY 2019, however, MCOs did not attain the minimum compliance requirement for two measures: Laboratory Tests/At-Risk Screenings and Immunizations. In CY 2020, one measure—Laboratory Tests/At-Risk Screenings—remained below the minimum compliance requirement. 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, 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 assignments, 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 used 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 2020. 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 MedStar and Priority Partners experienced declines in the proportion of their HealthChoice participants with at least one visit to their assigned PCP. All MCOs except Jai Medical Systems and UnitedHealthcare experienced increases in the proportion of their participants with at least one visit to any PCP within the MCO network from CY 2016 to CY 2020, showing that the MCOs have sustained improvements in this measure despite the general decline in utilization.

Table 22. Percentage of HealthChoice Participants (12 Months of Enrollment) with a PCP Visit, by MCO,* CY 2016–CY 2020

MCO	Number of Participants (12 Months of Enrollment)	Percentage of Participants with a Visit with their Assigned PCP	Percentage of Participants with a Visit with Assigned PCP, Group Practice, or Partner PCPs	Percentage of Participants with a Visit with any PCP in MCO's Network
CY 2016				
Amerigroup	172,839	48.3%	65.7%	75.5%
CareFirst Community Health Plan	18,875	33.0%	50.3%	62.7%
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%
Total	**691,465**	**34.4%**	**47.3%**	**72.1%**
CY 2017				
Amerigroup	212,537	47.2%	66.4%	74.6%
CareFirst Community Health Plan	26,709	30.4%	47.0%	60.5%
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%
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%
CareFirst Community Health Plan	30,257	31.2%	47.3%	71.4%
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%
Total**	**882,545**	**30.9%**	**47.9%**	**68.7%**
CY 2019				
Aetna	10,391	0.5%	1.0%	2.7%

MCO	Number of Participants (12 Months of Enrollment)	Percentage of Participants with a Visit with their Assigned PCP	Percentage of Participants with a Visit with Assigned PCP, Group Practice, or Partner PCPs	Percentage of Participants with a Visit with any PCP in MCO's Network
Amerigroup	217,501	45.1%	70.1%	82.8%
CareFirst Community Health Plan	32,527	28.4%	47.9%	70.7%
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%
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%
Total	**911,652**	**35.1%**	**52.8%**	**78.5%**
CY 2020				
Aetna	24,966	0.4%	0.6%	1.8%
Amerigroup	255,847	46.2%	65.3%	78.2%
CareFirst Community Health Plan	40,015	29.2%	43.7%	69.0%
Jai Medical Systems	23,966	29.5%	59.6%	77.0%
Kaiser	63,507	56.1%	76.2%	78.3%
Maryland Physicians Care	194,489	35.0%	53.9%	75.3%
MedStar	81,112	29.9%	49.2%	75.5%
Priority Partners	276,319	35.2%	38.1%	74.8%
UnitedHealthcare	130,723	33.2%	47.7%	68.8%
Total	**1,090,944**	**37.2%**	**51.3%**	**73.4%**

*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 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 2016 and CY 2020. The total number of participants enrolled in HealthChoice grew by 8.0% between CY 2016 and CY 2020, while the proportion receiving an ambulatory care visit grew by 2.5%. There was considerable variation in this measure among MCOs. Four out of eight MCOs operating in CY 2016 and three out of nine MCOs in CY 2020 had at least 75% of their participants having an ambulatory care visit.

Table 23. Number and Percentage of HealthChoice Participants Aged 0–64 Years Who Had an Ambulatory Care Visit, by MCO, CY 2016 and CY 2020

MCO*	CY 2016			CY 2020		
	Total Participants	# with Ambulatory Care Visit	% with Ambulatory Care Visit	Total Participants	# with Ambulatory Care Visit	% with Ambulatory Care Visit
Aetna	N/A**			47,525	26,549	55.9%
Amerigroup	312,209	253,193	81.1%	312,323	242,233	77.6%
CFCHP	43,646	27,877	63.9%	56,201	36,083	64.2%
JAI	28,182	20,414	72.4%	30,470	21,951	72.0%
Kaiser	62,825	44,248	70.4%	98,660	67,963	68.9%
MPC	240,875	188,997	78.5%	238,601	180,715	75.7%
MedStar	94,240	69,415	73.7%	104,768	75,616	72.2%
Priority Partners	314,661	259,177	82.4%	338,858	261,461	77.2%
United	188,793	147,228	78.0%	165,470	123,869	74.9%
ALL MCOs	**1,285,431**	**1,010,549**	**78.6%**	**1,392,876**	**1,036,440**	**74.4%**

*It is important to note that the data contained here have not been risk-adjusted, so 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 Outpatient ED utilization of HealthChoice participants aged 0 to 64 years by MCO during CY 2016 and CY 2020. There were eight MCOs actively participating in HealthChoice in CY 2016 and nine MCOs in CY 2020. Between CY 2016 and CY 2020, all MCOs experienced a decrease in the percentage of participants with an ED visit; Amerigroup and Jai experienced the largest decrease in ED use by 11 and 12.1 percentage points, respectively. In CY 2016, at least 30% of participants in five of the eight MCOs (Amerigroup, Jai, Maryland Physicians Care, MedStar, and Priority Partners) used ED services. By CY 2020, all nine MCOs had an ED utilization rate less than 30%.

Table 24. Percentage of HealthChoice Participants Aged 0–64 Years Who Had an Outpatient ED Visit, by MCO, CY 2016 and CY 2020*

MCO*	CY 2016			CY 2020		
	Total Participants	# with ED Visit	% with ED Visit	Total Participants	# with ED Visit	% with ED Visit
Aetna	N/A**			47,525	9,164	19.3%
Amerigroup	312,209	95,885	30.7%	312,323	61,675	19.7%
CFCHP	43,646	12,719	29.1%	56,201	12,319	21.9%
JAI	28,182	11,243	39.9%	30,470	8,476	27.8%
Kaiser	62,825	10,873	17.3%	98,660	9,266	9.4%
MPC	240,875	82,719	34.3%	238,601	57,689	24.2%
MedStar	94,240	28,661	30.4%	104,768	23,593	22.5%
Priority Partners	314,661	101,411	32.2%	338,858	76,518	22.6%
United	188,793	56,281	29.8%	165,470	33,622	20.3%
ALL MCOs	**1,285,431**	**399,792**	**31.1%**	**1,392,876**	**292,322**	**21.0%**

*It is important to note that the data contained here have not been risk-adjusted, so 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

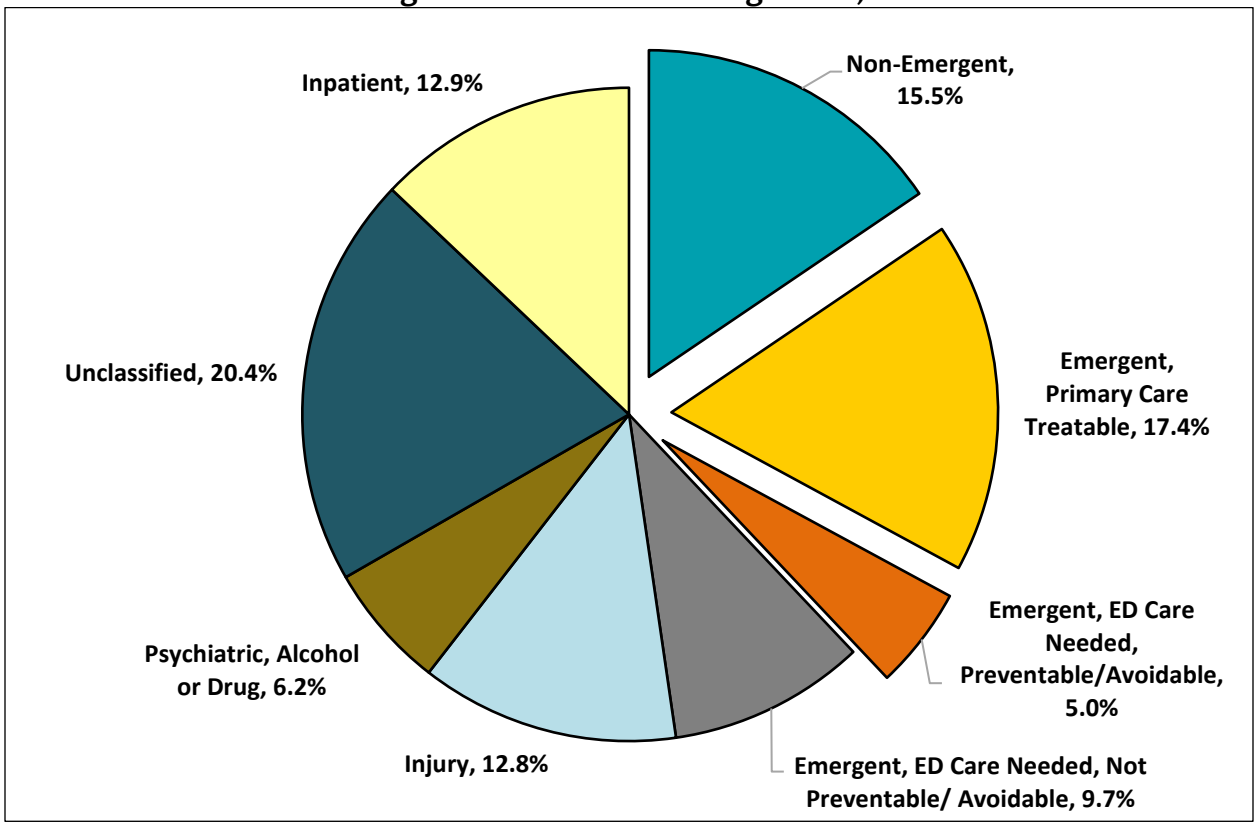
A fundamental goal of managed care programs like HealthChoice is the delivery of the appropriate care at the appropriate time in the appropriate setting. One widely used methodology to evaluate progress toward appropriate ED utilization is based on classifications developed by researchers at the New 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 2020 ED visits by NYU classification for individuals with any period of HealthChoice enrollment. In CY 2020, 37.9% 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 22.5% of all ED visits in CY 2020.

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. 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.[26]

Figure 17. ED Visits by HealthChoice Participants Classified According to NYU Avoidable ED Algorithm, CY 2020

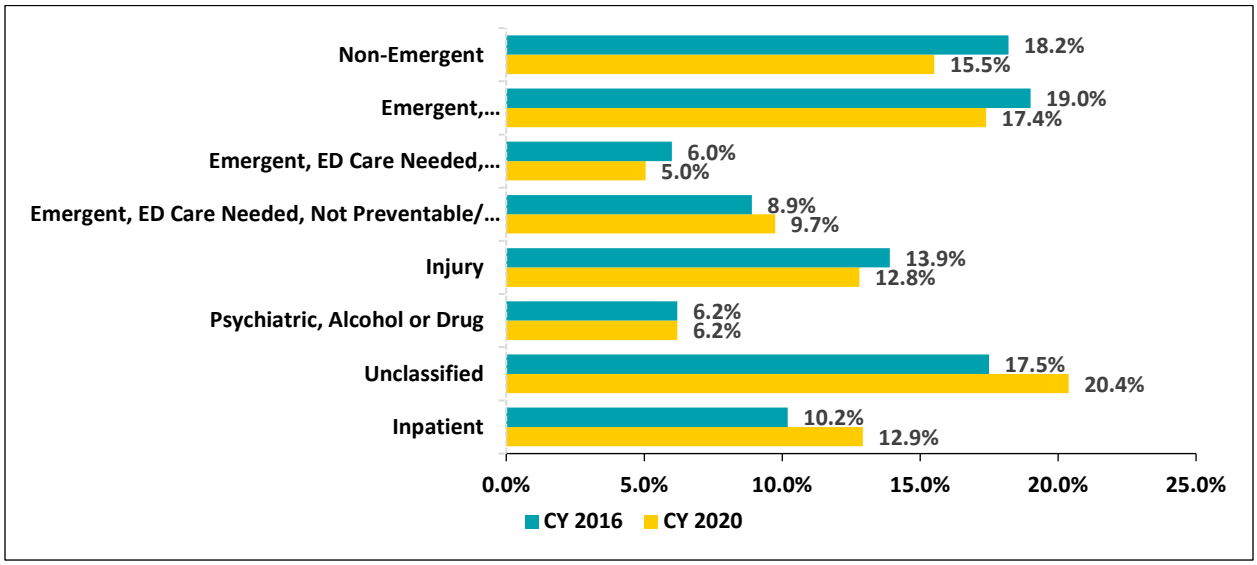


Note: ED visits that result in inpatient stays are not a part of the NYU algorithm and have been added here in their own category. The three categories with ED visits for potentially avoidable/preventable conditions are pulled out in the figure.

[25] Data not shown.
[26] Data not shown.

Figure 18 compares the ED visit classifications for CY 2016 with the classifications for CY 2020. Potentially avoidable ED visits decreased during the evaluation period: from 43.2% of all ED visits in CY 2016 to 37.9% in CY 2020. 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 6.2% in CY 2016 and CY 2020.

Figure 18. Classification of ED Visits, by HealthChoice Participants, CY 2016 and CY 2020



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 for which ambulatory care can potentially prevent the need for hospitalization. The measures presented are as follows:[27]

[27] The measure estimation logic has been updated using AHRQ PQI Version 2021. A full description of the methodological revisions is available here: https://qualityindicators.ahrq.gov/Modules/Log_Coding_Updates_PQI_v2021.aspx.

- 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:[28] Prevention Quality Overall Composite
- PQI #91:[29] Prevention Quality Acute Composite
- PQI #92:[30] Prevention Quality Chronic Composite
- PQI #93:[31] Prevention Quality Diabetes 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 the participant 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 the evaluation period. COPD or asthma in older adults (PQI #5) was responsible for the highest number of potentially avoidable admissions for CY 2016 through CY 2018. For CY 2019 and CY 2020, congestive heart failure (PQI #8) had the highest number of potentially avoidable admissions. The number of potentially avoidable admissions for lower-extremity amputation in patients with diabetes (PQI #16) was the smallest for CY 2016 through CY 2019. In CY 2020, asthma in younger adults' admissions (PQI #15) was the smallest.

