maryland
health services
cost review commission

Annual Report

Required by Health General §19-207(b)(9), MSAR # 12506

Fiscal Year 2023 Activities and Calendar Year 2023 Total Cost of Care Model Performance

June 2024

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Executive Summary

This annual report is prepared in accordance with Section 19-207(b)(9) of the Health-General Article of the Annotated Code of Maryland (MSAR #12506). This report includes:

- An overview of the State's application to the AHEAD Model;
- An overview of the TCOC Model and implementation activities related to the Model;
- A summary of the State's performance under the TCOC Model; and
- An update on other HSCRC activities, including care transformation efforts, public and private partnerships, stakeholder engagement, quality initiatives, and rate-setting methodology development.

Highlights from the report are included below.

AHEAD Model

As the planned end date of the Total Cost of Care (TCOC) Model approaches, the HSCRC is planning its next iteration under the States Advancing Health Equity and Development (AHEAD) Model. As envisioned by the Center for Medicare and Medicaid Innovation (CMMI), AHEAD will place a greater emphasis on health equity, primary care, and curbing healthcare cost growth. Maryland's unique all-payer system will continue under AHEAD, and hospital global budgets will evolve with a greater population health focus.

The HSCRC applied to participate in AHEAD in March 2024. A decision is expected in Summer 2024. The State will officially begin policy development in July 2024 which will continue through December 2025, with implementation beginning in January 2026. HSCRC, in partnership with MDH, will continue to engage key partners and the public at large as it plans the state's implementation strategy.

Total Cost of Care Model Performance

Under the TCOC Model, Maryland is measured annually against six key metrics to determine if Maryland is driving Medicare cost savings and hospital quality improvement. Maryland met all TCOC Model targets in 2023. These results are preliminary and not considered final until verified by CMMI.

Performance Measures	Annual 2023 Targets	Target Met
Annual Medicare TCOC Savings	Achieve $300M in annual Maryland Medicare TCOC per Beneficiary of savings	✓
TCOC Guardrail Test	Cannot exceed growth in National Medicare TCOC per beneficiary by more than 1% per year and cannot exceed the National Medicare TCOC per beneficiary by any amount for 2+ consecutive years	✓

All-Payer Revenue Limit	All-payer growth ≤ 3.58% per capita	✓
Improvement in All-Payer Potentially Preventable Conditions	Exceed the CY 2018 PPC rates for 14 Potentially Preventable Conditions (PPCs) that comprise Maryland's Hospital Acquired Condition program (MHAC)	✓
Readmissions Reductions for Medicare	Maryland's aggregate Medicare 30-day risk-adjusted all-cause, all-site readmission rate at regulated hospitals ≤ the National Readmission Rate for Medicare FFS beneficiaries	✓
Hospital Population-Based Payment	≥ 95% of all Regulated Revenue for Maryland residents paid according to a Population-Based Payment methodology	✓

Hospital Quality Programs

The Maryland Model provides incentives and penalties for hospitals to achieve the best outcomes in treating patients. The HSCRC operates three quality programs: the Quality-Based Reimbursement (QBR) Program, the Maryland Hospital Acquired Conditions (MHAC) Program, and the Readmissions Reduction Incentive Program (RRIP).

Quality-Based Reimbursement Program

- Safety: Infections are a major problem in hospitals but can be controlled. For the healthcare-associated infection measures, Maryland is performing worse than the nation on CAUTI, SSI-Hysterectomy, and C.Diff. The State performs better than the nation on CLABSI and MRSA, and performs on par with the nation on SSI-Colon.
- Clinical Care: Two of 41 hospitals worsened slightly on the inpatient mortality measure, but Statewide performance has improved.
- Patient and Community Engagement: Maryland continues to lag the nation in performance on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient experience measures. This is an area of significant concern for the HSCRC.

Maryland Hospital Acquired Conditions: Potentially Preventable Conditions, or PPCs, are negative outcomes that may result from the process of care in hospitals. In CY23, there has been an improvement in the PPCs included in the payment program, with fewer PPCs overall compared to the 2018 base year.

Readmissions: Under the Maryland Model, lower acuity patients receive treatment outside of hospitals, and higher acuity patients are treated inside hospitals, which could increase readmissions. CMMI analyzed Maryland's readmissions on a risk-adjusted basis, and found them to be below national average 2023.

Population Health

Statewide Integrated Health Improvement Strategy: In 2021, CMMI approved Maryland's Statewide Integrated Health Improvement Strategy (SIHIS) which was designed to improve health outcomes, achieve health equity, and control the total cost of care for Marylanders. Maryland established improvement goals across three domains: Hospital Quality, Care Transformation, and Total Population Health, specifically diabetes, opioid use disorder, and maternal and child health. The State met all but one 2021 performance milestones and is awaiting final 2023 performance data.

Revenue for Reform: The primary goal of Revenue for Reform is to direct hospital retained revenue to community-based population health investments and to drive population health improvement. In FY 2024, $26.1 million was directed to community health and expanding and maintaining access to physicians in Baltimore City, Prince George's County, Montgomery County, and the Eastern Shore.

Care Transformation and Partnership Programs

Episode Care Improvement Program: Beginning Jan. 1, 2024, 16 hospitals are participating in the Episode Care Improvement Program, which allows hospitals to link payments among providers for an episode of care, aligning incentives among hospitals, physicians and post-acute care facilities to improve quality and generate savings.

Episode Quality Improvement Program: This program allows specialty providers to coordinate care through clinical episodes and increases accountability for patients. Providers can receive incentive payments by improving quality and reducing cost of care. As of Jan. 1, 2024, there were 119 EQIP entities and 3,217 care providers enrolled – representing 40 specialties.

Care Transformation Initiatives: Under this program, hospitals are assigned Medicare beneficiaries and are accountable for the total cost of care in six categories, including palliative care, primary care and outpatient services. In FY 2022, 43 hospitals participated, generating $127 million in Medicare savings. The total savings for FY23 is being calculated.

Maryland Primary Care Program: As of January 2024, there were 511 participating practices in this program, which allows primary care providers to play an increased role in prevention, management of chronic disease, and preventing unnecessary hospital utilization. In particular, these practices track diabetes, hypertension, body mass index (BMI) and depression – and integrate behavioral health services into the primary care setting. This program also focuses on advancing health equity and reducing disparities at the primary care level. In 2023, $30.5 million was invested in the Health Equity Advancement Resource and Transformation (HEART) Payment program to provide resources to practices to support the social needs of high-risk patients.

Regional Partnerships: The HSCRC developed the Regional Partnership Catalyst Program to build sustainable programs to advance the population health goals of the TCOC Model, specifically diabetes and behavioral health, over five years (CY 2021 – CY 2025). $X was directed to six Regional Partnerships to implement diabetes prevention and management programs. HSCRC decided to end funding for these programs due to concerns over long-term sustainability. Funding ends in June 2024, but all six have indicated they will seek to continue to provide services. $79.1 million is directed to three Regional Partnerships to build and expand access to behavioral health crisis services, including mobile response teams, crisis stabilization centers, and same-day access to behavioral health care.

Maternal and Child Health Funding Initiative: The HSCRC is directing $40 million cumulatively over five years (FY 2022 – FY 2025) to Medicaid and MDH to fund initiatives that address severe maternal mortality and childhood asthma. In FY 2023, Medicaid expanded access to doula care, home-visiting programs for young mothers and infants, group-based prenatal care programs, and asthma-home visiting programs for children with moderate to severe asthma. MDH has also funded asthma home-visiting programs and home visiting programs for eligible non-Medicaid beneficiaries.

Hospital Financial Performance

Update Factor: Each year, the HSCRC adjusts hospitals' Global Budget Revenue to account for inflation and demographic shifts, and to provide resources for care coordination and population health strategies. On July 1, 2023, the HSCRC approved a 3.75 percent per capita revenue increase for hospitals under global budgets.

Audited FY 2023 Data: The HSCRC monitors hospital financial performance and regulates inpatient and outpatient services located at hospitals – but not the rates of physicians. Maryland's regulated hospital industry remained profitable despite low total operating margins. Both the regulated operating and total profit margin increased over FY 2022.

- The total combined audited regulated and unregulated operating margin was 0.01 percent (0.80 percent in FY 2022).
- The total margin, i.e., the combined operating and non-operating margins, was 2.36 percent (-2.01 percent in FY 2022).
- The operating margin for services regulated by the HSCRC was 6.62 percent (6.48 percent in FY 2022).

Introduction

The Health Services Cost Review Commission (HSCRC) is an independent State agency responsible for regulating the quality and cost of hospital services to ensure all Marylanders have access to high-quality healthcare. The HSCRC achieves this by regulating revenues that hospitals raise through patient billing and

by designing and driving innovative healthcare delivery programs. Together, these efforts provide better care coordination and better health outcomes for Marylanders.

The HSCRC is at the forefront of Maryland's transformative effort to improve the quality of care for all by emphasizing population health and health equity, while lowering healthcare spending growth under the unique Maryland Health Model (or "Maryland Model"). The Maryland Model improves health care for people across the state by encouraging hospitals, physicians, and other healthcare professionals to work collaboratively to provide high-quality care to patients. The Maryland Model introduces new investments and incentives in the state to engage the wide range of providers in care transformation efforts.

The Maryland Model is the latest iteration of a first-of-its-kind state-level effort to coordinate hospital costs that dates back to the 1970s. Under the current version of the Maryland Model, which runs from 2018 through 2026,[1] our system:

- Rewards better health outcomes through pay-for-performance programs that drive higher quality;
- Guarantees that low-income individuals have access to care at all hospitals by providing equitable funding for uncompensated care;
- Creates a stable and predictable revenue system for hospitals, a benefit that was particularly important in the pandemic;
- Invests in population health and health equity by using savings from reduced hospital utilization; and
- Provides support for state healthcare infrastructure and subject matter expertise on healthcare financing and reform.

This report describes the achievements the Maryland Model has made since its implementation. The HSCRC, the State, hospitals, non-hospital providers, payers, and a broad spectrum of community partners work together to achieve the objectives of the Maryland Model, creating long-term health improvements and cost savings for Marylanders.

The Maryland Model has two major components:

- The Total Cost of Care (TCOC) Model Agreement with the federal government, which seeks to improve health outcomes and control healthcare costs by aligning hospitals and non-hospital providers (e.g. primary care and specialty physicians) to transform the healthcare delivery system.
- Maryland's long-standing all-payer hospital rate-setting system, which aligns hospitals payments from Medicare and Medicaid with those from insurance providers.

[1] Maryland anticipates transitioning to the AHEAD Model in January 2026, thereby ending the TCOC Model a year early.

The TCOC Model, which began in January 2019, aims to enhance the quality of healthcare and patient experience, improve population health and health outcomes, and reduce the total cost of care for Marylanders. The HSCRC helps direct the State's innovative efforts to transform the delivery system and achieve goals under the TCOC Model.

In 2023, the HSCRC focused on ensuring that the State met the 2023 Medicare total cost of care savings target under the TCOC agreement with the Center for Medicare and Medicaid Innovation (CMMI), while responding to hospital requests for funding support and balancing the interests of consumers, employers, and insurers to control hospital costs.