[28] PQI #90 includes PQI #s 1, 3, 5, 7, 8, 10, 11, 12, 14, 15, and 16.
[29] PQI #91 includes PQI #s 11 and 12.
[30] PQI #92 includes PQI #s 1, 3, 5, 7, 8, 14, 15, and 16.
[31] PQI #93 includes PQI #s 1, 3, 14, and 16.

Table 25. Number of Potentially Avoidable Admissions per 100,000 HealthChoice Participants Aged 18–64 Years (Any Period of Enrollment), CY 2016–CY 2020[32]

Any PQI #	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
1: Diabetes Short-Term Complications Admissions	140	155	210	213	199
3: Diabetes Long-Term Complications Admissions	124	147	141	154	124
5: COPD or Asthma in Older Adults Admissions (Ages 40-64)	306	337	293	258	167
7: Hypertension Admissions	65	90	84	78	63
8: Congestive Heart Failure Admissions	240	244	271	272	212
11: Bacterial Pneumonia Admissions*	185	132	136	125	93
12: Urinary Tract Infection Admissions*	96	91	72	76	46
14: Uncontrolled Diabetes Admissions	52	51	40	43	36
15: Asthma in Younger Adults Admissions (Ages 18-39)	54	55	47	52	31
16: Lower-Extremity Amputation in Patients with Diabetes	21	25	33	36	35
90: Prevention Quality Overall Composite*	**1,275**	**1,313**	**1,311**	**1,288**	**987**
91: Prevention Quality Acute Composite*	**281**	**222**	**208**	**201**	**139**
92: Prevention Quality Chronic Composite	**994**	**1,091**	**1,103**	**1,087**	**848**
93: Prevention Quality Diabetes Composite	**328**	**365**	**408**	**427**	**375**

* The measure preparation logic for PQI #11 and #12 were revised, and changes were applied to all years in the measurement period. The diabetes composite was added, and changes 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 2016 to 0.7% in CY 2020

During the same period, the percentage of participants with at least one inpatient admission initially decreased from 8.3% in CY 2016 to 7.8% in CY 2018, slightly increased to 7.9% in CY 2019, and then decreased to 7.3% in CY 2020. Among HealthChoice adults with an inpatient admission, the percentage of participants with a PQI-designated admission decreased from 10.7% in CY 2016 to 9.1% in CY 2020.

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

Table 26. Potentially Avoidable Admission Rates, Participants Aged 18–64 Years (Any Period of Enrollment), with ≥1 Inpatient Admission, CY 2016–CY 2020*

Calendar Year	Number of Participants in HealthChoice	Number of Participants with ≥1 MCO Admissions	Percentage of Participants with ≥1 MCO Admission	Number of Participants with Any PQI**	Percentage of Participants with Any PQI**	Percentage of Participants With ≥1 MCO Admission that had a PQI**
2016	675,316	56,357	8.3%	6,021	0.9%	10.7%
2017	724,666	59,319	8.2%	6,362	0.9%	10.7%
2018	748,142	58,422	7.8%	6,404	0.9%	11.0%
2019	734,976	57,726	7.9%	6,073	0.8%	10.5%
2020	755,912	54,896	7.3%	5,001	0.7%	9.1%

*This measure includes only MCO inpatient admissions.

**The measure preparation logic for PQI #11 and 12 were 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 MedStar and Priority Partners.[33] However, the overall percentage of participants who saw any PCP in their MCO's network increased from CY 2016 to CY 2019 before decreasing sharply in CY 2020. 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. In CY 2020, six MCOs continued to have over 70% of their participants visit any PCP in their network. Avoidable ED use declined between CY 2016 and CY 2020, and the proportion of inpatient admissions with a PQI also decreased 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 adverse outcomes. For example, preventive and chronic disease care measures—such as prenatal care, low birth weight, antidepressant medication adherence, and asthma-related 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 slightly below the national HEDIS® mean for childhood immunizations during the evaluation period. Childhood Immunization Combination 3 and well-care visits for adolescents are part of the VBP program.

Table 27. HEDIS® Immunizations and Well-Child Visits: Percentage of HealthChoice Children Compared with the National HEDIS® Mean, CY 2016–CY 2020

HEDIS® Measure	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Childhood Immunization Status: Combination 2					
HealthChoice	82.2%	78.0%	79.7%	77.9%	72.4%
National HEDIS® Mean*	+	+	+	+	-
Childhood Immunization Status: Combination 3					
HealthChoice	80.1%	75.9%	77.4%	75.4%	70.2%
National HEDIS® Mean*	+	+	+	+	-
Well-Child Visits: 15 Months of Life**					
HealthChoice	82.2%	84.7%	83.6%	84.9%	
National HEDIS® Mean*	+	+	+	+	
Well-Care Visits: Adolescents**					
HealthChoice	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 and a "-" sign indicates that Maryland's rate is below the national mean.
** HEDIS® made significant changes to the well-child visits in measurement (MY) 2020, so NCQA determined a trending break for CY 2020. The data cannot be compared to the prior year and are not available.

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. This is 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]

There are currently two CHIP Health Service Initiative (HSI) State Plan Amendments (SPAs) implemented in Maryland to complement lead testing efforts (MACPAC, 2019). Maryland uses HSI funding to 1) support the state's poison control centers, and 2) operate programs that identify and remove lead hazards in the homes of low-income children and that provide HVS for children with moderate to severe asthma or elevated blood lead levels.

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 from CY 2016 through CY 2019 and decreased in CY 2020.

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 2016–CY 2020

Age Group (Months)	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
12–23	60.7%	62.7%	62.2%	62.4%	58.6%
24–35	78.3%	80.4%	80.8%	81.5%	80.3%

[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.

From CY 2016 through CY 2019,[35] over 50,000 children in HealthChoice aged 0 to 6 years received a lead test as reported to the Maryland Department of the Environment (MDE) Childhood Lead Registry (CLR). In CY 2020, the number of children who received a lead test dropped to just over 30,000 children. This may be a result of the COVID-19 pandemic, which may have reduced the use of in-person health services. Table 13 presents the number of children in CY 2016 and CY 2020, as well as the number and percentage of those children who had an elevated blood lead level, defined as greater than or equal to five micrograms per deciliter. The percentage of children aged 0 to 6 years with an elevated blood lead level decreased from 2.9% in CY 2016 to 2.1% in CY 2020.

Table 29. HealthChoice Children Aged 0–6 Years with an Elevated Blood Lead Level, CY 2016–CY 2020

Calendar Year	Number of Children with a Lead Test	Children with an Elevated Blood Lead Level (≥5µg/dL)	
		#	%
2016	53,458	1,536	2.9%
2017	54,837	1,467	2.7%
2018	54,436	1,303	2.4%
2019	54,341	1,123	2.1%
2020	33,269	702	2.1%

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 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 vaccine by their 13th birthday.[36] 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

[35] Data not shown.

[36] 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 2030, track vaccination rates for both males and females at an older age: from 13 to 15 years of age.

updated in CY 2017 to reduce the requirement from three doses of the HPV vaccine to two doses.

In CY 2016, 28.1% of adolescents (females and males[37]) in the Medicaid program received two HPV vaccine doses between their 9th and 13th birthdays (Table 30). In CY 2020, that rate increased to 34.6%; an increase of 6.5 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 30. HPV Vaccination Rates, 13-Year-Old HealthChoice Participants, CY 2016–CY 2020

Calendar Year	HealthChoice Participants who Turned 13 Years Old	Two HPV Vaccine Doses between Their 9th and 13th Birthdays	
	Number	Number	Percentage
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%
2020	35,197	12,173	34.6%

Breast Cancer Screening

Breast cancer is the most prevalent type of cancer among women by rates of new cancer cases (U.S. Cancer Statistics Working Group, 2021). In Maryland, the breast cancer incidence rate was 129.5 cases per 100,000 women, compared to the 126.8 cases per 100,000 women nationally (U.S. Cancer Statistics Working Group, 2020). When detected early, breast cancer is easier to treat, and women have a greater chance of survival (CDC, 2014). Mammograms are the most effective technique for early detection of breast cancer.

Table 31 demonstrates a 4.6 percentage point decrease in the percentage of female HealthChoice participants who received a mammogram for breast cancer screening from CY 2016 to CY 2020 (MetaStar, Inc., 2021). Maryland performed above the national HEDIS® mean throughout the evaluation period.

[37] The HEDIS measure used as a basis for this measure was updated in CY 2016 to include both female 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.

Table 31. Percentage of Women in HealthChoice Aged 50–64 Years Who Had a Mammogram for Breast Cancer Screening, Compared with the National HEDIS® Mean, CY 2016–CY 2020*

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Maryland Percentage	69.8%	69.7%	69.3%	70.6%	65.2%
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 CY 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 32 presents the percentage of women aged 21 to 64 years in HealthChoice who received a cervical cancer screening in CY 2016 through CY 2020. There was a decrease of 7.0 percentage points over the evaluation period, with a 5.9 percentage point decrease from CY 2019 to CY 2020. HealthChoice performed above the national HEDIS® mean until CY 2020.

Table 32. Percentage of Women in HealthChoice Aged 21–64 Years Who Had a Cervical Cancer Screening, Compared with the National HEDIS® Mean, CY 2016–CY 2020*

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Maryland Percentage	64.9%	62.5%	62.2%	63.8%	57.9%
National HEDIS® Mean**	+	+	+	+	-

*HealthChoice averages in CY 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 (2021), 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 2018. 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, 2021). 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 33 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.[38] The colorectal cancer screening rate increased by 2.1 percentage points between CY 2016 and CY 2020.

Table 33. Percentage of HealthChoice Participants Aged 50–64 Years Who Had a Colorectal Cancer Screening, CY 2016–CY 2020

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Percentage of HealthChoice Participants	37.2%	39.0%	40.7%	41.5%	39.3%

Dental Services

The Maryland Medicaid program covers dental benefits through the Maryland Healthy Smiles Dental program. Dental services are covered under EPSDT for children aged 20 and younger, 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 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 2021 Annual Oral Health Legislative Report, which includes Medicaid dental care and access measures from CY 2016 through CY 2020. The Medicaid program delivered oral health services to 418,753 children and adults (aged 0 to 64) during CY 2020—down from 523,841 in CY 2019. In CY 2020, 54.0% of children received dental services, which is greater than the national HEDIS® mean. In CY 2020, 21.5% of pregnant women aged 14 years and older with any period of

[38] 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.

enrollment had at least one dental service; this is a decrease from CY 2019, when 28.5% 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 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 34 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 2016 through CY 2020 (MetaStar, Inc., 2021). HealthChoice outperformed the national HEDIS® mean until CY 2020.

Table 34. HEDIS® Timeliness of Prenatal Care, HealthChoice Compared with the National HEDIS® Mean, CY 2016–CY 2020*

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Percentage of deliveries in which the mother received a prenatal care visit in the 1st trimester or within 42 days of HealthChoice enrollment	87.6%	84.9%	86.1%	88.2%	87.0%
National HEDIS® Mean	+	+	+	+	-

*The HealthChoice averages in CY 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.

Prenatal Care and Birth Weight Outcomes

Table 35 compares 59,492 HealthChoice birth outcomes according to whether the mothers received prenatal care in their first trimester according to HEDIS® standard measures and their subsequent birth weight outcomes.

Controlling for possible confounding variables and measuring the changes in birth outcomes using pooled CY 2017 through CY 2020 data with a time series ordered logistic regression, HealthChoice participants who received 1st trimester prenatal care had 75.6% lower odds of delivering a low birth weight (LBW) baby (between 1500 and 2500 grams) and 35.6% lower odds

of delivering a very low birth weight (VLBW) baby (less than 1500 grams). Both estimates of reduced odds were significant at the p<0.001 level.

Among the estimated influences of LBW and VLBW outcomes from confounders that reached levels of statistical significance, Black women were 34% more likely to have a LBW baby and 87% more likely to have a VLBW baby compared to White women, controlling for other comorbidities, region, and age, at a significance level of p<0.001. Asian women had increased odds of VLBW at less significant likelihood of prediction (p<0.05), while Hispanic women had significantly lower odds of an LBW baby.

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% and of VLBW nearly 3%. As a control for other maternal health factors affecting birthweight outcomes, the model incorporates the comorbidity measures used by ACG[39] risk adjustment in the HealthChoice capitation payment system. Jointly, the commodity groups contribute significantly to the precision of the model (Wald $\chi^2 = 67.0$, p<0.001). However, the effects of particular comorbidity levels vary, generating significant increases in risk for LBW compared to low morbidity but not having significant effects on VLBW.

Controlling for fixed annual effects on standard error estimates through pooling multiple years of data, dummy variables for CY 2018, CY 2019, and CY 2020 were tested against the CY 2017 group. VLBW and LBW cases in CY 2020 were observed to be lower in comparison to the other three years of data. CY 2019 had significant effects on LBW cases but was not significant among VLBW.

Table 35. Associations between 1st Trimester Prenatal Care and Birth Weight Outcomes, CY 2017–CY 2020

Variable	Birth Outcomes			
	Birth Weight Outcome‡	Odds Ratio	95% Confidence Interval	
1st Trimester Prenatal Care=Yes	VLBW	0.244***	0.214	0.279
	LOW	0.644***	0.596	0.696
Age (in years)	VLBW	1.03***	1.019	1.041
	LOW	1.013***	1.008	1.018
Region†				
Baltimore Suburban	VLBW	0.653***	0.55	0.776
	LOW	0.811***	0.743	0.885
Eastern Shore	VLBW	0.701**	0.549	0.895

[39] 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 to 2020)

Variable	Birth Outcomes			
	Birth Weight Outcome‡	Odds Ratio	95% Confidence Interval	
	LOW	0.784***	0.695	0.884
Southern Maryland	VLBW	0.617**	0.455	0.837
	LOW	0.818**	0.709	0.944
Washington Suburban	VLBW	0.605***	0.51	0.717
	LOW	0.691***	0.632	0.755
Western Maryland	VLBW	0.594*	0.449	0.785
	LOW	0.865*	0.764	0.979
Race†				
Asian	VLBW	1.4*	1.032	1.898
	LOW	0.874	0.749	1.02
Black	VLBW	1.865***	1.574	2.208
	LOW	1.341***	1.243	1.447
Hispanic	VLBW	0.998	0.71	1.403
	LOW	0.851*	0.731	0.99
Other	VLBW	1.238	0.998	1.536
	LOW	0.872**	0.788	0.965
Comorbidity Score†				
Moderate	VLBW	0.891	0.64	1.24
	LOW	0.782**	0.67	0.91
High	VLBW	1.367	0.98	1.91
	LOW	1.185*	1.02	1.38
Very High	VLBW	2.067	0.48	8.90
	LOW	3.697***	2.06	6.64
Year†				
2018	VLBW	0.892	0.758	1.05
	LOW	0.92*	0.848	0.998
2019	VLBW	1.027	0.814	1.296
	LOW	1.216***	1.092	1.355
2020	VLBW	0.582***	0.49	0.69
	LOW	0.839***	0.771	0.913

*** 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 fulfill 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 6.3% in CY 2016 to 7.0% in CY 2019 and then declined in CY 2020 to 5.8%. The percentage of women enrolled in HealthChoice with at least one moderately effective type of contraception decreased from 23.8% in CY 2016 to 21.2% in CY 2020.

Table 36. Contraceptive Care Rates, Women Enrolled in HealthChoice Aged 15–44 Years, CY 2016–CY 2020*

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Percentage receiving most effective contraception	6.3%	6.9%	6.8%	7.0%	5.8%
Percentage receiving moderately effective contraception	23.8%	22.8%	23.2%	22.8%	21.2%
Number of HealthChoice women at risk of unintended pregnancy	247,171	269,711	264,799	271,305	309,753

*The codes defining contraceptive care measures have been updated by the OPA, changing the data for CY 2016 to CY 2019 from the 2021 HealthChoice Evaluation.

Care for Chronic Diseases

The HealthChoice program focuses on improving the quality of health services delivered through chronic care management. This section assesses the demonstration's performance across quality measures—many nationally recognized, such as HEDIS®—in the areas of medication management for people with asthma, diabetes screenings, HIV/AID, and behavioral health (MHD and SUD).

Service Utilization and Medication Management for People with Asthma

Asthma is a common chronic disease that affected over 25 million Americans in 2019, including 5.1 million children under the age of 18 (CDC, 2019d). In 2019, 424,051 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 MY 2020 and MY 2021 HEDIS® clinical criteria for AMR. If asthma medications are used correctly, asthma-related hospitalizations, ED visits, and missed school and workdays decrease (CDC, n.d.a).

Asthma is one of the largest racial and ethnic health disparities in terms of ED visit rates and is responsible for a similar number of ED visits as other major chronic diseases, such as hypertension and diabetes. As part of Maryland's initiatives, including SIHIS and the CHIP HSI SPA, the Department has made reducing the number of childhood asthma-related ED visits a priority. Through these initiatives, the Department provides asthma prevention and environmental HVS for HealthChoice participants.

Although asthma is often thought of as predominantly a problem in 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[40] and their distribution by race/ethnicity, sex, region, and age group.

Table 37. Demographic Characteristics of HealthChoice Participants with an Asthma Diagnosis, CY 2016–CY 2020

Demographic Characteristic	Percentage of Total				
	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Race/Ethnicity					
Asian	2.1%	2.2%	2.4%	2.5%	2.6%
Black	50.3%	50.0%	49.6%	49.1%	49.0%
White	32.9%	32.7%	31.9%	31.4%	31.1%
Hispanic	7.3%	6.7%	6.9%	6.7%	6.5%
Native American	0.4%	0.3%	0.3%	0.3%	0.3%
Other	7.1%	8.1%	8.9%	10.0%	10.6%
Sex					
Female	57.7%	57.8%	58.2%	58.1%	60.4%
Male	42.3%	42.2%	41.8%	41.9%	39.6%

[40] The methodology for identifying participants with asthma was revised due to the HEDIS® measure Medication Management for People with Asthma (MMA) being retired and instead using AMR. Diagnosis codes and medication lists were revised.

Demographic Characteristic	Percentage of Total				
	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Region					
Baltimore City	27.1%	26.5%	25.9%	25.3%	25.2%
Baltimore Suburban	28.5%	28.8%	28.9%	28.8%	28.9%
Eastern Shore	10.8%	10.8%	10.4%	10.3%	9.8%
Southern Maryland	4.7%	4.7%	4.6%	4.7%	4.6%
Washington Suburban	20.6%	20.7%	21.6%	22.1%	22.6%
Western Maryland	8.3%	8.4%	8.5%	8.6%	8.8%
Out of State	0.2%	0.2%	0.1%	0.1%	0.1%
Age Group (Years)					
5–9	19.4%	17.7%	16.6%	16.1%	12.4%
10–14	15.3%	15.4%	15.8%	15.8%	13.7%
15–18	6.9%	6.9%	6.9%	7.1%	7.2%
19–20	1.9%	1.9%	2.2%	2.2%	2.4%
21–39	17.4%	18.4%	18.9%	18.9%	21.3%
40–64	39.0%	39.7%	39.7%	39.9%	43.1%
Total Number of Participants	**51,230**	**53,037**	**54,344**	**55,106**	**51,902**

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 2016 to CY 2019 but decreased by more than one percentage point in CY 2020.

Table 38. Number and Percentage of HealthChoice Participants with an Asthma Diagnosis Who Had an Ambulatory Care Visit, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Ambulatory Care Visit	
		Number	Percentage of Total
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%
2020	51,902	50,027	96.4%

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 51.6% to 37.8%. Asthma-related ED visit rates also declined for this population, from 13.5% to 7.0%.

Table 39. HealthChoice Participants Who Had an Outpatient ED Visit, by Asthma-Related Diagnosis, CY 2016–CY 2020

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	Number of Participants	Percentage of Total
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%
2020	51,902	19,633	37.8%	3,627	7.0%

Table 40 shows 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 14.2% to 11.0% during the evaluation period. The percentage of participants with asthma who had an inpatient admission with asthma as the primary diagnosis decreased from 1.9% to 0.9%.

Table 40. HealthChoice Participants Who Had an Inpatient Admission, by Asthma-Related Diagnosis, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Inpatient Admission		At Least One Inpatient Admission with Asthma Primary Diagnosis	
		Number	Percentage of Total	Number of Participants	Percentage of Total
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%
2020	51,902	5,704	11.0%	469	0.9%

Asthma Medication Ratio for People with Asthma

Table 41 presents the results for AMR, specifically a logistic regression using HEDIS® standard measures[41] that examines the relationship between HealthChoice asthma patients aged 5 to 64 years with an AMR and ED utilization compared to those without. A positive AMR is defined as a

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

ratio of controller medications to total asthma medications of 0.50 or greater during the measurement year.

Overall, HealthChoice participants aged 5 to 64 years who had an AMR of at least 0.50 during 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 had an AMR below 0.50. The regression controlled for demographic characteristics (race/ethnicity, age, and gender), comorbidity levels, participant region, and the number of inpatient admissions the previous year. The population only includes participants with persistent asthma, defined as those who had asthma encounters in the measurement year or the year prior. It is important to note that AMR is a measure of medication load of the entire year, while an asthma-related ED visit can occur at any point during the measurement year.

Participants who had a positive AMR had 36.5% lower odds of having an ED visit with a primary diagnosis of asthma than those who did not have a positive AMR (OR 0.645, P<0.001). Similarly, participants who had a positive AMR the previous year had 16.1% lower odds of experiencing an ED visit with a primary diagnosis of asthma during the current measurement year (OR 0.839, p<0.001). Increased inpatient admissions the previous year, regardless of associated diagnosis, increased the odds of having an asthma-related ED visit. Each additional inpatient stay increased a participant's odd of having an asthma-related ED visit by 21.9% (OR 1.219, p<0.001). Young participants had higher odds of ED use; with each additional year of age, participants were 2.7% less likely to have an ED visit (OR 0.973 p<0.001).

Residents in all regions except for "out of state" were less likely to have an ED visit than Baltimore City residents, with the Washington Suburban area having the lowest odds (OR 0.494 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 2.469, p<0.001). All comorbidity groups[42] 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).

There are possible ambiguous temporal precedence issues because AMR is assessed over the entire year, whereas an asthma-related ED visit is a point in time measurement. However, the direction and strength of the odds ratio of the AMR and lagged AMR variables support a conclusion that, for most participants, achieving a positive AMR is not caused by experiencing an asthma-related ED visit.

[42] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For this analysis, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (CYs 2017 to 2020).

Table 41. Associations between AMR and ED Visits with a Primary Asthma Diagnosis, HealthChoice Participants Aged 5–64 Years, CY 2018–CY 2020

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 42 examines the relationship between HealthChoice participants between the ages of 5 and 64 years with a positive AMR and asthma-related inpatient stays compared to those without a positive AMR.

Unlike ED visits, a positive AMR was associated with 29.3% higher odds of experiencing an asthma-related inpatient admission compared to those with low AMR (OR 1.293, p<0.05). However, participants with a positive AMR the previous year were 30.5% less likely to have an asthma-related inpatient stay in the current measurement year (OR 0.695 p<0.01). Each additional ED visit the prior year was associated with a 5.4% increase in the likelihood of incurring an asthma-related inpatient stay (p<0.05). Participants in all regions were less likely to have an inpatient admission compared to participants in Baltimore City, with participants in

Western Maryland having the lowest odds (OR 0.226, p<0.001). Black and Hispanic participants were more likely to incur an inpatient admission compared to White participants (OR 1.699, p<0.001; OR1.749, p<0.05). Higher comorbidities were associated with higher odds of inpatient admission; participants with a very high comorbidity score had 10 times higher odds of incurring an inpatient admission (OR 10.705, p<0.001).

Similar to the ED visit logistic regression, there are ambiguous temporal precedence issues. However, the diverging odds ratios of the positive AMR versus the lagged AMR supports a conclusion that an inpatient stay could initiate an increase in the amount of asthma controller medications prescribed. Having a good AMR the previous year lowers the odds of an inpatient stay the next year, indicating that a high asthma controller medication load has lasting positive effects.

Table 42. Associations between Asthma Medication Ratio and Inpatient Admissions with a Primary Asthma Diagnosis, HealthChoice Participants Aged 5–64 Years, CY 2018–CY 2020

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 outpatient ED visits, inpatient admissions, 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 ED service use.

Table 43 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 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 10.6% in CY 2016 to 13.7% in CY 2020. The proportion of male HealthChoice participants with diabetes increased from 41.9% in CY 2016 to 44.2% in CY 2020. The proportion of participants with diabetes between age groups stayed relatively consistent throughout the evaluation period.

Table 43. Demographic Characteristics of HealthChoice Participants with Diabetes, CY 2016–CY 2020

Demographic Characteristic	Percentage of Total				
	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Race/Ethnicity					
Asian	5.9%	5.9%	5.9%	6.0%	6.1%
Black	50.1%	49.8%	49.5%	49.3%	48.9%
White	29.2%	28.5%	27.9%	27.8%	27.1%
Hispanic	3.9%	3.7%	3.7%	3.7%	3.9%
Native American	0.3%	0.3%	0.3%	0.3%	0.3%
Other	10.6%	11.7%	12.7%	13.0%	13.7%
Sex					
Female	58.1%	57.3%	56.7%	56.2%	55.8%
Male	41.9%	42.7%	43.3%	43.8%	44.2%
Region					
Baltimore City	23.9%	23.5%	23.2%	22.9%	22.3%
Baltimore Suburban	26.3%	26.6%	26.9%	27.6%	27.9%
Eastern Shore	10.1%	10.0%	9.8%	9.8%	9.5%
Southern Maryland	5.2%	5.3%	5.3%	5.3%	5.3%
Washington Suburban	26.6%	26.8%	27.0%	26.6%	27.2%

Demographic Characteristic	Percentage of Total				
	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Western Maryland	7.8%	7.7%	7.8%	7.8%	7.8%
Out of State	0.1%	0.2%	0.2%	0.1%	0.1%
Age Group (Years)					
18-40	22.1%	22.1%	22.2%	22.3%	22.3%
41-64	77.8%	78.0%	77.9%	77.8%	77.7%
Total Number of Participants	**57,162**	**59,100**	**59,566**	**58,767**	**59,423**

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

Table 44 presents the number and percentage of HealthChoice participants with diabetes who had an ambulatory care visit. The rate remained stable during the evaluation period.

Table 44. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Ambulatory Care Visit, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Ambulatory Care Visit	
		Number	Percentage of Total
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%
2020	59,423	55,891	94.1%

Table 45 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 2016 to 37.6% in CY 2020.

Table 45. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Outpatient ED Visit, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One ED Visit	
		Number	Percentage of Total
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%
2020	59,423	22,370	37.6%

Table 46 presents the number and percentage of HealthChoice participants with diabetes who had at least one inpatient admission. This measure decreased during the evaluation period—from 21.3% in CY 2016 to 19.4% in CY 2020—indicating the potential success of the HealthChoice program in proactively targeting diabetes management.

Table 46. Number and Percentage of HealthChoice Participants with Diabetes Who Had an Inpatient Admission, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Inpatient Admission	
		Number	Percentage of Total
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%
2020	59,423	11,519	19.4%

Controlling diabetes requires monitoring blood glucose levels and looking for damaged nerve tissue in the eye that may threaten sight. Table 47 presents the annual HealthChoice performance on these measures for CY 2016 through CY 2020. 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 2016 through CY 2019 but fell below in CY 2020. HealthChoice also fell below the HEDIS® average on eye (retinal) exams from CY 2018 through CY 2020. 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 47. Percentage of HealthChoice Members Aged 18–64 Years with Diabetes Who Received Comprehensive Diabetes Care, Compared with the National HEDIS® Average, CY 2016–CY 2020*

HEDIS® Measure	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Eye (Retinal) Exam					
HealthChoice	57.0%	57.8%	54.1%	54.7%	51.7%
National HEDIS® Average	+	+	-	-	-
HbA1c Test					
HealthChoice	88.9%	87.9%	88.8%	88.3%	82.9%
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 CY 2017 was 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 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.