Also in 2023, the HSCRC began the planning process for the next iteration of the Maryland Model. In March 2024, HSCRC submitted an application to the Centers for Medicare and Medicaid Services (CMS) States Advancing Health Equity and Development (AHEAD) Model, which, if awarded, will continue Maryland's unique all-payer system and provide greater emphasis on health equity and community decision making in health care delivery systems.

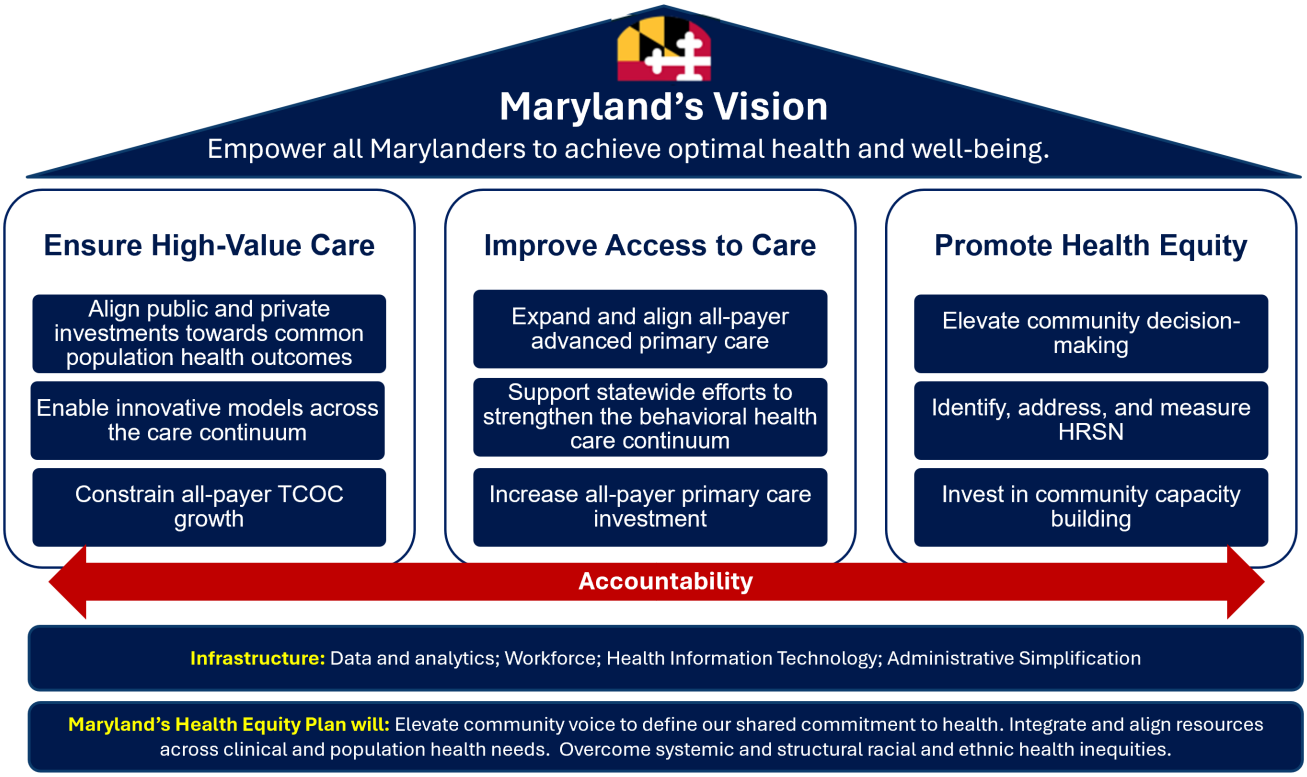
States Advancing All-Payer Health Equity Approaches and Development (AHEAD) Model

In March 2024, The Maryland Department of Health (MDH) and the HSCRC applied to participate in the CMS AHEAD Model.

The AHEAD Model advances the vision of empowering all Marylanders to achieve optimal health and well-being. As the end of the TCOC Model approaches, AHEAD will benefit Maryland as the pathway to improving statewide healthcare quality, health outcomes, and health equity - while controlling cost growth. Through AHEAD, Maryland will bridge the health care, population health, and social sectors as well as the public and private sectors to implement the solutions Marylanders need, as identified by community members themselves.

Maryland will leverage AHEAD Model tools to promote health equity, ensure high-value care, and improve access to care, to achieve the vision of high value, equitable, and excellent health delivery system.

Figure 1. Maryland's Vision Under AHEAD



Promoting Health Equity: To promote health equity, the State will elevate community decision-making; identify, address, and measure health-related social needs, and invest in community capacity building.

Driving principles are centering community knowledge and solutions, empowering community voice, and prioritizing community-based alternative funding models.

Ensuring High-Value Care: To ensure high-value care, the State will align public and private investments towards common population health outcomes, incentivize innovative models across the care continuum, and constrain all-payer TCOC growth to sustainable levels.

The State's driving principles include benchmarking our success according to outcomes, evolving and evaluating all-payer hospital global budgets to align with equity-centered population health goals inclusive of community health needs, and addressing challenges across the health care system such as post-acute care quality and alignment.

Improving Access to Care: To improve access to care, the State will expand and align all-payer advanced primary care, support statewide efforts to strengthen the behavioral health care continuum, and increase all-payer primary care investment.

Driving principles include recognizing primary care as the foundation of our health care delivery system; integrating behavioral health into primary care; and growing, attracting, and retaining a diverse primary care workforce through investment in provider support multi-payer alignment.

The principle of **accountability** will underlie the approach to all three of these strategies. **Infrastructure** investments will support the actions needed to achieve the State's vision, including:

- **Workforce,** a foundational issue to promote health equity, ensure high-value care, and improve access to care.
- **Health information technology, data, and analytics.** The State will strengthen and grow this area to achieve intentionality, transparency, and collaboration across the care continuum.
- **Administrative simplification for health care providers,** supported by multi-payer alignment across payment models and quality measurement.

Maryland's Health Equity Plan is the foundation for all actions and investments under AHEAD. Maryland will develop the State Health Equity Plan to elevate community voice in defining shared commitment to health; integrate and align resources across clinical and population health needs; and work to overcome systemic and structural racial and ethnic health inequities.

Maryland's request for AHEAD Model Cooperative Agreement funding focuses on health equity and health-related social needs. This includes funding for: (1) Five regional community-based population health hubs to support community-level population health investment and efforts to address health-related social needs; (2) Community grants to address population health and health-related social needs; and (3) Technology for statewide coordinated health-related social needs screening and referral.

For more information regarding the AHEAD Model, please visit CMS's model webpage.

AHEAD Advisory Committees

The Maryland Department of Health (MDH) and the Maryland Health Services Cost Review Commission (HSCRC) convened three committees from January to April 2024 to advise the State on the future of Maryland's agreement with CMS, including evaluating the AHEAD Model. The Population Health, Healthcare, and Primary Care Program Transformation Advisory Committees (H-TAC, P-TAC, and PCP-TAC) helped advise the State in the development of the AHEAD NOFO response and provided advisory support related to population health and health equity, primary care, and health care delivery transformation.

Next Steps

Maryland anticipates that CMS will make decisions on Maryland's application to the model this summer. MDH and HSCRC plan to begin policy development and decision making for the Model in July 2024 and

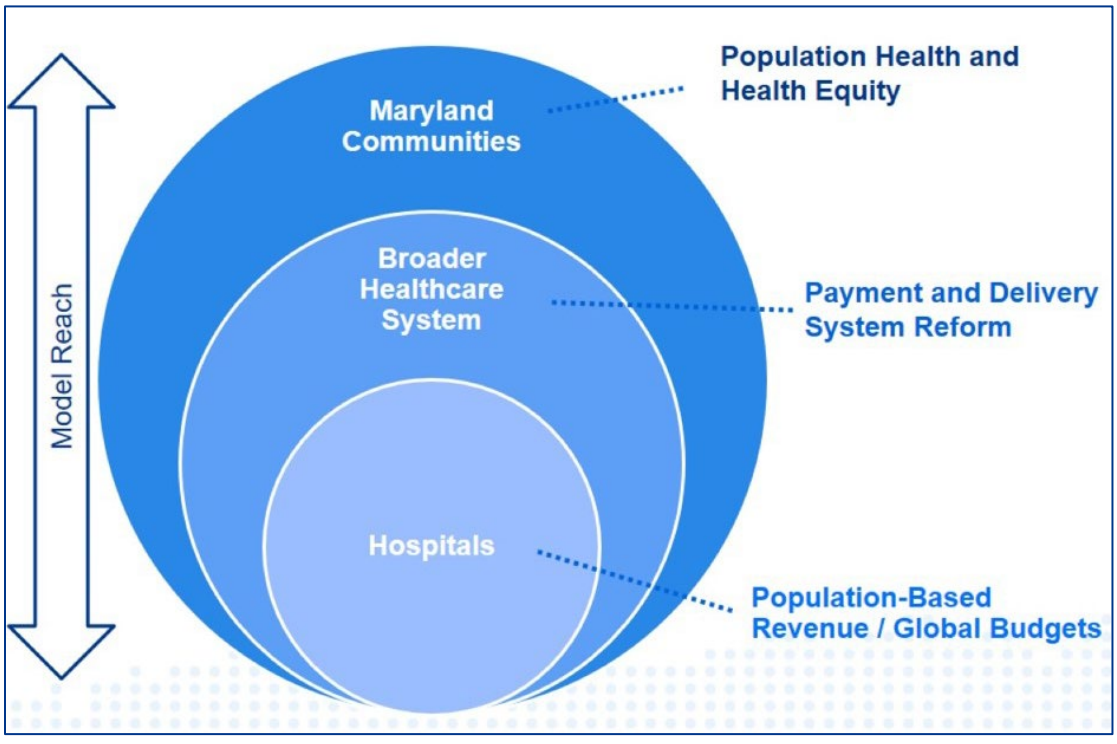
continue through December 2025, during which time the State and CMS will execute a contractual agreement for the AHEAD Model. Maryland's Implementation is expected to begin in 2026. Maryland remains committed to engaging key partners and the public at large as it continues to plan the state's implementation strategy. For all stakeholder information, please visit HSCRC's AHEAD Model webpage.

Section I: Overview of TCOC Model and Key Requirements

In 2018, the State of Maryland entered into an agreement with CMS to run a demonstration program called the TCOC Model. The TCOC Model aims to coordinate care, implement broad healthcare delivery reform, and improve quality and reduce costs across both hospital and non-hospital settings. The TCOC Model includes financial and quality targets that the State must meet to continue the Model agreement with CMMI.

The TCOC Model has three components: hospital population-based revenue, payment and delivery system reform, and population health and health equity.

Figure 2. TCOC Model Components



- **Hospital Population-Based Revenue:** The Model allows the State to set hospital payments for Medicare. Under the TCOC Model agreement, hospitals are subject to global budgets, which set an annual payment limit for hospitals regardless of the hospital utilization rate. Global budgets, which have been in place for all general acute hospitals since 2014, have fundamentally changed

hospitals' incentives from increasing fee-for-service volume to improving population health and driving toward value-based outcomes. The hospital rate-setting system is discussed in Section VII.