From its implementation in September 2019 through December 31, 2020, there have been 215 DPP encounters. The earliest date of service was June 3, 2020. Of the 215 DPP encounters, 145 (67%) were in-person, 36 (17%) were in-person makeup sessions, and the remaining 34 (16%) were conducted virtually. The average age of DPP participants was 47 years (standard deviation: 10 years). The majority were women (84%), self-identified as Black/African American (71%), resided in Prince George's County (58%), and in the Families and Children Medicaid coverage group (97%).

Diabetes Screenings and Utilization

Table 48 presents the logistic regression results for estimating the odds of a HealthChoice participant with diabetes who received an eye (retinal) exam or a hemoglobin A1c (HbA1c) test —using HEDIS® standard screening measures—of having a diabetes-related ED visit that year or the following year. In addition to the screening conditions, the regression controlled for demographic characteristics (race/ethnicity and sex), comorbidity levels,[43] region of residence, and the number of inpatient stays incurred the previous year.

Participants who received a HbA1c test had 30% increased odds of experiencing a diabetes related ED visit compared to those who did not receive a test ($p<0.001$). However, receiving either a HbA1c test or eye exam the previous year reduced the likelihood of having a diabetes-related ED visit the next year by 17.6% and 5.5%, respectively ($p<0.001$, $p<0.05$). More inpatient stays the previous year were associated with increased odds of having an ED visit, with each additional stay increasing the odds by 16.7% ($p<0.001$). Older participants had lower odds of having an ED visit compared to younger participants ($p<0.001$), and female participants were 23.3% less likely to experience a diabetes related ED visit compared to males (OR= 0.767, $P<0.001$).

Compared to participants in the Disabled coverage category, those in the Families & Children category had 7.9% higher odds of incurring a diabetes-related ED visit ($p<0.05$). Whereas participants in the Other coverage category had 15.8% lower odds of incurring a diabetes-related ED visit. Of the statistically significant results, only Eastern Shore residents had higher odds of having a diabetes-related ED visit compared to Baltimore City Residents ($p<0.05$). Residents of Baltimore Suburban, Washington Suburban, and Western Maryland all had between 11.5% and

[43] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For this analysis, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High, Other) based on their claim records in the measurement years (2017 to 2020).

30% lower odds of experiencing a diabetes-related ED visit compared to Baltimore City Residents.

Asian participants were less than half as likely to incur a diabetes-related ED visit compared to White participants (OR= 0.445, p<0.001). However, Black participants were nearly 40% more likely to experience a diabetes-related ED visit (OR=1.397, p<0.001). All participants with moderate to very high comorbidity scores were more likely to incur a diabetes-related ED visit compared to those with a low comorbidity score; in particular, participants scoring very high were over 6 times as likely to have an ED visit compared to participants scoring low (OR= 6.603, p<0.001).

These results might suggest that receiving a HbA1c test may be insufficient to prevent existing diabetes health issues that require visits to the ED. However, the direction and strength of the odds ratio on the lagged HbA1c test and eye exam variables can support a conclusion that previous screenings protect participants from future diabetes-related ED visits.

Table 48. Associations between Diabetes Screenings and ED Visits with a Primary Diagnosis of Diabetes, HealthChoice Participants Aged 5–64 Years, CY 2018–CY 2020

Effect	ED Visit with Diabetes as a Primary Diagnosis		
	Odds Ratio	95% CI	
Screenings			
HbA1c Test	1.300 ***	1.21	1.39
Eye exam	1.029	0.98	1.08
HbA1c Test (1 year Lag)	0.824 ***	0.77	0.88
Eye exam (1 year Lag)	0.945 *	0.90	0.99
Inpatient Stay Count (1 year Lag)	1.167 ***	1.15	1.19
Age	0.953 ***	0.95	0.95
Female	0.767 ***	0.73	0.81
Last Coverage Category†			
Families & Children	1.079 *	1.01	1.15
MCHP	0.884	0.71	1.11
Other	0.842 *	0.72	0.99
Region†			
Baltimore Suburban	0.801 ***	0.74	0.87
Eastern Shore	1.108 *	1.01	1.22
Southern Maryland	0.987	0.87	1.12
Washington Suburban	0.700 ***	0.64	0.76
Western Maryland	0.885 *	0.79	0.99
Out of State	1.078	0.59	1.96
Race†			
Asian	0.445 ***	0.35	0.56
Black	1.397 ***	1.30	1.50
Hispanic	1.068	0.91	1.25

Effect	ED Visit with Diabetes as a Primary Diagnosis		
	Odds Ratio	95% CI	
Other	0.980	0.88	1.09
Comorbidity Score†			
Moderate	1.502 ***	1.24	1.82
High	3.206 ***	2.66	3.87
Very High	6.603 ***	5.46	7.98
Other	3.227	0.46	22.77
Year†			
2019	1.101 ***	1.05	1.16
2020	0.954	0.90	1.01

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

†, Reference Groups: Disabled Baltimore City, White, Low, 2018

Table 49 presents the results of a logistic regression that examined the odds of a HealthChoice participant with diabetes who received an eye exam or HbA1c test having a diabetes-related inpatient admission the current year and the following year. Similar to the diabetes ED visit analysis, the regression controlled for demographic characteristics (race/ethnicity and sex), comorbidity levels,[44] region of residence, and the number of ED visits incurred the previous year.

Participants who received a HbA1c test were 10.8% less likely to have a diabetes-related inpatient stay that year compared to those who did not receive a HbA1c test (OR= 0.892, p<0.01). Receipt of eye exam did not significantly change the odds of an inpatient admission for diabetes. Receiving a HbA1c test the previous year reduced the likelihood of experiencing a diabetes-related inpatient stay the following year by 18.1% (p<0.001). Furthermore, receiving an eye exam the previous year also reduced the likelihood of experiencing a diabetes-related inpatient stay the following year (OR= 0.927, p<0.05). The number of ED visits the previous year was associated with increased odds of a diabetes inpatient stay the following year, with an additional visit increasing the odds by 1.9% (p<0.001). Older participants were less likely to experience a diabetes inpatient stay, as were female participants (p<0.001).

All residents except for out-of-state participants had lower odds of experiencing a diabetes-related inpatient stay compared to Baltimore City residents. Eastern Shore residents had the largest reduced odds at 31.3% (p<0.001). Asian, Hispanic, and "Other" participants were all less likely to incur a diabetes-related inpatient stay, with Asian participants having 60.9% lower odds compared to White participants (OR= 0.391, p<0.001). Compared to participants with a low comorbidity score, participants with a high to very high comorbidity score were roughly between 3 and 14 times more likely to experience a diabetes-related inpatient stay (p<0.001). However,

[44] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For this analysis, Hilltop assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High, Other) based on their claims records in the measurement years (2017, 2018, 2019,2020).

participants with a moderate comorbidity score were 35.6% less likely to experience a diabetes related inpatient stay compared to participants with a low comorbidity score ($p<0.01$).

Unlike the diabetes ED visit analysis, receiving a HbA1c test seems to reduce the odds of existing diabetes health issues leading to an inpatient hospital admission. Furthermore, the direction and strength of the odds ratio on the lagged HbA1c test and eye exam variables indicate that this protection may carry over to the following year.

Table 49. Associations between Diabetes Screenings and Inpatient Admissions with a Primary Diagnosis of Diabetes, HealthChoice Participants Aged 5–64 Years, CY 2018–CY 2020

Effect	Inpatient Admission with Diabetes as a Primary Diagnosis		
	Odds Ratio	95% CI	
Screenings			
HbA1c Test	0.892 **	0.82	0.96
Eye exam	0.947	0.89	1.01
HbA1c Test (1 year Lag)	0.819 ***	0.76	0.89
Eye exam (1 year Lag)	0.927 *	0.87	0.99
ED Visit Count (1 year Lag)	1.019 ***	1.01	1.03
Age	0.941 ***	0.94	0.94
Female	0.715 ***	0.66	0.77
Last Coverage Category†			
Families & Children	0.964	0.89	1.05
MCHP	0.743 *	0.55	1.00
Other	1.304 ***	1.09	1.56
Region†			
Baltimore Suburban	0.847 **	0.76	0.94
Eastern Shore	0.687 ***	0.60	0.79
Southern Maryland	0.798 **	0.67	0.95
Washington Suburban	0.886 *	0.79	0.99
Western Maryland	0.746 ***	0.64	0.87
Out of State	1.161	0.59	2.30
Race†			
Asian	0.391 ***	0.29	0.53
Black	0.983	0.90	1.08
Hispanic	0.622 ***	0.49	0.79
Other	0.855 *	0.74	0.98
Comorbidity Score†			
Moderate	0.644 **	0.49	0.85
High	2.966 ***	2.30	3.83
Very High	14.261 ***	11.04	18.41
Other	5.192	0.53	51.16
Year†			
2019	1.056	0.99	1.13
2020	0.941	0.88	1.01

*** p<.001, **p<.01, *p<.05
†, Reference Groups: Disabled Baltimore City, White, Low, 2018

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 50 presents the percentage of participants with HIV/AIDS by age group and race/ethnicity for CY 2016 and CY 2020.

Table 50. Distribution of HealthChoice Participants with HIV/AIDS, by Age Group and Race/Ethnicity, CY 2016 and CY 2020

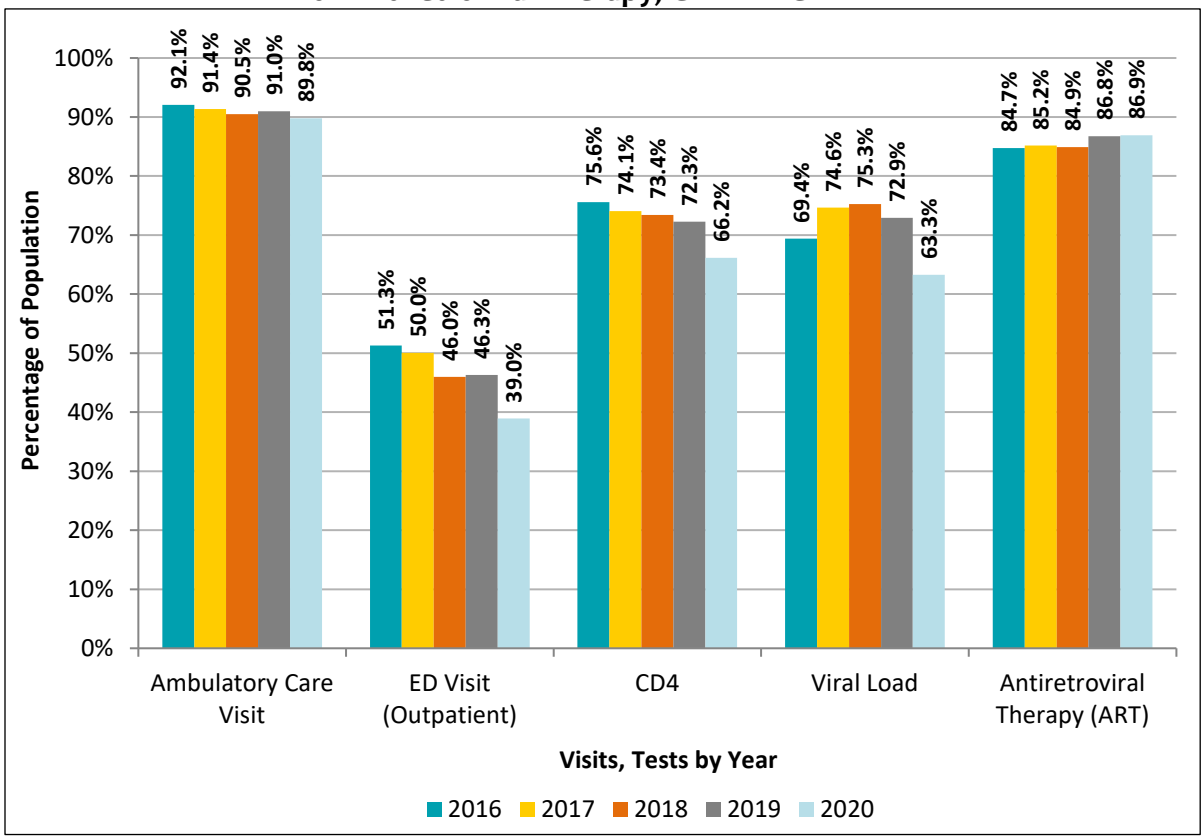
Demographic Characteristic	CY 2016		CY 2020	
	Number of Participants	Percentage of Total	Number of Participants	Percentage of Total
Age Group (Years)				
0–18	222	3.4%	103	1.7%
19–39	1,925	29.6%	1,701	28.9%
40–64	4,356	67.0%	4,085	69.4%
Total	**6,503**	**100%**	**5,889**	**100%**
Race/Ethnicity				
Asian	36	0.6%	59	1.0%
Black	5,430	83.5%	4,789	81.3%
White	599	9.2%	533	9.1%
Hispanic	84	1.3%	73	1.2%
Native American	11	0.2%	11	0.2%
Other	343	5.3%	424	7.2%
Total	**6,503**	**100%**	**5,889**	**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 12.3 percentage points between CY 2016 and CY 2020. The HealthChoice program also experienced decreases in

ambulatory care visits, CD4 testing, and viral load testing (2.3, 9.4, and 6.1 percentage points, respectively). ART increased by 2.2 percentage points over the evaluation period.

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 2016–CY 2020



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 51 shows HIV screenings for HealthChoice participants aged 15 to 64 years from CY 2016 through CY 2020.

Table 51. HIV Screening in the HealthChoice Population for Participants Aged 15–64 Years, CY 2016–CY 2020

HealthChoice Participants	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020

Total Number	758,495	811,183	836,653	824,976	847,412
Number Received HIV Screening	123,061	130,107	142,678	148,213	127,875
Percentage Received HIV Screening	16.2%	16.0%	17.1%	18.0%	15.1%

For people who are not HIV positive but are at risk of contracting the infection, pre-exposure prophylaxis (PrEP) can help prevent HIV when taken as prescribed (CDC, 2019a). PrEP is a daily medication that reduces the risk of HIV infection (CDC, 2019a). Table 52 presents the percentage of HealthChoice participants who received PrEP from CY 2016 to CY 2020.

Table 52. HealthChoice Participants Who Received HIV PrEP, CY 2016–CY 2020

HealthChoice Participants	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Total Number	1,285,431	1,355,443	1,389,716	1,377,493	1,392,876
Number Received HIV Screening	2,802	2,146	1,949	1,958	990
Percentage Received HIV Screening	0.2%	0.2%	0.1%	0.1%	0.1%

Note: The definition of PrEP was modified in 2020 to exclude participants who are receiving Truvada or Descovy in addition to another ART, which would indicate treatment for HIV/AIDs rather than PrEP. This has resulted in a small decrease in the number of participants receiving PrEP compared to previous years.

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 53 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 83.1% in CY 2016 to 82.7% in CY 2020, accompanied by a slight increase in the percentage of participants with an MHD-only or dual diagnosis of MHD and SUD.

Table 53. Number and Percentage of HealthChoice Participants with a Behavioral Health Diagnosis, by Diagnosis, CY 2016–CY 2020

Diagnosis	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
MHD-Only	148,186 (11.5%)	156,694 (11.6%)	165,198 (11.9%)	171,971 (12.5%)	167,183 (12.0%)
SUD-Only	37,938 (3.0%)	41,632 (3.1%)	43,274 (3.1%)	42,062 (3.1%)	39,298 (2.8%)
	30,646	33,085	34,615	36,812	34,070

Dual Diagnosis (MHD + SUD)	(2.4%)	(2.4%)	(2.5%)	(2.7%)	(2.5%)
No Behavioral Health Diagnosis	1,069,037 (83.1%)	1,124,032 (82.9%)	1,146,629 (82.5%)	1,126,648 (81.8%)	1,152,325 (82.7%)
Total	**1,285,807**	**1,355,443**	**1,389,716**	**1,377,493**	**1,392,876**

The Department monitors the extent to which participants with a behavioral health diagnosis access ambulatory care services. In CY 2020, 94.2% 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 54).

From CY 2016 through CY 2019, the ambulatory care visit rate among all participants with an MHD-only diagnosis remained stable at slightly over 92.0% before dropping to 90.2% in CY 2020, 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 participants with an SUD-only diagnosis. However, the ambulatory care visit rate of SUD-only participants increased by 9.3 percentage points between CY 2016 and CY 2020. Participants with a dual diagnosis of MHD and SUD and MHD-only had similar ambulatory care utilization across the evaluation period.

Table 54. HealthChoice Participants with a Behavioral Health Condition Who Had an Ambulatory Care Visit, by Behavioral Health Diagnosis, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Ambulatory Care Visit	
		Number of Participants	Percentage of Total Participants
MHD-Only			
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%
2020	167,183	150,833	90.2%
SUD-Only			
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%
2020	39,298	31,800	80.9%
Dual Diagnosis (MHD + SUD)			
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%
2020	34,070	32,110	94.2%

Calendar Year	Total Number of Participants	At Least One Ambulatory Care Visit	
		Number of Participants	Percentage of Total Participants
Total			
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%
2020	240,551	214,743	89.3%

Table 55 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 44.2% in CY 2016 to 31.1% in CY 2020. 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.

Table 55. HealthChoice Participants with a Behavioral Health Condition Who Had at Least One Outpatient ED Visit, by Behavioral Health Diagnosis, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One ED Visit	
		Number of Participants	Percentage of Total Participants
MHD-Only			
2016	148,186	65,571	44.2%
2017	156,694	67,557	43.1%
2018	165,198	65,561	39.7%
2019	171,971	67,352	39.2%
2020	167,183	52,060	31.1%
SUD-Only			
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%
2020	39,298	16,593	42.2%
Dual Diagnosis (MHD + SUD)			
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%
2020	34,070	19,860	58.3%

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

Total			
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%
2020	240,551	88,513	36.8%

Table 56 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 15.6% in CY 2016 to 12.0% in CY 2020. 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 inpatient admissions than participants with an MHD-only or SUD-only diagnosis.

Table 56. HealthChoice Participants with a Behavioral Health Condition Who Had an Inpatient Admission, by Behavioral Health Diagnosis, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One Inpatient Visit	
		Number of Participants	Percentage of Total Participants
MHD-Only			
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%
2020	167,183	15,055	9.0%
SUD-Only			
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%
2020	39,298	5,286	13.5%
Dual Diagnosis (MHD + SUD)			
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%
2020	34,070	8,566	25.1%
Total			
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%

2020	240,551	28,907	12.0%

Table 57 shows the rates of MHD-only, SUD-only, and co-occurring MHD and SUD among HealthChoice participants by race and ethnicity during CY 2016 and CY 2020. Between CY 2016 and CY 2020, the percentage of HealthChoice participants who had a behavioral health condition remained stable, with a slight increase in MHD-only. The largest increase in MHD-only from CY 2016 to CY 2020 was noted for Hispanic participants, by 2.2 percentage points.

Table 57. Distribution of HealthChoice Participants Aged 0–64 Years, by Race/Ethnicity and Behavioral Health Conditions, CY 2016 and CY 2020

Race/Ethnicity	CY 2016		CY 2020	
	Number of Participants	Percentage of Total Race/Ethnicity	Number of Participants	Percentage of Total Race/Ethnicity
MHD-Only				
Black	69,500	12.4%	78,037	13.8%
White	56,484	15.3%	56,536	15.9%
Hispanic	8,211	7.1%	9,722	9.3%
Asian	2,041	3.6%	3,159	4.8%
Native American	444	12.0%	521	12.6%
Other	11,034	6.3%	19,208	6.5%
Total	**147,714**	**11.5%**	**167,183**	**12.0%**
SUD-Only				
Black	14,208	2.5%	13,206	2.3%
White	20,282	5.5%	21,422	6.0%
Hispanic	743	0.6%	686	0.7%
Asian	278	0.5%	357	0.5%
Native American	148	4.0%	144	3.5%
Other	2,367	1.3%	3,483	1.2%
Total	**38,026**	**3.0%**	**39,298**	**2.8%**
Dual Diagnosis (MHD + SUD)				
Black	12,062	2.1%	13,008	2.3%
White	17,019	4.6%	17,762	5.0%
Hispanic	401	0.3%	490	0.5%
Asian	162	0.3%	203	0.3%
Native American	126	3.4%	151	3.7%
Other	1,590	0.9%	2,456	0.8%
Total	**31,360**	**2.4%**	**34,070**	**2.4%**
No Behavioral Health Diagnosis				
Black	466,736	83.0%	461,619	81.6%
White	276,199	74.7%	260,943	73.2%
Hispanic	106,095	91.9%	93,481	89.6%
Asian	54,759	95.7%	62,121	94.4%
Native American	2,993	80.7%	3,319	80.3%
Other	161,388	91.5%	270,842	91.5%
Total	**1,068,170**	**83.1%**	**1,152,325**	**82.7%**

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

Mental Health Services

Table 58 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 45.6 and 41.1% in CY 2016 to 45.2 and 36.9% in CY 2020, respectively. In CY 2016, children and adults made up 38.7% and 61.3%, respectively, of participants with an MHD. The proportion of adults rose to 62.7% in CY 2020. These increases may have resulted from the large influx of adults during the 2014 ACA expansion.

Table 58. Demographic Characteristics of HealthChoice Participants with an MHD, CY 2016–CY 2020

Demographic Characteristic	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
	% of Total	% of Total	% of Total	% of Total	% of Total
Race/Ethnicity					
Asian	1.2%	1.3%	1.4%	1.5%	1.7%
Black	45.6%	45.1%	44.8%	45.4%	45.2%
White	41.1%	40.2%	38.9%	37.5%	36.9%
Hispanic	4.8%	5.1%	5.3%	5.2%	5.1%
Native American	0.3%	0.3%	0.3%	0.3%	0.3%
Other	7.1%	8.1%	9.2%	10.1%	10.8%
Total	**100%**	**100%**	**100.0%**	**100%**	**100%**
Sex					
Female	54.1%	54.3%	54.6%	54.9%	56.0%
Male	45.9%	45.7%	45.5%	45.1%	44.0%
Total	**100%**	**100%**	**100%**	**100.0%**	**100%**
Region					
Baltimore City	26.8%	26.1%	25.3%	25.4%	25.1%
Baltimore Suburban	30.0%	30.2%	30.7%	31.2%	31.5%
Eastern Shore	11.3%	11.2%	10.9%	10.9%	10.8%
Southern Maryland	4.6%	4.7%	4.7%	4.6%	4.6%
Washington Suburban	16.9%	17.3%	18.0%	17.9%	17.9%
Western Maryland	10.3%	10.3%	10.2%	9.9%	10.1%
Out of State	0.1%	0.1%	0.1%	0.1%	0.1%
Total	**100%**	**100%**	**100.0%**	**100%**	**100%**
Age Group (Years)					
0–18	38.7%	38.5%	38.7%	38.6%	37.3%
19–64	61.3%	61.5%	61.3%	61.4%	62.7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Total Participants	**178,832**	**189,779**	**199,813**	**208,783**	**201,253**

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 59 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 2016 to CY 2019, the percentage of HealthChoice participants with an MHD-only with at least one ambulatory care visit remained steady; in CY 2020, this decreased by 2.6 percentage points. The percentage of participants who had an ambulatory care visit with MHD as a primary diagnosis decreased by 3.8 percentage points over the evaluation period.

The percentage of participants with a dual diagnosis of MHD and SUD who had at least one ambulatory care visit increased by 2.9 percentage points between CY 2016 and CY 2020. The percentage of participants with a co-occurring MHD and SUD, with MHD as a primary diagnosis, decreased by 2.4 percentage points across the evaluation period.

Between CY 2016 and CY 2020, 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 decreased from 92.6% to 90.9%. Among those with an ambulatory visit where MHD was a primary diagnosis, the percentage with at least one ambulatory care visit also decreased between CY 2016 and CY 2020 from 18.6% to 15.0%.

Table 59. HealthChoice Participants with an MHD Who Had an Ambulatory Care Visit, by MHD Diagnosis, CY 2016–CY 2020

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	
		Number of Participants	Percentage of Total Participants	Number of Participants	Percentage of Total Participants
MHD-Only					
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%
2020	167,183	150,833	90.2%	25,481	15.2%
Dual Diagnosis (MHD + SUD)					
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%
2020	34,070	32,110	94.2%	4,792	14.1%
Total					
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%
2020	201,253	182,943	90.9%	30,273	15.0%

Table 60 displays the number and percentage of HealthChoice participants who had at least one outpatient ED visit with either any MHD diagnosis or a primary diagnosis of MHD.

Between CY 2016 and CY 2020, 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 outpatient ED visited decreased by 12.0 percentage points. Among those with a primary MHD diagnosis, the percentage with an ED visit decreased by 3.8 percentage points.

HealthChoice participants with a dual diagnosis (MHD and SUD) and MHD-only with at least one outpatient ED visit decreased by 9.9 and 13.2 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 7.0 percentage points, whereas participants with an MHD-only diagnosis decreased by 3.3 percentage points.

Table 60. HealthChoice Participants with an MHD Who Had an Outpatient ED Visit, by MHD Diagnosis, CY 2016–CY 2020

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					
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%
2020	167,183	52,060	31.1%	8,851	5.3%
Dual Diagnosis (MHD + SUD)					
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%
2020	34,070	19,860	58.3%	3,102	9.1%
Total					
2016	181,271	86,458	47.7%	17,665	9.7%
2017	191,309	90,087	47.1%	18,717	9.8%
2018	202,010	88,224	43.7%	18,761	9.3%
2019	206,041	90,771	44.1%	16,777	8.1%
2020	201,253	71,920	35.7%	11,953	5.9%

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 61 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 2020.[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 and then decreased by 5.9 percentage points in CY 2020. The percentage of follow-up visits within 30 days increased from 56.9% in CY 2017 to 58.1% in CY 2019 and then decreased by 4.2 percentage points in CY 2020.

Table 61. Number and Percentage of ED Visits for MHD and a Follow-Up Visit within 7 or 30 Days, CY 2017–CY 2020

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%
2020	7,191	2,399	33.4%	4,012	55.8%
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%
2020	3,497	954	27.3%	1,744	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%
2020	10,688	3,353	31.4%	5,756	53.9%

Antipsychotic Medication Coverage and Utilization

Table 62 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 visit (Model 1) or an inpatient admission (Model 2) with a primary diagnosis of schizophrenia or schizoaffective disorder during

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

CY 2017 to CY 2020. The study population for these analyses (N = 31,334) was limited to HealthChoice members who had an enrollment gap of no more than one month in the measurement years ***and*** who met HEDIS® criteria for schizophrenia or schizoaffective disorder. 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 at least 80% antipsychotic medication coverage 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 = 0.70, p<0.001). The odds of an ED visit with a primary diagnosis of schizophrenia or schizoaffective disorder decreased with age: 5- to 49-year-olds and 50- to 64-year-olds had significantly lower odds of an ED visit than 18- to 34-year-olds (Table 63). Females had significantly lower odds of an ED visit than males (OR = 0.71, p<0.001). Race was not significantly associated with ED admission.