- **Payment and Delivery System Reform:**
    - **Care Redesign and Transformation Programs:** These programs foster care transformation across the health system by expanding incentives for hospitals to work with other providers and creating opportunities for value-based care programs for non-hospital providers. These programs are discussed in Section V.
    - **Maryland Primary Care Program**: The Maryland Primary Care Program (MDPCP) enhances chronic care and health management for Medicare enrollees through advanced primary care. This program is discussed in Section V.
- **Population Health and Health Equity:** The TCOC Model encourages programs and provides financial credit for improvement in population health. In addition, HSCRC and CMMI are committed to improving health equity. These initiatives are discussed in Section IV.

CMS Evaluation of the Maryland Model

CMS released a progress report for the Model's First Four Years in April 2024[2]. This evaluation focused on Maryland's performance under the Model in calendar years (CY) 2019 through 2022. The evaluation report was generally positive, noting that the State:

1. Reduced Medicare spending by limiting growth in hospital budgets, which rewards hospital efforts to reduce potentially preventable care;
2. Created $689 million in net savings to Medicare over the TCOC Model's first three years by reducing total Medicare spending, hospital spending, and non-hospital spending;
3. Increased MDPCP beneficiaries receiving care management services from 1 percent in 2019 to 14 percent in 2022;
4. Reduced disparities by race and place. Disparities decreased by 19 percent to 40 percent on unplanned admissions, preventable admissions and timely follow-up after hospital discharge;
5. Improved quality of care in hospitals by reducing hospital admissions, outpatient ED visits, and preventable admissions; and
6. Improved timely follow-up after exacerbation of chronic conditions.

The evaluation will continue to examine the model's impacts on spending, service use, and quality.

[2] Report is available on CMMI's website, https://www.cms.gov/priorities/innovation/data-reports

Performance Targets

Under the TCOC Model, Maryland is accountable for total cost of care savings under Medicare (for care provided by both hospital and non-hospital providers), hospital quality outcomes, population health goals (focused on diabetes, opioid use, and maternal and child health), advanced primary care (the MDPCP program), and other innovative program development for hospitals and non-hospital providers.

Maryland is required to meet the following six annual performance targets:

- **Annual Medicare Total Cost of Care Savings Target**: Each year Maryland must generate savings for the Medicare program on a total cost of care basis. In 2023, the annual savings target was $300 million.
- **TCOC Guardrail Test:** Maryland must not exceed national Medicare spending per beneficiary growth rate by more than 1 percent in any year and/or exceed that national growth rate by any amount for two years in a row.
- **All-Payer Hospital Revenue Growth Per Capita:** Maryland must keep all-payer hospital revenue growth equal to or below a compounded average of 3.58 percent per capita annually throughout the term of the contract.
- **Readmissions Reductions for Medicare:** Maryland must match or exceed national and prior Maryland Medicare readmissions rates.
- **All-Payer Reductions in Hospital- Acquired Conditions:** The State must match or exceed previous Maryland performance on all-payer potentially preventable condition (PPC) measures.
- **Hospital Revenue under Population-Based Payment Methodology:** Maryland must have at least 95 percent of hospital revenue under a population-based payment methodology (i.e., global budget revenue) over the course of the Model.

Maryland performance between CY 2019 and CY 2023 is shown in the table below.

Table 1. TCOC Model Performance, 2019-2023

Performance Measures	Annual Targets	2019	2020	2021	2022	2023
Annual Medicare TCOC Savings	$120M (2019), $156M (2020), $222M (2021), $267M (2022), $300M (2023) in annual Maryland Medicare TCOC per Beneficiary of savings	✓	✓	✓	✓	✓
TCOC Guardrail Test	Cannot exceed growth in National Medicare TCOC per beneficiary by more than 1% per year and cannot exceed the	✓	✓	✓	×	✓

	National Medicare TCOC per beneficiary by any amount for 2+ consecutive years					
All-Payer Revenue Limit	All-payer growth ≤ 3.58% per capita	✓	✓	✓	✓	✓
Improvement in All-Payer Potentially Preventable Conditions	Exceed the CY 2018 PPC rates for 14 Potentially Preventable Conditions (PPCs) that comprise Maryland's Hospital Acquired Condition program (MHAC)	✓	✓	✓	✓	✓
Readmissions Reductions for Medicare	Maryland's aggregate Medicare 30-day unadjusted all-cause, all-site readmission rate at regulated hospitals ≤ the National Readmission Rate for Medicare FFS beneficiaries	✓	✓	×[3]	×	✓
Hospital Population Based Payment	≥ 95% of all Regulated Revenue for Maryland residents paid according to a Population-Based Payment methodology	✓	✓	✓	✓	✓

In 2019 and 2020, Maryland met or exceeded all TCOC contractual annual performance targets. Maryland did not meet the Medicare readmissions reductions test in 2021, which requires the State to be below the National Medicare unadjusted readmission rate. HSCRC staff believe the unadjusted readmission rate has increased due to higher patient acuity over time. CMMI granted an exogenous factor request for missing the 2021 target. In 2022, the State met four of the six contractual requirements. The State did not meet the requirements for the TCOC Guardrail Tests and the Readmissions Reductions for Medicare. Model performance results for 2022 are presented in the table above and have been certified by CMMI. Last year's report discusses the factors influencing the State's performance and actions taken to address performance challenges in 2022.

In 2023, the State met all six contractual requirements under the TCOC Model. Notably, the State generated $476 million in annual Medicare TCOC savings, far surpassing the $300 million annual savings requirement. Additionally, Maryland met the annual readmissions reduction test for the first time since 2020. In 2023, the HSCRC and CMMI negotiated the use of a risk-adjusted readmissions measure which had previously been unadjusted. HSCRC believed that the State's unadjusted readmission rate increases in 2021 and 2022 were a result of higher patient acuity over time, a natural result of the TCOC Model which seeks to retain only the sickest patients in hospitals and direct less-acute care to more appropriate, lower-

[3] *HSCRC staff believe unadjusted readmission rate has increased due to higher patient acuity over time. CMMI granted an exogenous factor request for missing the 2021 target.

cost settings. CMMI concurred with the HSCRC's position and agreed to use a risk-adjusted readmissions measure for the first time in 2023.

In addition to the requirements described above, the State is required to achieve specific milestones under the Statewide Integrated Health Improvement Strategy (SIHIS) which was developed in partnership with CMMI in 2020 and approved in 2021. Progress under SIHIS is discussed in Section IV.

Section II: Total Cost of Care Financial Performance (Calendar Year 2023)

Total Hospital Per Capita Cost Growth

The Maryland TCOC Model agreement requires the State to limit its compounded average annual all-payer hospital per capita revenue growth rate to 3.58 percent. This number is based on the average growth in per capita gross state product (GSP) for the period 2002 through 2012. Through 2023, Maryland has an average per capita cost growth of 2.68 percent since 2013, 0.90 points below the 3.58 percent limit. From 2019 to 2023, Maryland had an average per capita all-payer revenue growth of 3.59 percent, barely above the 3.58 percent target. This higher growth rate is primarily due to disruptions caused by the pandemic. During CY 2022, considerable revenue was provided to hospitals through pandemic-related policies. This revenue was one-time in nature. In 2023, revenue returned to normal levels resulting in a CY 2023 per capita growth rate of 3.47 percent (compared to 6.06 percent in CY 2022), falling below the 3.58 percent annual growth target.

Medicare Savings & TCOC Performance

Maryland was required to generate an annual $300 million in TCOC savings in CY 2023. Maryland surpassed this requirement in CY 2023, achieving $476 million in annual savings.

Table 2. Annual Medicare TCOC Savings (in millions)

	2019	2022	2021	2022	2023	2024	2025	2026
Target	$120	$156	$222	$267	$300	$336	$372	$408
Actual	$365	$391	$378	$269	$476	TBD	TBD	TBD

Under the TCOC Model, the total cost of care growth for Maryland Medicare beneficiaries may not exceed the national growth rate by more than one percent in any given year and may not exceed the national growth for two consecutive years. Additionally, Maryland must build to an annual $408 million in TCOC

savings by the eighth year of the Model (CY 2026). The target was $300 million in 2023 and will be $336 million in CY 2024.

In CY 2023, hospital spending per capita ended favorably when compared with the nation. Non-hospital spending per capita was on trend compared to the nation during CY 2023. These trends continue to be monitored monthly. Data through December of 2023 shows Maryland achieved annual TCOC savings of approximately $476 million.

Policies Influencing Financial Performance and TCOC

Medicare Performance Adjustment (MPA)

The HSCRC implemented the Medicare Performance Adjustment (MPA, or "MPA Traditional") to assist the State in managing both hospital and non-hospital costs under the TCOC Model. The MPA adjusts hospital Medicare payments based on Medicare total cost of care performance. Medicare Payment adjustments began in July 2019 (Rate Year 2020). In 2021, the TCOC Workgroup conducted a comprehensive review of the MPA policy, and the 2022 Commission Recommendation overhauled the MPA policy to make the measurement more stable and valid from year to year. The CY 2022 to CY 2023 changes were purposefully limited and this year's recommendation continues this approach by making only minor technical changes to the methodology. HSCRC is not contemplating any major changes for CY 2025.

Update Factor

The Update Factor policy is an annual system-wide update to the hospital's Global Budget Revenue (GBR). It incorporates quality, volume, and other adjustments that determine the reasonableness of hospital prices. The HSCRC staff considers the following conditions to balance when considering the update: meeting the requirements of the TCOC Model agreement:

1. providing hospitals with the necessary resources to keep pace with changes in inflation and demographics;
2. ensuring that hospitals have adequate resources to invest in care coordination and population health strategies for long-term success under the TCOC Model; and
3. incorporating quality performance programs (discussed in Section III).

The Fiscal Year (FY) 2024 Update Factor was implemented on July 1, 2023, and included the following policy recommendations:

- An overall increase of 3.58 percent for revenue (inclusive of an uncompensated care increase and deficit assessment reduction), resulting in a 3.75 percent per capita revenue increase for hospitals under Global Budgets.
- All hospitals will receive a base inflation increase of 3.35 percent.

- Provide an overall increase of 3.35 percent for inflation to rates of hospitals not under Global Budgets (freestanding psychiatric hospitals and Mount Washington Pediatric Hospital).

HSCRC staff is currently developing the FY 2025 Update Factor, which HSCRC Commissioners will vote on in June 2024 for a July 1, 2024, implementation date. The Commission will continue to closely monitor performance targets for Medicare, including Medicare's growth in TCOC and Hospital Cost of Care per beneficiary during the performance year. As always, the Commission has the authority to adjust rates as it deems necessary.

Section III: Hospital Quality Programs & Performance

HSCRC has four programs for measuring hospital quality of care and incentivizing improved outcomes. These includes the quality-based reimbursement program, the readmission reduction incentive program (including a measure to reduce socioeconomic disparities), the Maryland hospital acquired conditions program, and the potentially avoidable utilization savings program. Each of these programs is described below. HSCRC also continues work on analyzing emergency department wait times and improvement opportunities.

Quality-Based Reimbursement (QBR) Program

Established in FY 2010, the QBR program adjusts hospital payments based on their performance on a number of quality-of-care measures. These include clinical care measures, patient and community engagement measures, and safety measures. Each domain is then weighted to determine hospitals' final scores on the program (Table 3).