Residents of all regions except Baltimore Suburban had lower odds of an ED visit with schizophrenia or schizoaffective disorder as the primary diagnosis relative to Baltimore City residents, with the lowest odds coming from the Western Maryland region (OR = 0.58, p<0.001). Notably, even the odds of an ED visit for Baltimore Suburban residents relative to Baltimore City were only marginally not statistically significant (OR = 0.92; 95% CI: 0.84, 1.02). This similarity of odds may have been due to geographic proximity and likeness in other ways.

Relative to those with a low comorbidity score, individuals in the moderate and very high score groups had 37% lower odds (OR = 0.63, p<0.01) and 55% higher odds (OR = 1.55, p<0.01), respectively, of an ED visit primarily for schizophrenia or schizoaffective disorder. No statistically significant association was found for those in the High comorbidity score group.

One possible explanation for the reduced odds of an ED visit among patients with a moderate comorbidity score relative to those with a low comorbidity score is that someone with few to no other chronic conditions may not engage in certain preventive services to the same extent as someone with more conditions. As a result, someone with a low comorbidity score may not monitor their psychotic symptoms as closely as someone with a moderate comorbidity score who might see a primary care or specialist provider more frequently and is therefore better able to manage their symptoms. The increased odds for individuals in the very high comorbidity group may indicate that a threshold of sorts exists, where some number or combination of additional conditions simply makes a person more likely to need emergency treatment, regardless of how often they engage in other preventive services. Additional analyses may be necessary to clarify this association, and any conclusions about this association based on the present analyses should be made carefully.

[48] 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, we assigned individuals to one of four comorbidity categories (Low, Moderate, High, Very High) based on their claims records in the measurement years (2017-2020).

Many of the associations estimated by Model 1 remained for Model 2. Most importantly, people with antipsychotic medication coverage for 80% of the 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).[49] 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 also had much lower odds than 18- to 34-year-olds of experiencing the outcome of interest, as did females relative to males (OR = 0.83, p<0.001). Individuals categorized in the "Other" race group had higher odds of an inpatient admission than White participants (OR = 1.25, p<0.01), while Black participants had slightly lower odds (OR = 0.92, p<0.05).

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 = 0.73, p<0.001) and Southern Maryland (OR = 0.72, p<0.001) regions. However, the reduced odds did not persist for Western Maryland. Much of Western Maryland is rural, so it is possible that there are fewer facilities or beds available to treat people who need inpatient psychiatric care. However, such a conclusion cannot be made based on this analysis alone. Interestingly, residents of the Washington Suburban region had higher odds compared to Baltimore City residents (OR = 1.20, p<0.001).

People with a moderate comorbidity score had much lower odds of an inpatient admission for schizophrenia or schizoaffective disorder than those in the low category (OR = 0.58, p<0.001), like the results of Model 1. However, unlike in Model 1, no statistically significant association was found for those with a very high comorbidity score, while individuals with a high comorbidity score had lower odds of an inpatient admission (OR = 0.77, p<0.05). This does not serve as much support for the theory of the association between comorbidity score and emergency services use. However, definitive conclusions on the nature of this relationship or any others discussed here cannot and should not be made based on these analyses alone.

Table 62. Association between Antipsychotic Medication Coverage and ED Visits or Inpatient admissions with a Primary Diagnosis of Schizophrenia or Schizoaffective Disorder, CY 2017–CY 2020

Independent Variables	Study Population, # (%)	Model 1: Any ED visit with primary diagnosis of schizophrenia or schizoaffective disorder (n = 3,687)			Model 2: Any inpatient admission with primary diagnosis of schizophrenia or schizoaffective disorder (n = 5,563)		
	n = 31,334	Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval	
Antipsychotic Medication Coverage[&]							
No	12,310 (39.3)	Ref.	--	--	Ref.	--	--
Yes	19,024 (60.7)	0.70***	0.65	0.75	0.61***	0.57	0.65
Age, Years							
18 to 34	11,852 (37.8)	Ref.	--	--	Ref.	--	--

[49] When holding all included covariates constant.

Independent Variables	Study Population, # (%)	Model 1: Any ED visit with primary diagnosis of schizophrenia or schizoaffective disorder (n = 3,687)			Model 2: Any inpatient admission with primary diagnosis of schizophrenia or schizoaffective disorder (n = 5,563)		
	n = 31,334	Odds Ratio	95% Confidence Interval		Odds Ratio	95% Confidence Interval	
35 to 49	9,234 (29.5)	0.54***	0.50	0.59	0.51***	0.47	0.54
50 to 64	10,248 (32.7)	0.32***	0.29	0.35	0.28***	0.26	0.31
Sex							
Male	18,220 (58.2)	Ref.	--	--	Ref.	--	--
Female	13,114 (41.9)	0.71***	0.66	0.77	0.83***	0.78	0.89
Region							
Baltimore City	10,083 (32.2)	Ref.	--	--	Ref.	--	--
Baltimore Suburban	7,224 (23.1)	0.92	0.84	1.02	1.01	0.93	1.10
Eastern Shore	2,.432 (7.8)	0.68***	0.58	0.79	0.73***	0.64	0.83
Southern Maryland	1,364 (4.4)	0.74**	0.61	0.89	0.72***	0.61	0.86
Washington Suburban	8,134 (26.0)	0.85***	0.77	0.93	1.20***	1.10	1.30
Western Maryland	2,027 (6.5)	0.58***	0.49	0.69	0.90	0.79	1.04
Race							
White	8,038 (25.7)	Ref.	--	--	Ref.	--	--
Asian	872 (2.8)	0.84	0.66	1.08	0.95	0.79	1.16
Black	19,605 (62.6)	1.01	0.92	1.10	0.92*	0.85	0.99
Hispanic	625 (2.0)	1.10	0.85	1.39	1.09	0.89	1.33
Other	2,194 (7.0)	1.03	0.89	1.20	1.22**	1.08	1.38
Comorbidity Score							
Low	331 (1.1)	Ref.	--	--	Ref.	--	--
Moderate	13,310 (42.5)	0.63**	0.46	0.86	0.49***	0.39	0.63
High	9,456 (30.2)	1.14	0.83	1.56	0.77*	0.60	0.99
Very High	8,233 (26.3)	1.55**	1.13	2.13	1.06	0.82	1.36

&: 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

Antidepressant Adherence and ED Visits

Tables 63 and 64 present the results of the logistic regression analyses examining the relationships between antidepressant medication adherence in the HealthChoice population aged 18 to 64 years from CY 2017 to CY 2020 and the following: 1) any ED admission with a primary diagnosis of depression in the same calendar year and 2) any ED admission with a

primary diagnosis of depression in the following calendar year. The regression controlled for demographic characteristics (race/ethnicity, age, and gender) and comorbidity levels.[50]

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.[51]

There was no significant association between 12-week (Table 63) or 6-month (Table 64) adherence to antidepressants and any ED visit with a primary diagnosis of depression within the same calendar year or in the following year.

Table 63. Association between 12-Week Antidepressant Adherence and Any ED Visit with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017–CY 2020

Variable	Any ED Visit with a Primary Diagnosis of Depression					
	Regression 1: Current Calendar Year (n=97,972)			Regression 2: Following Calendar Year (n=15,248)		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
12-Week Adherence	1.04	0.97	1.11	1.11	0.94	1.30
Male	2.15***	2.01	2.31	2.91***	2.46	3.44
Age Category (Years)						
35-49	0.62***	0.57	0.67	0.68***	0.56	0.83
50-64	0.40***	0.36	0.44	0.59***	0.47	0.74
Region						
Baltimore Suburban	0.96	0.88	1.06	0.91	0.72	1.14
Eastern Shore	0.83**	0.73	0.95	0.79	0.56	1.11
Southern Maryland	0.87	0.73	1.04	0.98	0.65	1.47
Washington Suburban	0.83**	0.74	0.94	0.88	0.64	1.20
Western Maryland	0.87	0.76	1.00	0.97	0.71	1.33
Race						
Asian	0.80	0.60	1.09	1.00	0.48	2.11
Black	0.97	0.89	1.06	0.95	0.77	1.17
Hispanic	0.81	0.64	1.03	0.76	0.41	1.43
Other	0.96	0.84	1.10	1.05	0.74	1.50
Comorbidity Score						
Moderate	1.81***	1.45	2.25	1.13	0.62	2.08
High	3.31***	2.66	4.12	1.42	0.78	2.60
Very High	5.60***	4.50	6.98	2.19*	1.20	3.99

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

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

[50] A person's comorbidity level is estimated based on the Johns Hopkins ACG methodology. For this analysis, 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, 2020).

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

Table 64. Association between 6-Month Antidepressant Adherence & Any ED Visit with Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017– CY 2020

Variable	Any ED Visit with a Primary Diagnosis of Depression					
	Regression 1b: Current Calendar Year (n=97,972)			Regression 2b: Following Calendar Year (n=15,248)		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
6-Month Adherence	1.04	0.97	1.11	1.02	0.84	1.23
Male	2.15***	2.00	2.31	2.91***	2.46	3.43
Age Category (Years)						
35-49	0.62***	0.57	0.68	0.68***	0.56	0.83
50-64	0.40***	0.36	0.44	0.60***	0.48	0.74
Region						
Baltimore Suburban	0.96	0.88	1.06	0.91	0.72	1.15
Eastern Shore	0.83**	0.73	0.95	0.79	0.56	1.11
Southern Maryland	0.87	0.73	1.04	0.98	0.66	1.47
Washington Suburban	0.84**	0.74	0.94	0.88	0.65	1.21
Western Maryland	0.88	0.76	1.00	0.98	0.71	1.33
Race						
Asian	0.80	0.60	1.09	1.00	0.48	2.10
Black	0.97	0.89	1.06	0.94	0.77	1.16
Hispanic	0.81	0.64	1.03	0.76	0.40	1.43
Other	0.96	0.84	1.10	1.05	0.74	1.49
Comorbidity Score						
Moderate	1.81***	1.44	2.25	1.14	0.63	2.09
High	3.31***	2.66	4.11	1.43	0.79	2.62
Very High	5.60***	4.50	6.98	2.21*	1.21	4.01

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

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

Tables 65 and 66 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 2020 and the following: 1) any inpatient admission with a primary diagnosis of depression in the same calendar year and 2) any 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: 1.06-1.21) and 6-month antidepressant adherence (OR=1.16, 95% CI: 1.09-1.25) were associated with higher odds of any 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 any inpatient admission with a primary diagnosis of depression in the following measurement year.

Table 65. Association between 12-Week Antidepressant Adherence and Any Inpatient Admission with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017–CY 2020

Variable	Any Inpatient Admission with a Primary Diagnosis of Depression					
	Regression 1: Current Calendar Year (n=97,972)			Regression 2: Following Calendar Year (n=15,248)		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
12-Week Adherence	1.13***	1.06	1.21	1.07	0.90	1.26
Male	2.27***	2.12	2.44	2.98***	2.49	3.57
Age Category (Years)						
35-49	0.66***	0.61	0.71	0.81*	0.66	0.98
50-64	0.47***	0.42	0.51	0.68**	0.53	0.87
Region						
Baltimore Suburban	1.01	0.91	1.12	0.91	0.71	1.17
Eastern Shore	0.74***	0.65	0.86	0.67*	0.47	0.95
Southern Maryland	0.84	0.70	1.01	0.60*	0.36	0.99
Washington Suburban	1.37***	1.23	1.54	1.23	0.92	1.65
Western Maryland	1.24**	1.09	1.41	1.26	0.92	1.72
Race						
Asian	0.82	0.62	1.07	0.55	0.22	1.38
Black	0.86**	0.79	0.94	0.70**	0.56	0.87
Hispanic	0.89	0.72	1.10	1.03	0.62	1.73
Other	1.05	0.93	1.19	1.29	0.94	1.77
Comorbidity Score						
Moderate	1.59***	1.29	1.95	0.87	0.49	1.53
High	2.79***	2.28	3.43	1.09	0.62	1.91
Very High	5.52***	4.49	6.78	1.96*	1.11	3.44

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

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

Table 66. Association between 6-Month Antidepressant Adherence and Any Inpatient Admission with a Primary Diagnosis of Depression, HealthChoice Participants Aged 18–64 Years, CY 2017– CY 2020

Variable	Any Inpatient Admission with a Primary Diagnosis of Depression					
	Regression 1b: Current Calendar Year (n=97,972)			Regression 2b: Following Calendar Year (n=15,248)		
	Odds Ratio	95% CI		Odds Ratio	95% CI	
6-Month Adherence	1.16***	1.09	1.25	0.94	0.77	1.14
Male	2.27***	2.12	2.44	2.98***	2.48	3.56
Age Category (Years)						
35-49	0.66***	0.61	0.71	0.81*	0.66	0.99
50-64	0.46***	0.42	0.51	0.68**	0.53	0.87
Region						
Baltimore Suburban	1.01	0.91	1.12	0.91	0.71	1.17
Eastern Shore	0.75***	0.65	0.86	0.67*	0.47	0.95
Southern Maryland	0.84	0.70	1.01	0.60*	0.36	0.99
Washington Suburban	1.37***	1.23	1.54	1.24	0.92	1.66
Western Maryland	1.24**	1.09	1.41	1.27	0.93	1.74
Race						
Asian	0.82	0.62	1.07	0.55	0.22	1.38
Black	0.86**	0.79	0.94	0.69**	0.55	0.86
Hispanic	0.89	0.72	1.10	1.03	0.61	1.73
Other	1.05	0.92	1.19	1.28	0.93	1.76
Comorbidity Score						
Moderate	1.58***	1.28	1.94	0.88	0.50	1.55
High	2.78***	2.27	3.42	1.10	0.63	1.94
Very High	5.49***	4.47	6.74	1.98*	1.13	3.48

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

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

The relationship between medication adherence and higher 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 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). Contrastingly, increasing age and identifying as Black were found to be associated with consistently lower odds of ED or inpatient admission. These associations held across adherence status (12-week vs. 6-month adherence) and outcome timing (current year vs. following year). Compared to individuals in the low comorbidity group, those in moderate, high, and very high comorbidity groups had significantly increased odds of same-year ED or inpatient admission with a primary

diagnosis of depression. Participants in the very high comorbidity group also had significantly increased odds of ED or inpatient admission in the following year. These held true regardless of adherence status (12-week vs. 6-month).