Table 3. QBR Measure Domain Weights for FY 2020-FY2025

Measure Domain	Weight
Safety (Healthcare-Associated Infections and FY 2023 NEW measure: Agency for Healthcare Research and Quality (AHRQ) Patient Safety Indicator (PSI) 90 Composite measure.	0.35
Clinical Care (Inpatient Survival and Hip/Knee Replacement Complication Rates)	0.15
Patient and Community Engagement (HCAHPS survey and Timely Follow Up after Acute Exacerbation of Chronic Conditions).	0.50

In FY 2025, the HSCRC maintained the measurement domains and weights from the policy approved for FYs 2020-2024 to be as consistent as possible with the CMS Value-Based Purchasing (VBP) Program, while also targeting areas of needed improvement for Maryland. In FY 2025, the amount of total hospital inpatient revenue at-risk for scaling was held to a two percent maximum penalty, and the maximum reward

was correspondingly maintained at two percent. Maryland does not include an efficiency measure as a component of the QBR Program, but it does apply a Potentially Avoidable Utilization (PAU) savings adjustment to hospital global budgets and evaluates Medicare payments based on hospitals' Total Cost of Care performance under the MPA.

Since FY 2019, the QBR reward and penalty adjustments to global budgets have been determined based on a preset scale rather than relatively ranking hospital performance and penalizing those with less than average performance. This was designed to provide hospitals with predictable revenue adjustments and predetermined quality improvement targets.

Updated Data Trends

Maryland's QBR program is similar in design and detail to the federal Medicare Value-Based Purchasing Program. Data trends for the most recently available specified performance periods are presented below. Staff notes that the performance periods differ across measures based on data availability.

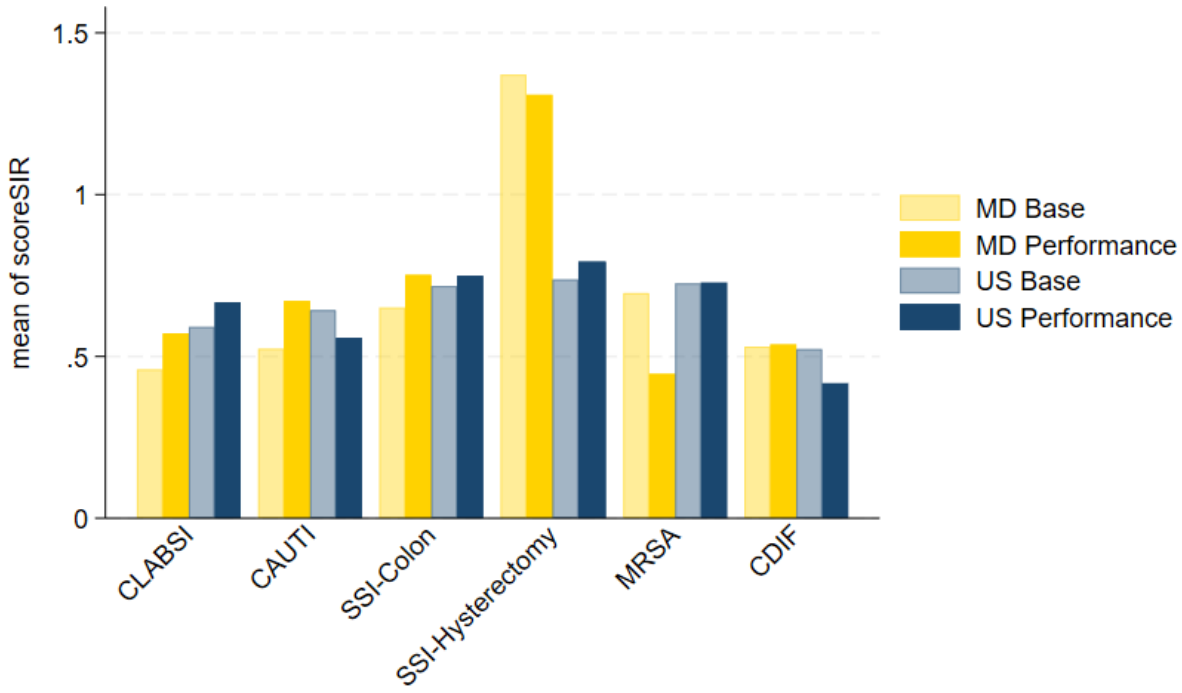
Safety Domain

For the healthcare-associated infection measures in the Safety domain, as illustrated in Figure 4 below, Maryland is performing worse (lower rate is better) than the nation on CAUTI, SSI-Hysterectomy, and C.Diff, performs better than the nation on CLABSI and MRSA, and performs on par with the nation on SSI-Colon.[4]

Figure 3. Maryland Performance VS Nation on Healthcare Associated Infections

***Base Year**: CY 2019 **Performance Year**: CY 2021Q2-CY 2023Q1*

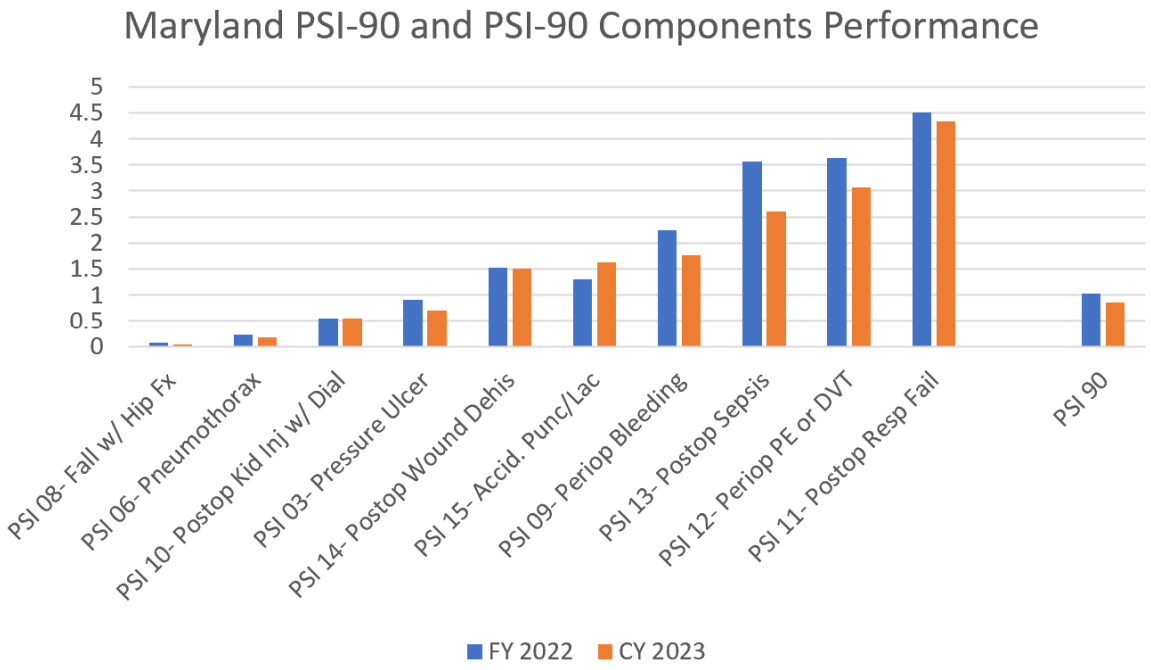
[4] Catheter-associated urinary tract infections (CAUTI), Surgical Site Infection (SSI) - Colon, Clostridioides difficile (C. Diff), Central Line-associated Bloodstream Infection (CLABSI), Surgical Site Infection (SSI) - Hysterectomy, and Methicillin-resistant Staphylococcus aureus (MRSA).



Source: CMS Care Compare Data

On the all-payer PSI-90 composite measure and the component indicators, Maryland's statewide performance has improved (lower rate is better) from FY 2022 compared to CY 2023 for all measures except PSI15- Unrecognized Abdominopelvic Accidental Puncture or Laceration as illustrated in Figure 5 below. Improvements have been made on the other nine components of PSI-90 and the composite PSI-90 rate.

Figure 4. Maryland All-Payer, AHRQ PSI 90 Composite Measure Performance FY 2023 VS CY 2023

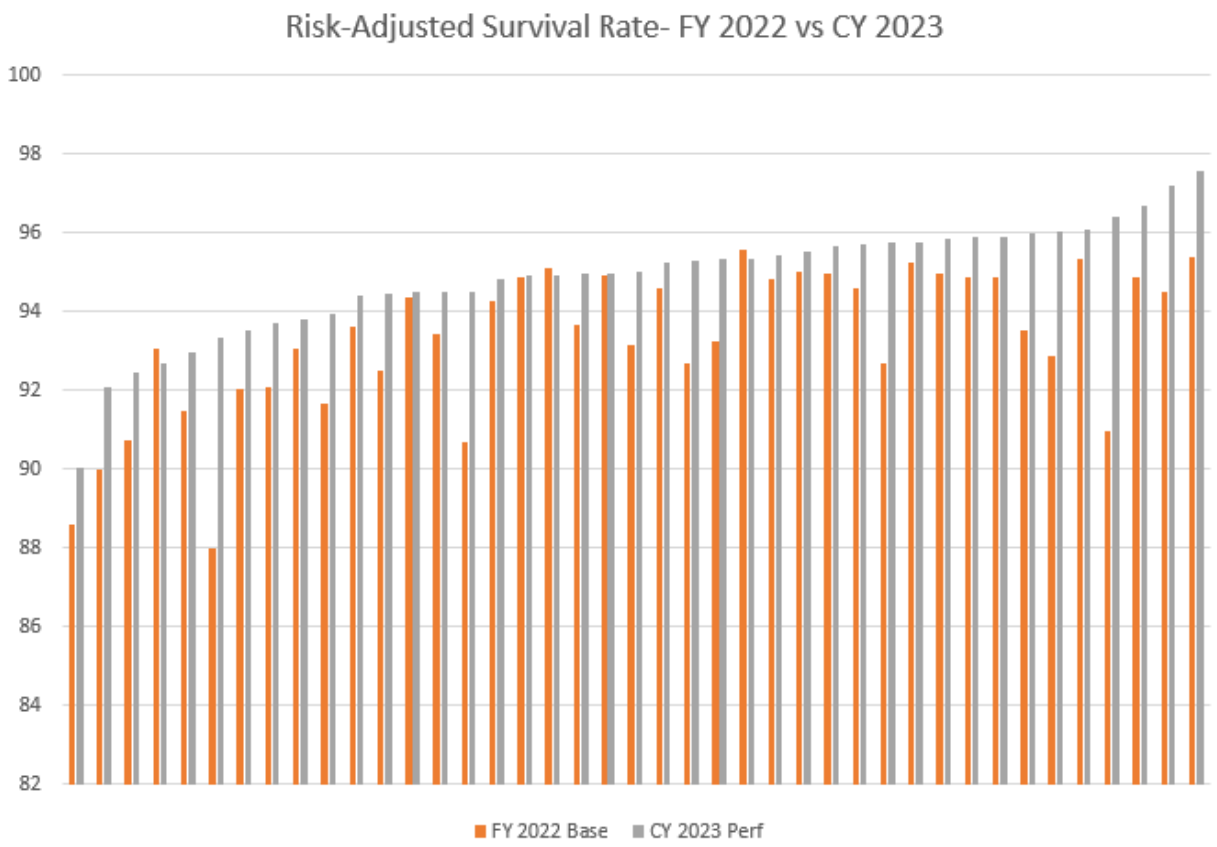


Source: HSCRC Case-Mix Data

Clinical Care Domain

The Clinical Care domain consists of Inpatient Mortality and the Medicare Total Hip and Knee Arthroplasty (TKA) Complication measure. Two of 41 hospitals have worsened slightly in CY 2023 when compared to FY 2022 on the inpatient mortality measure (Figure 6).

Figure 5. RY 2025 QBR Risk-Adjusted Survival Rate

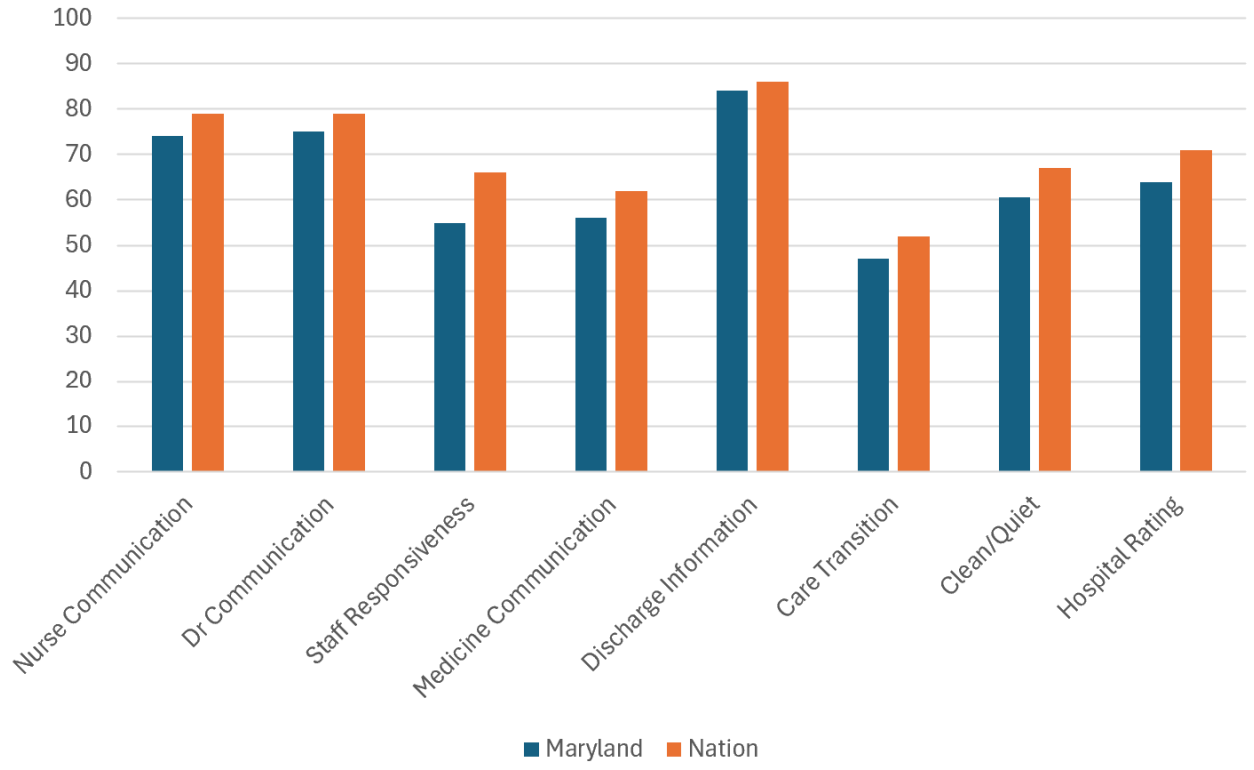


Source: HSCRC Case-Mix Data

Patient and Community Engagement (PCE) Domain

Maryland continues to lag the nation in performance on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient experience measures (Figure 7). HSCRC staff remains concerned about Maryland HCAHPS performance. In the FY 2018 QBR policy, the HSCRC increased the weighting of the HCAHPS measures in determining hospitals' overall scores to incentivize improvement in patient satisfaction and has kept this domain weighting through the subsequent QBR policy annual updates. To incentivize incremental improvements, the HSCRC incorporates the use of linear scores weighted at 10 percent of the PCE domain.

Figure 6. HCAHPS - Maryland HCAHPS Top Box Scores Compared to the Nation, April 2022-March 2023

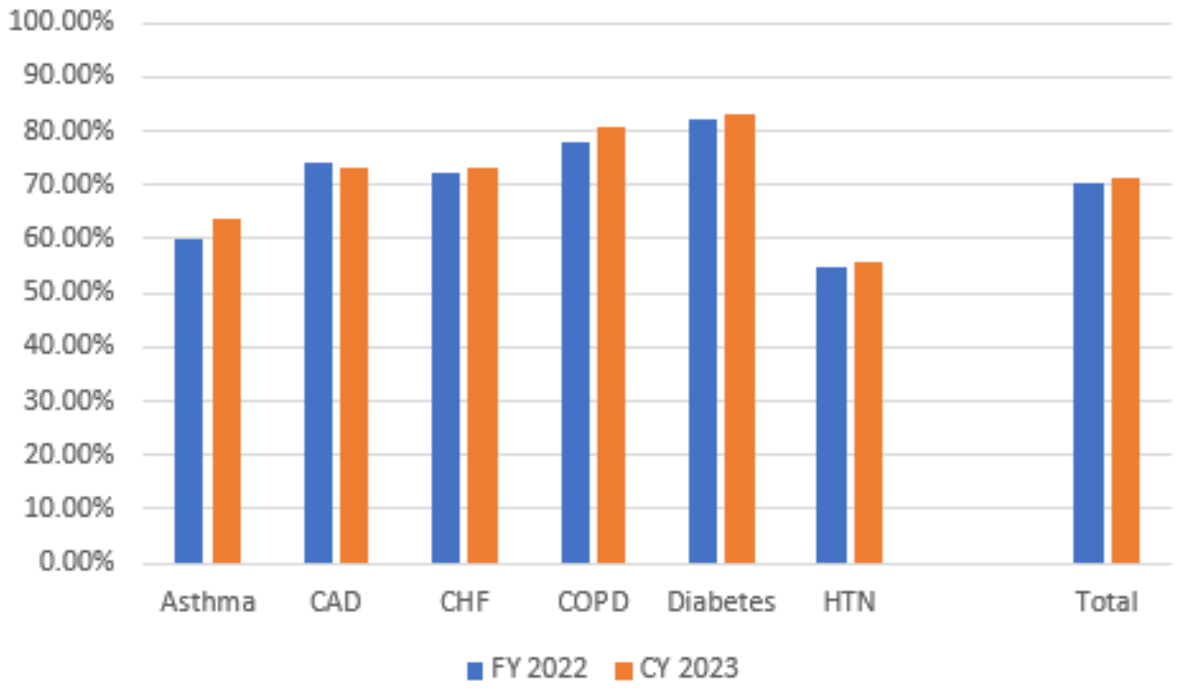


Source: CMS Compare Data

On the Timely Follow-Up (TFU) measure, Maryland's CY 2023 performance improved overall and for all chronic conditions, except Coronary Artery Disease (CAD), compared to FY 2022 performance (Figure 8).

Figure 7. Timely Follow-Up Following Acute Exacerbation for Patients with Chronic Conditions[5]

[5] Chronic Condition Acronyms: Coronary artery disease (CAD), congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), hypertension (HTN)



Source: CMS Claims and Claims Line Feed (CCLF) Data

Maryland Hospital Acquired Conditions (MHAC) Program

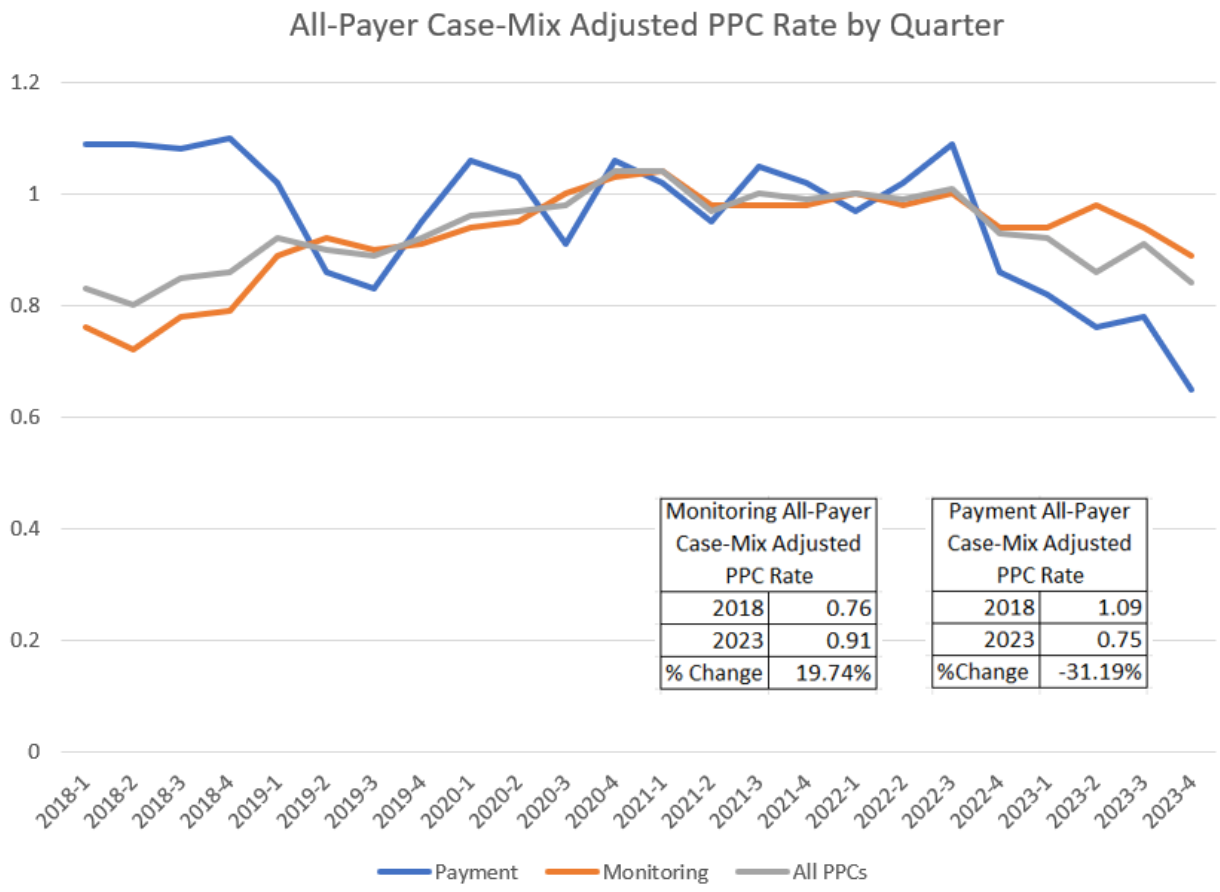
Maryland measures Hospital Acquired Conditions (HACs) using a list of potentially preventable complications (PPCs) developed by 3M Health Information Systems (HIS). PPCs are defined as post-admission harmful events (e.g., accidental laceration during a procedure) or negative outcomes (e.g., hospital-acquired pneumonia) that may result from the process of care and treatment rather than from a natural progression of underlying disease. The MHAC program calculates hospital rewards and penalties for case-mix adjusted rates of PPCs.