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.[52] Table 67 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 2016 to CY 2020, with the percentage of Black participants decreasing by more than 2 percentage points. Between CY 2016 and CY 2020, males remained the majority of persons with an SUD, making up 56.3% of the CY 2020 population. The Baltimore Suburban region had the highest share of persons with SUD during the evaluation period.

Table 67. Demographic Characteristics of HealthChoice Participants with an SUD, CY 2016–CY 2020

Demographic Characteristics	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
	% of Total	% of Total	% of Total	% of Total	% of Total
Race/Ethnicity					
Asian	0.6%	0.6%	0.7%	0.7%	0.8%
Black	37.8%	37.5%	37.3%	36.9%	35.7%
White	53.9%	53.6%	52.6%	52.4%	53.4%
Hispanic	1.6%	1.5%	1.6%	1.6%	1.6%
Native American	0.4%	0.4%	0.4%	0.4%	0.4%
Other	5.7%	6.5%	7.4%	8.0%	8.1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Sex					
Female	43.8%	43.4%	43.6%	43.2%	43.7%
Male	56.2%	56.6%	56.4%	56.8%	56.3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Region					
Baltimore City	30.5%	30.1%	29.3%	28.9%	28.6%

[52] 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 2016 % of Total	CY 2017 % of Total	CY 2018 % of Total	CY 2019 % of Total	CY 2020 % of Total
Race/Ethnicity					
Baltimore Suburban	31.3%	31.6%	32.0%	32.1%	32.2%
Eastern Shore	12.5%	12.7%	12.6%	12.9%	12.6%
Southern Maryland	5.7%	5.8%	5.7%	5.7%	5.6%
Washington Suburban	9.1%	8.5%	8.9%	8.8%	8.7%
Western Maryland	10.9%	11.2%	11.3%	11.6%	12.3%
Out of State	0.1%	0.1%	0.1%	0.1%	0.1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Age Group (Years)					
0-18	4.9%	4.1%	4.2%	4.0%	3.3%
19-64	95.2%	95.9%	95.8%	96.0%	96.7%
Total	**100%**	**100%**	**100%**	**100%**	**100%**
Total Participants	**68,584**	**74,717**	**77,889**	**78,874**	**73,368**

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[53] 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 for SBIRT services (Maryland Department of Health, 2016).

Table 68 presents the number of HealthChoice participants who received an SBIRT service during the evaluation period. The total number of people receiving SBIRT services increased through CY 2019 and then decreased during CY 2020. The number of assessments completed per 1,000 HealthChoice participants more than doubled between CY 2016 and CY 2020. The number of assessments between CY 2019 and CY 2020 decreased by 23.8%.

Adolescents aged 15 to 18 years had the highest rate of SBIRT services completed in CY 2016 through CY 2020. Adults aged 40 to 64 had the second highest rate in CY 2016 and CY 2017, then shared the second highest rate with adults aged 19 to 20 in CY 2018, who held the second highest for the remainder of the evaluation period. The number of assessments completed per 1,000 HealthChoice participants aged 15 to 18 years increased by over 700% between CY 2016 and CY 2020.

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

Table 68. Number of HealthChoice Participants Receiving an SBIRT Service, by Age Group, CY 2016–CY 2020

	Age Group (Years)					Total
	14 and under	15–18	19–20	21–39	40–64	
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	4.0	**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**
CY 2020						
# of Participants	545,464	120,077	52,009	385,628	289,698	**1,392,876**
# with Service	5,887	5,017	1,026	2,648	2,891	**17,469**
Per 1000	10.8	41.8	19.7	6.9	10.0	**12.5**

The Department also monitors the extent to which HealthChoice participants with an SUD access ambulatory care services. Table 69 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 2016 to CY 2020, ambulatory care utilization by participants with an SUD increased from 71.6% to 80.9%.

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 80.4% in 2016 to 88.4% in 2019 and then decreased to 87.1% in CY 2020. 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 91.3% in CY 2016 to 94.2% in CY 2020.

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 with a primary diagnosis of SUD increased by 28.6 percentage points between CY 2016 and CY 2020.

Table 69. HealthChoice Participants with an SUD, Who Had an Ambulatory Care Visit, by SUD Status, CY 2016–CY 2020

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					
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%
2020	39,298	31,800	80.9%	18,542	47.2%
Dual Diagnosis (MHD + SUD)					
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%
2020	34,070	32,110	94.2%	17,142	50.3%
Total					
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%
2020	73,368	63,910	87.1%	35,684	48.6%

Table 70 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.[54] From CY 2016 to CY 2020, the number of participants with an SUD-only and dual diagnosis (MHD and SUD) who had at least one ED visit decreased by 8.5 and 9.9 percentage points, respectively. The percentage of participants who had at least one ED visit with a primary diagnosis of SUD decreased slightly, from 12.0% in CY 2016 to 11.2% in CY 2020.

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

Table 70. HealthChoice Participants with an SUD Who Had an Outpatient ED Visit, by SUD Status, CY 2016–CY 2020

Calendar Year	Total Number of Participants	At Least One ED Visit		At Least One ED Visit with SUD Primary Diagnosis	
		Number of Participants	Percentage of Total Participants	Number of Participants	Percentage of Total Participants
SUD-Only					
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%
2020	39,298	16,593	42.2%	3,475	8.8%
Dual Diagnosis (MHD + SUD)					
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%
2020	34,070	19,860	58.3%	4,760	14.0%
SUD-Only + Dual Diagnosis					
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%
2020	73,368	36,453	49.7%	8,235	11.2%

Table 71 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).[55] 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 40.1% in CY 2016 to 35.2% in CY 2019—then increased to 37.7% in CY 2020. The percentage of all participants with an SUD-only who received at least one MAT consistently increased during the evaluation period—from 58.5% in CY 2016 to 67.0% in CY 2020.

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

Table 71. Number and Percentage of HealthChoice Participants with an SUD Who Received Methadone Replacement Therapy or MAT, by SUD Status, CY 2016–CY 2020

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					
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%
2020	39,298	14,810	37.7%	26,337	67.0%
Dual Diagnosis (MHD + SUD)					
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%
2020	34,070	10,334	30.3%	22,781	66.9%
All					
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%
2020	73,368	25,144	34.3%	49,118	66.9%

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 72 shows the number and percentage of ED visits with a primary diagnosis of SUD with an outpatient FUA from CY 2017 to CY 2020.[56] 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. From CY 2019 to CY 2020, follow-up visits within 7 days decreased to 19.9% and follow-up visits within 30 days decreased to 31.3%. The overall 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.

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

Table 72. Number and Percentage of ED Visits by HealthChoice Participants with an SUD for SUD Treatment with a Follow-Up Visit within 7 or 30 days, CY 2017–CY 2020

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%
2020	3,887	507	13.0%	798	20.5%
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%
2020	6,488	1,557	24.0%	2,454	37.8%
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%
2020	10,375	2,064	19.9%	3,252	31.3%

Section VI Conclusion

The HealthChoice program focuses on providing a variety of preventive services to participants. Over the evaluation period, some performance measures improved, such as blood lead screening, HPV vaccination, and colorectal cancer screening rates. The percentage of pregnant women who received prenatal services remained stable from CY 2016 to CY 2020. While breast cancer and cervical cancer screening rates decreased in CY 2020, this corresponds to sharp declines in the number of breast and cervical cancer screenings received by women observed nationally during 2020 (CDC, 2021). Hilltop's multiple regression analysis of the effects of obtaining early prenatal care in the HealthChoice population found it was associated with a 76% decrease in the odds of LBW and nearly 36% 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 either an eye examination or Hba1c measure occurred in the previous year. Schizophrenia-related ED and inpatient use was reduced as expected with adherence to antipsychotic medication use. Antidepressant medication adherence increased the odds of inpatient admissions for depression, according to the results of Hilltop's regression analysis. Antidepressant medication adherence also did not have an observed impact on depression-related ED use.

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 were improving until the COVID-19 pandemic in 2020 negatively impacted service utilization. The continued 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 can 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, 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.

The Department submitted its application for §1115 waiver renewal in July 2021 for the five-year period of January 1, 2022, through December 31, 2026—which was approved by CMS in December 2021. This approval allows Maryland to modify existing programs as well as add new programs.

Under the 2022 to2026 waiver period, Residential Treatment was expanded to include individuals with SMI and SED who are primarily receiving treatment for an SMI/SED and residing in short-term facilities that meet the definition of an institution for mental diseases. The ACIS Pilot increased the statewide capacity to 900 spaces. The HVS Pilot expanded the allowable time-frame eligibility for participants in the Healthy Families America (HFA) evidence-based model from age two to three. The MOM Model, approved July 1, 2021, was established to address the fragmentation in the care of pregnant and postpartum Medicaid beneficiaries with opioid use disorder (OUD). Additionally, the Medicaid Alternative Destination Transport pilot program was established to align Medicaid reimbursements with the Emergency Treat, Triage and Transport (ET3) pilots happening in three jurisdictions for Medicare patients. This Pilot will expand to become statewide in 2022 with the passage of SB295.

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 for up to 15 days per month. The Department extended coverage to individuals dually eligible for Medicare and Medicaid as of January 1, 2020. Residential Treatment was expanded in the 2022 to 2026 waiver renewal to include individuals with SMI and SED and revised the LOS to a global average of 30 days.

Table 73 displays IMD utilization for individuals aged 21 and older under the HealthChoice demonstration from FY 2018 through FY 2021 (July 2017 through June 2021). The number of unique users of IMD services increased by 26.1% from FY 2018 through FY 2020, then decreased by 24.6% in FY 2021. The total count of IMD services (excluding level 3.1 services) increased by 13.0%.

Table 73. Utilization of Residential Treatment for SUDs, FY 2018–FY 2021

Level of Service	FY 2018			FY 2019			FY 2020***			FY 2021		
	Recipient Count	Unique Recipient Count**	Service Count	Recipient Count	Unique Recipient Count**	Service Count	Recipient Count	Unique Recipient Count**	Service Count	Recipient Count	Unique Recipient Count**	Service Count
Level 3.7-WM	4,650	4,391	29,334	5,125	4,819	31,098	4,795	4,375	30,229	3,179	2,948	19,462
Level 3.7	5,689	2,530	87,097	6,126	2,836	96,343	5,313	2,361	88,622	3,094	1,304	47,018
Level 3.5	1,873	886	37,478	2,926	1,871	61,307	3,747	2,499	118,123	2,993	2,172	88,552
Level 3.3	1,243	940	32,484	1,566	1,074	36,840	1,868	1,107	75,822	1,328	914	55,676
Level 3.1*	N/A	N/A	N/A	453	192	11,857	1,912	692	117,381	1,828	979	122,881
Total	**13,455**	**8,747**	**186,393**	**16,196**	**10,792**	**237,445**	**17,635**	**11,034**	**430,177**	**12,422**	**8,317**	**333,589**

*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.

***These data are updated due to improvement in the quality of the behavioral health data during 2020.

Evidence-Based Home Visiting Services (HVS) Community Health Pilot

The HVS pilot program is based on two evidence-based models for supporting the health of pregnant women: Nurse Family Partnership (NFP) 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 participating entities (PEs) 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 program. A second applicant—Garrett County Health Department—was approved in 2018 to serve up to 13 families. Beginning January 1, 2022, HVS was authorized for the current waiver period, which extended the eligible age from two to three years, which aligns 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 third birthday. Additionally, Maryland submitted and received approval for HVS to scale into a statewide benefit via a state plan amendment, effective January 2022.

Mothers can enroll in the HVS pilot program during pregnancy (prenatal) or after the birth of the child (postpartum) in accordance with the respective HFA or NFP models. Prior to enrollment, 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. Nearly all mothers in the HVS program were aged 19 years or older, with an average of 27.0 years.[57]

The Department and Hilltop monitor and evaluate the health and services provided to each participant in the HVS pilot program and will continue to enroll new participants and provide services through December 31, 2021. Table 74 lists the measures used to evaluate HVS program participants.

Table 74. 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)	✓	

[57] Since the HVS population is small, these results are not shown.

Measure	Mother	Child
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 2020, 74.7% 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 48% of mothers had a behavioral health visit following program enrollment. Of these, a little more than a quarter received a visit for an MHD, 8.9% received a visit for an SUD, and an additional 11.4% had at least one visit for an MHD and SUD. Among HVS participants with a diagnosis of an MHD or SUD, 100% had at least one ambulatory care visit following enrollment. All children had at least one well-care visit within the first 15 months of their lives. More than half of the children (57.1%) had at least one ED visit.

Assistance in Community Integration Services Community Health Pilot

The ACIS pilot program provides tenancy-based case management service/tenancy-based 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] Each LE may also identify PEs that will participate and assist in providing services in the ACIS pilot program.

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. In July 2021, the Department applied for an additional 300 participant spaces, bringing the statewide capacity to 900 spaces. Similar to the HVS pilot,

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

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.

The Department and Hilltop monitor and evaluate the ACIS pilot program. 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
- 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 2020, the four LEs enrolled a total of 371 participants: an increase of 118 participants from CY 2019. During CY 2020, Baltimore City served the largest percentage of ACIS participants, followed by Montgomery County, Prince George's County, and Cecil County.

Table 75 displays demographic characteristics of the ACIS participants served during CY 2020. Overall, there were more males (60.6%) than females (39.4%). Age is defined as the participant's age as of the end of CY 2020. Participants aged 41 years and older made up the largest age group overall: 69.1%.

Table 75. Demographics of ACIS Participants, by Lead Entity, CY 2020

Demographic Characteristic	Baltimore City	Cecil County	Montgomery County	Prince George's County	Total
Sex					
Female	43.5%	46.7%	38.5%	25.0%	39.4%
Male	56.6%	53.3%	61.5%	75.0%	60.6%
Age Group (Years)					
≤40	34.6%	36.7%	24.8%	30.4%	31.0%
41+	65.6%	63.3%	75.2%	69.6%	69.1%
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 (81.9%) of participants were homeless at the time of enrollment. Data were also collected for the living situation of participants at the time of service. The majority (77.7%) of living situations at the time of a service event were permanent supportive housing for formerly homeless persons.