By the end of the APM in 2018, Maryland had achieved a 51.50 percent reduction in all-payer, case-mix adjusted PPC rates, far exceeding the required 30 percent reduction requirement. The HSCRC worked with hospitals to build on the State's commendable work under the APM to incentivize further reductions in PPCs under the TCOC Model in the updated RY 2021 MHAC Policy. During CY 2019, the overhauled MHAC policy focuses\d on a narrower list of clinically recommended PPCs that in general have higher statewide rates and variation across hospitals. Beginning in RY 2021, the MHAC policy also only rewards hospitals for achieving low PPC rates and no longer rewards them for improvements in PPC rates over time. The approved RY 2022 policy maintained the methodology updates of the RY 2021 policy and extended the performance period to two years for small hospitals. The approved RY 2025 policy maintains

the methodology updates of RY 2022 but includes Encephalopathy as the 15th PPC due to increases in the observed to expected (O/E) ratio since CY 2016.

Based on CY 2023 final data, there has been an improvement in the PPCs included in the payment program, with fewer PPCs overall compared to the 2018 base year.[6] However, there have also been increases in the case-mix adjusted PPC rate for monitoring PPCs (i.e., those removed from payment). While this is not surprising, since the monitoring PPCs generally have lower numbers or clinical/coding concerns, staff continue to monitor all PPCs and will add back into payment PPCs that meet the inclusion criteria (as was done in RY25 with the reinclusion of encephalopathy).

Figure 8. Case-Mix Adjusted PPC Rate CY 2018-CY 2023



Monitoring All-Payer Case-Mix Adjusted PPC Rate	
2018	0.76
2023	0.91
% Change	19.74%

Payment All-Payer Case-Mix Adjusted PPC Rate	
2018	1.09
2023	0.75
%Change	-31.19%

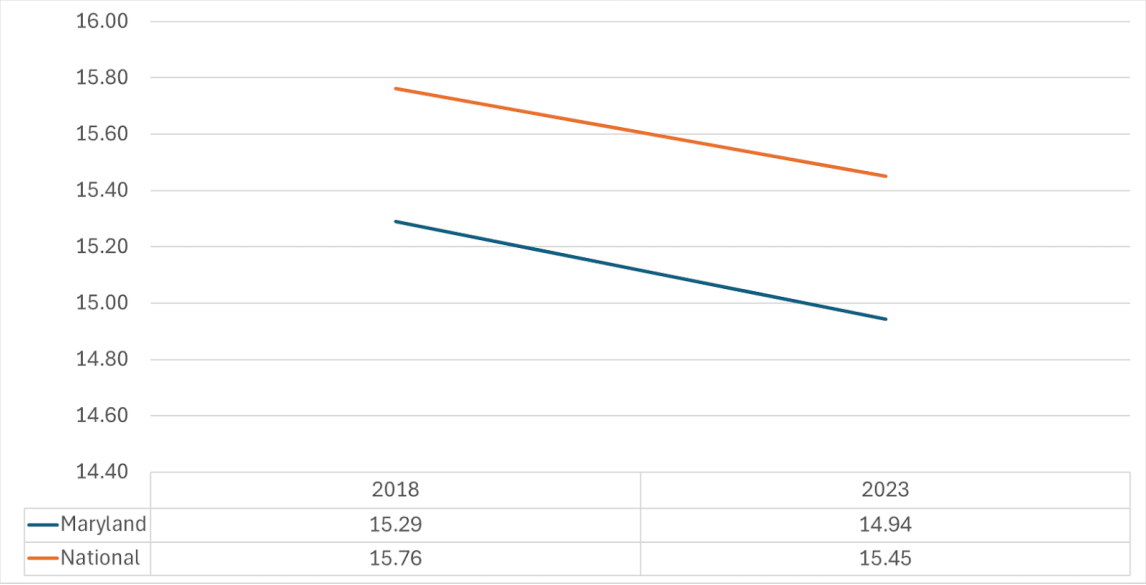
Source: HSCRC Case-Mix Data

[6] There has been a 31.19% decrease in the ratio based on the most recent data available (CY 2018 O/E ratio = 1.09 and CY 2023 YTD O/E ratio = 0.75). A ratio lower than one means that fewer PPCs than expected were observed.

Readmission Reduction Incentive Program (RRIP)

The All-Payer Model Agreement (APM) required Maryland's hospital readmission rate for Medicare FFS beneficiaries to be at or below the national readmission rate by the end of 2018, which Maryland successfully achieved. When the APM concluded in December 2018, the Maryland Medicare FFS Readmission Rate was 0.05 percentage points lower than the National Medicare FFS Readmission Rate (Maryland: 15.40 percent; Nation: 15.45 percent). In 2019 and 2020, Maryland maintained the State's achievements under the APM. However, starting in CY 2021 the Maryland Medicare unadjusted readmission rate was above the nation. This increase in the unadjusted readmission rate over the course of the model was not unanticipated given that Maryland hospitals had strong incentives to care for lower acuity patients outside of the inpatient setting when appropriate. Thus, the HSCRC staff had been in discussions with CMMI since the start of the TCOC model to move to a risk-adjusted measure. Starting in CY 2023, CMMI moved to a risk-adjusted measure similar to the CMS Hospital-Wide Readmission (HWR) measure with a few modifications. As shown in Figure 10, Maryland performed better than the nation on a risk-adjusted basis in 2018 and 2023. While the contractual test does not require Maryland to be statistically better than the nation, the analysis by CMMI found that Maryland was statistically better than the nation in CY 2023. Starting in CY 2025, HSCRC staff believe that CMMI will further modify this measure to include observation revisits as well as inpatient readmissions. This aligns with the HSCRC staff's strategic plan to monitor both observation and emergency department revisits as part of the all-payer Readmission Reduction Incentive Program (RRIP).

Figure 9. Maryland vs National Risk-Adjusted Readmission Rates, CY 2018 and -CY 2023



	2018	2023
Maryland	15.29	14.94
National	15.76	15.45

Potentially Avoidable Utilization (PAU) Shared Savings Policy

The PAU Savings policy measures the revenue associated with readmissions as well as per capita avoidable admissions as defined under the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicator (PQI) logic. For FY 2024, the Commission implemented an incremental prospective savings requirement of 0.49 percent of total hospital revenue, which is distributed to hospitals based on a hospital's share of revenue deemed to be potentially avoidable. Staff are currently developing the PAU Savings policy for FY 2025 as part of the FY 2025 Update Factor that will be considered at the June 2024 Commission meeting.

Emergency Department (ED) Analysis

The HSCRC has prioritized examining root cause drivers of ED wait times, as well as opportunities for driving improvement. The Emergency Department Dramatic Improvement Effort (EDDIE) is a Commission-developed quality improvement initiative that began in June 2023 to drive improved ED experience for patients. As part of the EDDIE Initiative, hospitals must submit monthly data to the HSCRC, which staff present in the monthly public HSCRC meetings. The HSCRC approved the addition of an Emergency Department Length of Stay (ED LOS) measure into the RY 2026 QBR program in December 2023, in recognition of the need for Maryland to reduce ED LOS. Since the Commission approval, staff convened a data subgroup to develop the data submission requirements and a measure and incentive methodology subgroup. This measure will capture the time of ED arrival to the time of physical departure from the ED room for patients admitted to the facility from the ED or observation. Future reports will provide data on ED LOS, as well as report on the newly required ED Wait Time Commission.

Section IV: Population Health

Statewide Integrated Health Improvement Strategy

In 2021, CMMI approved Maryland's Statewide Integrated Health Improvement Strategy (SIHIS). This Strategy was designed to improve health outcomes, achieve health equity, and control the total cost of care for Marylanders. The SIHIS aligns statewide efforts across three domains, with specific goals for each domain.

Table 4. SIHIS Goals and 2022 Milestone Progress

Domain Area	Goal(s)
Domain 1 – Hospital Quality	Reduce avoidable admissions and readmissions

Domain 2 – Care Transformation Across the System	Increase the amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), Care Redesign Program, or successor payment model Improve care coordination for patients with chronic conditions
Domain 3 – Total Population Health "Diabetes"	Reduce the mean Body Mass Index (BMI) for adult Maryland residents
Domain 3 - Total Population Health "Opioids Use Disorder"	Improve overdose mortality
Domain 3 - Total Population Health "Maternal and Child Health"	Reduce severe maternal morbidity rate Decrease asthma-related emergency department visit rates for ages 2-17

For each domain, the SIHIS proposal provided a Model Year 3 milestone that was measured on CY 2021 data, a Model Year 5 interim target that will be measured on CY 2023 data, and a Model Year 8 final target that will be measured on CY 2026 data. The State met all but one 2021 milestone and is waiting for 2023 performance data to be finalized. More information on 2022 performance and 2023 activities to achieve SIHIS goals is included in the SIHIS annual report attached as an appendix and on the HSCRC website.[7]

Outcomes Based Credits

Under the TCOC Model, the State can receive credit for savings generated by addressing health conditions that affect Marylanders in large numbers. By improving the health of our population, the State can also reduce all-payer healthcare spending, a key goal of the Model. This unique opportunity recognizes that the State is investing in programs that prevent and delay chronic health conditions over the long term but may not immediately result in cost savings. Under the Model, if Maryland is able to address diabetes, opioid use disorder, and hypertension as outlined below, the State will receive financial credit to offset federal investment in Maryland. This innovative approach supports Maryland's efforts to further incentivize health system transformation and public health intervention alignment.

Diabetes

Slowing or reducing the growth in diabetes incidence represents a huge opportunity for the State. Type 2 Diabetes is a high-burden, high-cost condition that is avoidable with medical, lifestyle, and other

[7] Statewide Integrated Health Improvement Strategy Proposal and Annual Reports. https://hscrc.maryland.gov/Pages/Statewide-Integrated-Health-Improvement-Strategy-.aspx.

interventions. Nearly 490,000 Maryland adults were estimated to have been diagnosed with diabetes in 2017 and Maryland is projected to spend $11.1 billion annually by 2025.

Importantly, a reduction in diabetes incidence represents a statewide opportunity to improve health equity as acknowledged in nearly all community health needs assessments and hospital community benefit reports. Successful interventions can promote healthy lifestyles, address economic barriers to adequate health care, and improve primary care access. HSCRC is working to incentivize hospitals to work with community partners, including local health departments and other healthcare focused organizations, to prevent diabetes, which will ultimately help hospitals reduce healthcare spending under the TCOC Model.

In July 2019, CMS approved Maryland's first outcomes-based credit (OBC) for aversion of diabetes incidence. Under the OBC methodology, if the diabetes incidence rate changes from baseline more favorably in Maryland than in a group of control states, Maryland is eligible to receive a financial credit that will help the State meet its TCOC savings targets. The State of Maryland was not entitled to a diabetes outcomes-based credit in 2022 based on the established methodology, but did potentially qualify for an alternate credit from CMS under the Complementary Measure Supplement due to reductions in statewide Body Mass Index (BMI). Resolution on the outcome for the alternate credit is still pending.

Opioids

The misuse and addiction to opioids is a public health and economic crisis, with increased costs in healthcare, lost productivity, and criminal justice involvement. Maryland continues a statewide focus on addressing the State's opioid epidemic. Recognizing the impact of opioid misuse on the healthcare system, the HSCRC is developing an outcome-based credit methodology focused on opioid use disorder (OUD). As in the diabetes credit, CMS would provide the State with financial credit for federal TCOC Model investments if Maryland can make progress on reducing opioid use disorder (OUD). The credit will enable hospitals to invest additional dollars into OUD prevention and treatment as part of their global budgets, which may be reinforced with additional pay-for-performance measures related to substance use. The OUD credit methodology involves two workstreams: a cost-per-case analysis, and an approach to measuring OUD performance over time against a control group. The HSCRC's cost methodology contractor, Advanta Government Services, has completed work on the cost methodology. The HSCRC retained Mathematica to develop the performance methodology. The team ran into significant data access challenges due to the COVID pandemic but has recently acquired national all-payer opioid-related claims data. The HSCRC anticipates submitting the opioid methodology to CMS in 2024.

Hypertension

Hypertension, and chronic diseases that are sequelae of hypertension, represent a major source of disease burden and cost in Maryland. During 2021, the HSCRC applied a credit selection methodology that

evaluated diseases and risk factors across four domains: burden, preventability, cost, and health equity impact. That analysis, along with conversations with stakeholders, resulted in identification of hypertension as the State's third outcome credit focus. HSCRC and its contractors have concluded that analyzing all-payer, all-setting claims is the most feasible way to track year-to-year changes in hypertension incidence. The State is in the final phase of acquiring data to complete development on the methodology and expects to submit a credit proposal in 2024.

Revenue for Reform

Revenue for Reform was approved as part of the HSCRC Integrated Efficiency Policy (discussed in Section VII) in July 2023. The primary goal of Revenue for Reform is to direct hospital retained revenue to community-based population health investments and to drive population health improvement. The policy is intended to safe harbor population health investments from the HSCRC Integrated Efficiency Policy, which would otherwise withhold dollars from hospitals deemed inefficient relative to their peers. In FY 2024, hospitals could make investments under two tracks:

- Community Health: Spending must be directed to unmet community health needs identified in the hospital's community health needs assessment (CHNA); or implementing one of the Centers for Disease Control's (CDC) Healthy People 2030 interventions.
- Physician Spending: Spending must be directed to primary care, mental health, or dental providers in a Health Professional Shortage Area (HPSA) or a Medically Underserved Area (MUA).

In FY 2024, $26.1 million was directed to community health and expanding and maintaining access to physicians in Baltimore City, Prince George's County, Montgomery County, and the Eastern Shore. Hospitals are funding a wide range of interventions. Examples of approved intervention goals are shown in Table 5 below.

Table 5. Revenue for Reform Approved Intervention Goals

Category	Intervention Goal
Health Behaviors	• Reduce substance use disorder and overdose deaths • Increase patient-self management of chronic diseases • Reduce diabetes incidence through community exercise and nutrition education
Social & Economic	• Increase job opportunities through career training and continuing education • Expand supportive services for victims of intimate partner violence • Reduce health disparities in LGBTQIA+ population • Increase SDOH screening and community referral partners
Clinical Care (non-hospital based)	• Increase the number of primary care providers and patients served in HPSAs/MUAs • Expand telehealth access

	• Expand access to post-acute care for uninsured and underinsured patient populations • Reduce childhood asthma ED visits through mobile health
Physical Environment	• Expand permanent supportive housing services (Medicaid ACIS pilot) • Expand temporary housing for high-needs patients with housing instability/no housing

Under the current policy, these investments must be maintained annually by hospitals in perpetuity, although how hospitals direct those dollars may change. The HSCRC is refining program expectations for FY 2025 and will offer a third track wherein hospitals can direct dollars to pre-approved community partners selected by the HSCRC and MDH. Pre-approved community partners must have proven experience implementing effective population health interventions. The HSCRC intends to make substantive policy revisions for the FY 2026 performance period that drive regional and statewide alignment around population health priorities and investments. Staff will conduct a stakeholder engagement process as part of the policy redesign in fall 2024.

Section V: Care Transformation & Partnership Programs

Provider Alignment Programs

A key strategy to achieving the goals of the TCOC Model is implementing care redesign strategies to help hospitals and other providers gain access to new tools and resources so that they can better meet the needs of patients and improve population health. To achieve this, the HSCRC develops, operates, and supports Provider Alignment Programs to foster collaboration between hospitals and non-hospital providers (e.g., physicians, skilled-nursing facilities, home health agencies, nurses, etc.), payers (e.g., Medicare Advantage plans), and community-based organizations (e.g., non-profits, faith-based organizations, etc.)

Care Redesign Program (CRP)

The Maryland Care Redesign Program (CRP) aims to support effective care management and population health activities and deliver high quality, efficient, well-coordinated episodes of care, with a focus on high and rising-risk populations. CRP is designed for hospitals to engage non-hospital providers, such as physicians and post-acute care providers, to improve care delivery, quality of care, and control TCOC growth. The Chesapeake Regional Information System for our Patients (CRISP) serves as the administrator of CRP. During 2023, the State operated two care redesign tracks: the Episode Care Improvement Program (ECIP) and the Episode Quality Improvement Program (EQIP). During 2023, 17 unique hospitals participated in ECIP. A new performance period began January 1, 2024, with a total of 16 unique hospitals participating in ECIP (although one of these 16 is planning to leave ECIP mid-year).

The HSCRC discontinued the Hospital Care Improvement Program (HCIP) track for CY 2023 after only one hospital participated in CY 2022. The HSCRC believes the declining participation in HCIP, which began in 2017, is a natural result of hospitals strategically choosing how to best expend their resources. Hospitals are opting to participate in newer programs, such as Care Transformation Initiatives (discussed below), and support participation in EQIP for affiliated physicians.

ECIP allows a hospital to link payments across providers during an episode of care. Maryland modeled ECIP on CMS's Bundled Payments for Care Improvement Program Advanced (BPCI-Advanced) Model. Episode payment models bundle payments to health care providers for certain items and services furnished during an episode of care. ECIP's bundled payment approach aligns incentives across hospitals, physicians, and post-acute care facilities to generate savings and improve quality through better care management during episodes, eliminating unnecessary care, and reducing post-discharge emergency department visits and hospital readmissions.

ECIP provides hospitals with the opportunity to provide incentive payments to care partners that help achieve these goals. ECIP began on January 1, 2019, with nine hospital participants. ECIP participation hit its highest level to date in CY 2022, with 24 hospitals. In CY 2024 16 hospitals are participating, although one of these 16 is planning to exit ECIP mid-year. The HSCRC made policy changes to ECIP for CY 2023, aligning ECIP with Care Transformation Initiatives and requiring hospitals to share incentives with care partners and/or provide significant resource sharing to care partners.

Hospitals have elected to engage a variety of provider types as care partners in 2024. The table below represents the type of providers that are eligible to become care partners under ECIP and the number of hospitals that selected them as potential care partners in CY 2024.

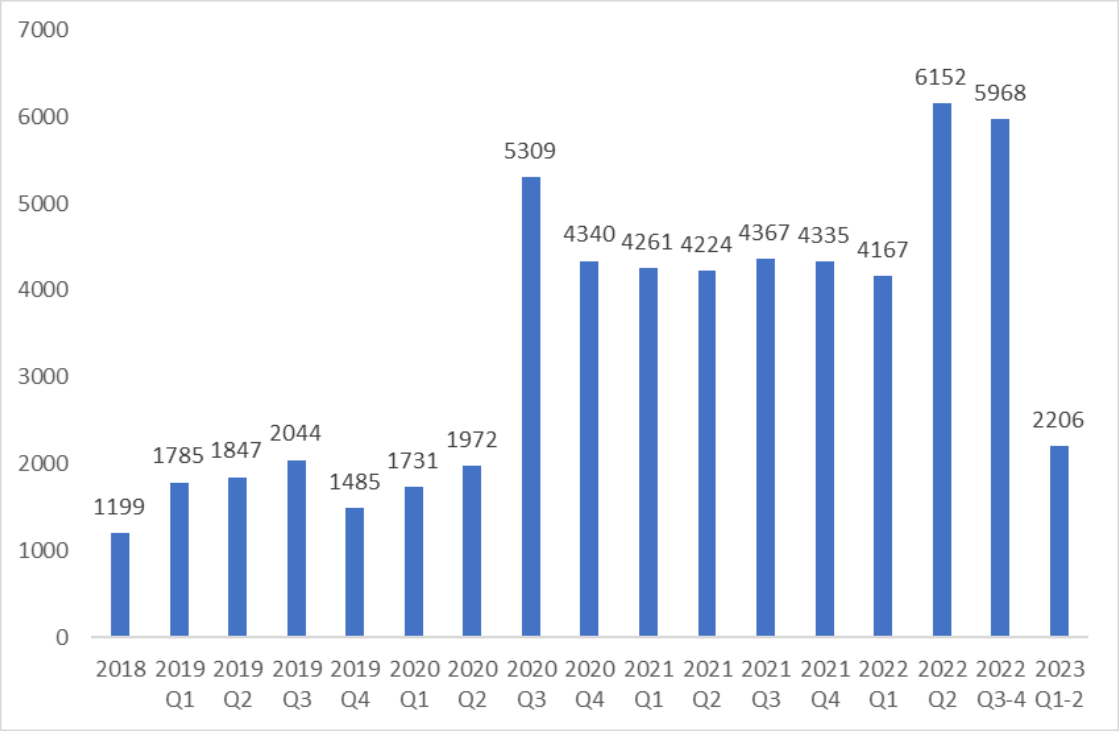
Table 6. ECIP Hospital Care Partner Selections, CY 2024

Care Partner Type	# Of Hospitals
Physician	16
Nurse	9
Physician Assistant	8
Home Health Agency	6
Skilled Nursing Facility	6
Inpatient Rehabilitation Facility	1
Hospice	2

Care partner engagement, a key element of CRP implementation, is robust. For the first half of CY 2024, the unduplicated care partner count across ECIP was 2,939 individuals and 9 facilities. Clinicians

participating in CRP may receive incentive payments from hospitals and are eligible to become Qualified Practitioners (QPs), under CMS' Quality Payment Program (QPP). Clinicians who meet CMS' requirements under the QPP may be eligible for an additional bonus on all Medicare payments, as authorized by the Medicare Access and CHIP Reauthorization Act (MACRA). Figure 11 shows unduplicated care partner counts, including HCIP through 2023.

Figure 10. CRP Care Partner Counts - Clinicians, 2018-2023 (Q1-Q2)



Hospitals in ECIP seek to drive quality improvements, increase efficiency of care, and improve the patient experience on an ongoing basis. The HSCRC continues to explore options for additional CRP tracks to support provider alignment based on stakeholder interest and policy needs.