Over half (58.3%) of newly enrolled participants achieved a stable housing status in CY 2020. Participants are considered stably housed if they reside in housing including, permanent housing, a foster care home, or a foster care group home (The Hilltop Institute, 2021). The number of months to stable housing from ACIS enrollment date ranged from less than a month to 8 months across LEs; Montgomery County had the lowest average with less than month, followed by Cecil County (1 month), Baltimore City (2.1 months), and Prince George's County (2.2 months).

LEs are reimbursed a PMPM rate if they achieve a minimum of three services for that participant in a month. Monitoring the achievement of this is an indication of program efficiency. Table 76 illustrates the average number of services delivered per person by PMPM status and LE. On average, Montgomery County delivered the most PMPM-eligible services per person (6.7), while Prince George's County had the most non-PMPM-eligible services per person (1.6).

Table 76. Average Number of Services Delivered per Person, by PMPM Status and Lead Entity, CY 2020

Lead Entity	Average Eligible Services per Person	Average Non-Eligible Services per Person
Baltimore City	5.4	1.5
Cecil County	3.5	0.7
Montgomery County	6.7	1.5
Prince George's County	3.4	1.6

The percentage of total ACIS participants with at least one ED visit was 45.0% during CY 2020. Of these ED visits, 25.1% were classified as avoidable. Notably, Cecil County had fewer participants with at least one ED visit (26.7%) when compared to the other LEs. The percentage of total ACIS participants with at least one inpatient admission was 15.6%. Of all ACIS participants, 75.5% had at least one ambulatory care visit. The percentage of Baltimore City ACIS participants with at least one ambulatory care visit (87.5%) was higher than the other LEs. SUD and MHD ambulatory visits are subsets of all ambulatory visits. There was a small percentage of ACIS participants with at least one SUD ambulatory care visit and at least one MHD visit.

Almost 21% 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 (33.3%). With respect to MHD, 62.5% of all ACIS participants carried such a primary diagnosis. Baltimore City had the highest percentage of participants with a primary diagnosis of an MHD (84.5%), followed by Cecil County (50.5%).

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 77 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 2020. The percentage of former foster care participants who had at least one dental visit increased 3.7 percentage points from CY 2018 to CY 2019. From CY 2019 to CY 2020, there was a 9.3 percentage point decrease in participants who had at least one dental visit, most likely as a result of the COVID-19 pandemic. In CY 2020, the percentage of visits across regions varied from 14.6% to 20.5%. The Department anticipates that, over time, the number and percentage of former foster care participants receiving services will increase.

Table 77. Number and Percentage of Former Foster Care Participants Enrolled in Medicaid for 320 Days Who Had Dental Services, by Region, CY 2017–CY 2020

Region	CY 2017			CY 2018			CY 2019			CY 2020		
	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	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%	392	66	16.8%
Baltimore Suburban	374	88	23.5%	339	86	25.4%	306	84	27.5%	302	44	14.6%
Eastern Shore	*	*	23.3%	*	*	24.3%	*	*	26.3%	*	*	17.4%
Southern Maryland	*	*	19.4%	*	*	25.0%	*	*	21.2%	*	*	18.4%
Washington Suburban	173	43	24.9%	161	37	23.0%	154	49	31.8%	166	34	20.5%
Western Maryland	100	23	23.0%	91	22	24.2%	92	21	22.8%	86	13	15.1%
Total	**1,331**	**289**	**21.7%**	**1,237**	**275**	**22.2%**	**1,076**	**279**	**25.9%**	**946**	**157**	**16.6%**

*Cell values of 10 or less have been suppressed.

Table 78 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 2020. Overall, the percentage of former foster care participants who had an ED visit with a dental diagnosis decreased from 4.0% in CY 2017 to 2.5% in CY 2020. Participants living in Southern Maryland used ED services at the highest rate in CY 2020—7.3%—a 3.1 percentage point increase from CY 2019. Participants living in Western Maryland used ED services at the highest rate in CY 2019—4.9%—but this decreased to 4.0% in CY 2020.

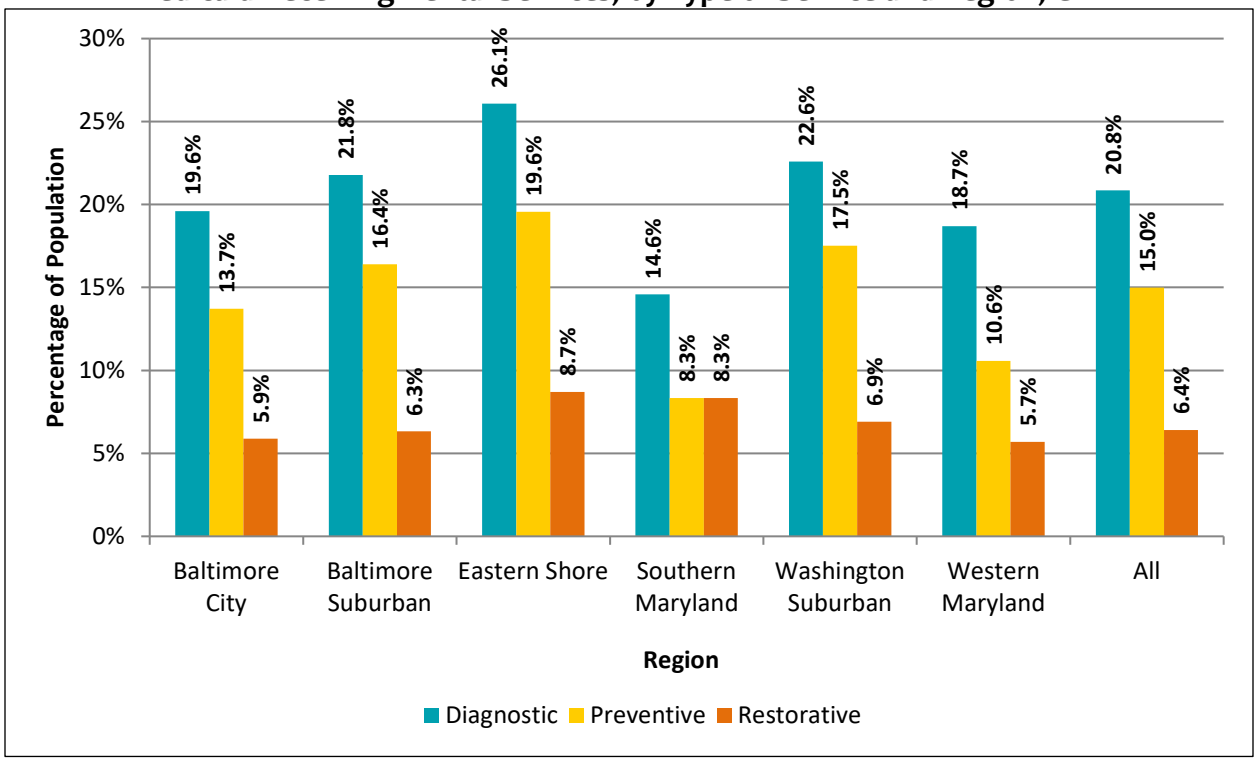
Table 78. Number and Percentage of Former Foster Care Participants Enrolled in Medicaid for Any Period Who Had an Outpatient ED Visit with Any Dental Diagnosis, by Region, CY 2017–CY 2020

Region	CY 2017			CY 2018			CY 2019			CY 2020		
	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	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%	*	*	1.6%
Baltimore Suburban	457	15	3.3%	452	13	2.9%	427	11	2.6%	356	12	3.4%
Eastern Shore	*	*	4.6%	*	*	6.9%	*	*	4.3%	*	*	3.8%
Southern Maryland	*	*	0.0%	*	*	4.5%	*	*	4.2%	*	*	7.3%
Washington Suburban	*	*	3.8%	*	*	0.0%	*	*	1.4%	*	*	1.0%
Western Maryland	*	*	2.4%	*	*	0.8%	*	*	4.9%	*	*	4.0%
Total	**1,687**	**68**	**4.0%**	**1,629**	**57**	**3.5%**	**1,468**	**51**	**3.5%**	**1,221**	**31**	**2.5%**

*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 2020 enrolled in Medicaid for any period. 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 Enrolled for Any Period in Medicaid Receiving Dental Services, by Type of Service and Region, CY 2020



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 April 1, 2019, and implemented the program effective June 1, 2019. The adult pilot program was approved to continue in the next waiver renewal period through December 31, 2026. The Department's aim is to determine whether adult dental benefits will improve health outcomes for vulnerable adults.

The adult dental 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

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]

CY 2020 was the first full year of the adult dental program, and utilization of dental services declined since its implementation mid-2019. During CY 2020, 4,439 (8.2%) participants had at least one dental visit, 4,146 (7.6%) had a diagnostic visit, 2,266 (4.2%) had a preventive care visit, and 1,214 (2.2%) had a restorative visit.[60]

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 program established by the CDC to prevent or delay the onset of type 2 diabetes through healthy eating and physical activity. Hilltop 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 and the SIHIS initiative.

From its implementation in September 2019 through December 31, 2020, there were 215 DPP encounters. The earliest date of service was June 3, 2020. Of the 215 DPP encounters, 145 (67%) were in-person, 36 (17%) were in-person makeup sessions, and the remaining 34 (16%) were conducted virtually. The average age of DPP participants was 47 years old (standard deviation: 10 years). The majority were women (84%), self-identified as Black/African American (71%), resided in Prince George's County (58%), and were in the Families and Children Medicaid coverage group (97%).

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 2021 waiver renewal allows the program to continue to enroll up to 100 potential participants. The ICS program aims to provide quality services for individuals in the community, ensure the safety and wellbeing of its

[59] Data not shown.
[60] Data not shown.

participants, and increase opportunities for self-advocacy and self-reliance. The number of participants in the ICS program increased from 27 in CY 2016 to 30 in December 2020.

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 2020 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 fall prevention, and the case management agencies received annual training on behavioral health from the Department.

Family Planning Program

The 2016 HealthChoice waiver allows the Department to provide a limited benefit package of family planning services to eligible participants through the end of 2021. As of January 2022, family planning services will be incorporated into the State Plan. 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 expanded eligibility under its Family Planning program to lift the age limit, open coverage to include men, and 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 79 shows that Family Planning program enrollment decreased from CY 2016 to CY 2017, with a slight increase in CY 2018, followed by a 19.7% increase in CY 2019 and a 9.9% decrease in CY 2020. 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 from CY 2018 to CY 2020 may be attributed to expanded eligibility in July 2018 and the 2020 MOE requirements.

Table 79. Number and Percentage of Family Planning Participants (Any Period of Enrollment) Who Received a Corresponding Service, CY 2016–CY 2020

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Number of Participants	15,447	13,154	13,680	16,375	14,748
Number with at Least 1 Service	2,925	2,271	1,901	2,034	1,634
Percentage with at Least 1 Service	18.9%	17.3%	13.9%	12.4%	11.1%

The percentage of participants enrolled in the Family Planning program for 12 months with at least one service decreased from 17.7% in CY 2016 to 8.5% in CY 2019, followed by a slight increase to 10.5% in CY 2020 (Table 80). The number of participants with 12-month enrollment in the program also decreased from CY 2016 to CY 2019, followed by a 73.3% increase in CY 2020. While the number of women enrolled in the Family Planning program for any period of enrollment decreased from CY 2019 to CY 2020, the number of women enrolled continuously dramatically increased, mostly likely due to continuous Medicaid eligibility required under MOE. 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 80. Number and Percentage of Family Planning Participants (12-Month Enrollment) Who Received a Corresponding Service, CY 2016–CY 2020

	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020
Number of Participants	6,758	6,314	5,965	5,962	10,331
Number with at Least 1 Service	1,198	862	654	507	1,083
Percentage with at Least 1 Service	17.7%	13.7%	11.0%	8.5%	10.5%

Collaborative Care

The Department received approval to implement a CoCM pilot in April 2020, and coverage for collaborative care services began in July 2020. The CoCM pilot integrates primary care and behavioral health services to further address behavioral health needs for HealthChoice participants who have experienced a behavioral health need (either an MHD or SUD) but have not received effective treatment. Through a competitive process, the Department selected three sites, with one in a rural area.

The pilot includes analysis of Medicaid participants enrolled in FFS who were non-dually eligible for Medicare with a behavioral health diagnosis and did not receive services through the ASO during CY 2017 through CY 2020. Enrollees were identified if they had a claim for behavioral health services but did not receive services through the ASO for the same conditions (i.e., depression, SUD, mental health, co-occurring, or any behavioral health). This analysis was provided in support of the Department's Joint Chairmen's Report (JCR) on Collaborative Care.

The Department's 2021 JCR describes the CoCM pilot program updates (Maryland Department of Health, 2022). Due to the COVID-19 pandemic, enrollment is lower than initially projected because of decreased utilization of primary care, although preliminary data indicate that the CoCM pilot has improved health outcomes.[61] There were 418 participants identified as eligible for CoCM, and 129 participants (31.0%) completed treatment. Hilltop and the Department will continue to monitor outcomes.

[61] Because the CoCM population is small, these results are not shown.

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 (81.9%), but 58.3% of participants achieved stable housing. 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 offering dental coverage to adults who are dually eligible for both Medicare and Medicaid began in 2019. During the first full year of the adult dental program in CY 2020, 8.2% of the participants had at least one dental visit. 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 30 participants in 2020. In the long-running Family Planning program, eligibility was expanded by removing the age limit and opening coverage to men as well. As of 2020, more than 14,700 participants (with any period of enrollment) were enrolled in the program, and 11.1% received a family planning service. The CoCM pilot identified 418 eligible participants, and 129 participants (31.0%) completed treatment.

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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
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

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