Episode Quality Improvement Program (EQIP)

The Episode Quality Improvement Program (EQIP) is a voluntary program that engages specialist physicians who treat Maryland Medicare beneficiaries in care transformation and value-based payment through an episode-based approach. This program is specific to Maryland and customized to meet the needs of Maryland's health care delivery system and specialist physicians. EQIP offers Maryland providers the opportunity to coordinate care through clinical episodes focused on increasing accountability for patients throughout specialty-led disease courses and treatments. Participating providers elect to have their performance on improving quality and reducing costs of care across an episode measured and can earn incentive payments based on positive performance. The first Performance Year of EQIP began on January

1, 2022, focused on the specialty areas of cardiology, gastroenterology, and orthopedics. The second Performance Year, which began January 1, 2023, expanded the program to include Allergy, Dermatology, Emergency Department, Ophthalmology and Urology episodes. EQIP leverages the Prometheus Episode Grouper as part of an effort to align the program with CareFirst's commercial Episodes of Care Program. HSCRC, CMS, and CareFirst agree that this alignment creates stronger incentive to participate and behavioral change among providers, strengthening outcomes for Marylanders with both Medicare and CareFirst health coverage.

HSCRC has engaged stakeholders to develop and refine this program. MedChi leads an EQIP workgroup that meets to discuss technical details of the program, including policy design. Workgroup membership includes hospitals, specialist physicians, health policy leaders, and industry representatives.

As of January 1, 2024, there are a total of 119 EQIP entities and 3,217 care partners enrolled. EQIP entities may be practitioner groups or administrative organizations that facilitate practitioner participation in the program. Over forty practitioner specialties are represented in the program and there is participation in all 50 available EQIP episodes.

Table 7. EQIP Clinical Episode Categories, CY 2024

Prometheus Clinical Episode Categories:

Specialty	Episode	Specialty	Episode
Allergy	Allergic Rhinitis/Chronic Sinusitis	**Ophthalmology**	Cataract Surgery
	Asthma		Glaucoma
	COPD	**Orthopedics**	Accidental Falls
	Pneumonia		Hip Replacement & Hip Revision
	Sepsis		Hip/Pelvic Fracture
Gastroenterology	Colonoscopy		Knee Arthroscopy
	Colorectal Resection		Knee Replacement & Knee Revision
	Gall Bladder Surgery		Low Back Pain
	Upper GI Endoscopy		Lumbar Laminectomy
Urology	Catheter Associated UTIs		Lumbar Spine Fusion
	Transurethral Resection Prostate		Osteoarthritis
	Urinary Tract Infection		Shoulder Replacement
	Prostatectomy	**Cardiology**	Acute CHF/Pulmonary Edema
Dermatology	Cellulitis, Skin Infection		Acute Myocardial Infarction
	Decubitus Ulcer		CABG and/or Valve Procedures
	Dermatitis, Urticaria		Coronary Angioplasty
			Pacemaker/Defibrillator

Orthopedics	Musculoskeletal	**Emergency Department**	Fever, Fatigue or Weakness
Emergency Department	Abdominal Pain & Gastrointestinal Symptoms		Hyperglycemia
	Asthma/COPD		Nephrolithiasis
	Atrial Fibrillation		Pneumonia
	Chest Pain		Shortness of Breath
	Deep Vein Thrombosis		Skin & Soft Tissue Infection
	Dehydration & Electrolyte Derangements		Syncope
	Diverticulitis		Urinary Tract Infection

EQIP Primary Care

The EQIP Primary Care (EQIP PC) is a program the State is piloting which expands the existing EQIP program to address primary care availability in underserved areas of the state as a complement to the Maryland Primary Care Program (MDPCP). Under this program selected organizations will be able to access additional funding to subsidize efforts to increase access to advanced primary care in currently underserved areas. The proposed start date is January 1, 2025.

Care Transformation Initiatives (CTIs)

In FY 2022, the HSCRC launched Care Transformation Initiatives Care Transformation Initiatives (CTI). CTIs assign Medicare beneficiaries to hospitals that have enrolled those beneficiaries in a care management program. The CTI holds hospitals accountable for the total cost of care for those beneficiaries assigned to them and rewards hospitals for any savings created by their care management programs. The program ensures that a single entity is accountable for managing patient care across the delivery system and that providers are paid on a population specific-basis, rather than on fee-for-service. The program allows HSCRC to develop a systematic understanding of best practices for improving care, account for the savings and improvements attributed to care transformation, incentivize initiatives that produce savings under the TCOC Model, and articulate Maryland's success stories in transforming care. To date, HSCRC in collaboration with its stakeholder workgroups has approved six CTI categories: (1) Care Transitions, (2) Palliative Care, (3) Primary Care, (4) Geographic, (5) Emergency Care and (6) Hospital Outpatient Services. Forty-three hospitals participated in a cumulative total of 107 CTIs in FY 2022 and generated $127 million in Medicare savings. Forty-three hospitals are participating in 101 CTIs in FY 2023. FY 2023 performance will be available in late Spring 2024.Forty-three hospitals are participating in 160 CTIs in FY2024.

Maryland Primary Care Program (MDPCP)

Maryland is also continuing efforts to implement the Maryland Primary Care Program (MDPCP), which is a component of the TCOC agreement with CMS. The MDPCP is voluntary to all qualifying Maryland primary

care practices and provides funding and support for the delivery of advanced primary care throughout the State. The MDPCP supports the overall health care transformation process and allows primary care providers to play an increased role in prevention, management of chronic disease, and preventing unnecessary hospital utilization. The program is governed by CMMI with support from the State Maryland Primary Care Program Management Office (PMO) in the MDH. The PMO works closely with CMMI on policy and operations, while providing resources to practices including leadership, data analytics, coaching, and integration with the State's public health priorities including diabetes, opioids, and COVID-19. The Health Services Cost Review Commission (HSCRC) provides support as needed.

As of January 2024, there are 511 participating practices (588 sites) participating in the program with approximately 362,000 attributed Medicare FFS beneficiaries. In 2024, MDPCP welcomed one new Federally Qualified Health Center (FQHC), for a new total of 13 participating FQHC organizations representing 77 sites from across the State. In total, these practices employ approximately 2,300 providers including physicians, clinical nurse specialists, nurse practitioners, and physician assistants across all 24 Maryland counties. Since 2020, the PMO has been working closely with CareFirst, which joined MDPCP for its commercial population to align its advanced primary care programs and share resources with practices.

A key component of the MDPCP is Care Transformation Organizations (CTOs), which were formed to provide infrastructure support to practices. CTOs provide technical support and resources to practices, such as practice transformation guidance, data analytics, and multi-disciplinary care management staff. There are currently 26 CTOs, with a minimum of seven providing services in each county Statewide. Seventeen CTOs are hospital-based.

The MDPCP continues to support statewide population health goals through its diabetes- and opioid-related initiatives. All MDPCP practices tracked four electronic clinical quality measures (eCQM) related to diabetes control (CMS122), hypertension control (CMS165), BMI screening and follow-up (CMS69), and depression screening and follow-up (CMS2) in 2023. These measures are also included in MDPCP's Track 3, which launched in 2023 and now has 272 practices as of January 2024 In 2023, the MDPCP Management Office implemented key elements of the MDPCP Comprehensive Diabetes Strategy which included quality improvement support to practices as well as partnerships with payers and other state offices.

One of the core features of advanced primary care within the MDPCP is the integration of behavioral health services within the primary care setting to respond more proactively to patients' behavioral health needs. As of Q4 2023, 100% of MDPCP practices reported developing a strategy for integrating behavioral health into their practice workflows via the Care Management or Collaborative Care Model, Primary Care Behaviorist Model, or other approaches for addressing behavioral health needs. As of Q4 2023, over 375 MDPCP practices have implemented Screening, Brief Intervention, and Referral to Treatment (SBIRT) to identify and appropriately refer patients with substance use disorders, far exceeding the 2021 SIHIS goal of

implementing SBIRT in 200 MDPCP practices. In addition, approximately 90 practices have implemented the Collaborative Care Model.

The PMO provides the education infrastructure of the program through a variety of activities. A key component of the education is live, virtual learning events connecting back to MDPCP's mission and vision; examples of these events include the Care Manager Affinity Group (designed for Care Managers to get together and discuss best practices and share case studies), Office Hours (designed for CMMI and PMO staff to discuss programmatic requirements and updates), and Staff Training Academy (designed for primary care practice staff to gain skills and knowledge through a half-day training event). Another key component of this education infrastructure is technical assistance, which the PMO provides to MDPCP participants through: quality improvement initiatives, process improvement efforts, and educational material creation and design. Much of this technical assistance is done by the PMO's team of Practice Transformation Coaches that provide this hands-on assistance. The PMO continues to collaborate with CMMI on shared events and communications, such as the *MDPCP Today* monthly newsletter, a work group for the HEART payment, as well as program guides and resources.

In addition to its aims to reduce avoidable hospitalizations, improve quality, and reduce costs, MDPCP has a concerted focus on advancing health equity and reducing disparities at the primary care level. Beginning in 2022, MDPCP began pioneering a payment to primary care based on beneficiary social risk level, called the Health Equity Advancement Resource and Transformation (HEART) Payment. The HEART Payment provides additional resources to practices each quarter to support social needs of patients with high clinical and social risk. Approximately $30.5 million was being invested in this effort in 2023. Outside of this investment, MDPCP is focusing on health equity through a robust reporting suite including outcomes data stratified by socio-demographic variables; an emphasis on social needs screening and referrals; and more.

Special Funding Programs

Maryland's ability to transform its statewide healthcare delivery system is critical to the success of the TCOC Model. This requires hospitals and their community partners to focus on initiatives that reduce avoidable hospital utilization, improve access to key healthcare services designed to address chronic conditions, and create innovative partnerships that emphasize community-based services. Maryland's unique hospital finance system enables special funding programs that direct funds from the hospital rate setting system to target specific goals of the TCOC Model. These special funding programs provide seed funding for numerous initiatives and enable hospitals and their partners to collaborate on statewide delivery system transformation activities.

Regional Partnership Catalyst Program

In November 2020, the Health Service Cost Review Commission (HSCRC) originally approved $165.4 million in five-year cumulative funding for the Regional Partnership Catalyst Program to support population health investments. The Regional Partnership Catalyst Program provides funding to hospital-led teams that work across statewide geographic regions to build infrastructure for interventions that align with goals of the Total Cost of Care (TCOC) Model and support population health goals in the SIHIS. The SIHIS population health domain contains the following focus areas: diabetes, opioid overdose mortality, and maternal and child health. The Regional Partnership Catalyst Program funds program development focused on two priorities: diabetes prevention and management programs and behavioral health crisis programming. For diabetes, the HSCRC focused the Regional Partnership Catalyst Program on the implementation of the National diabetes prevention program (DPP) and diabetes self-management education training (DSMES).

The HSCRC funding was intended as seed funding, an initial investment in program development and growth. The HSCRC expected Regional Partnership programs to develop sustainable funding streams to support the programs after the HSCRC funding ended. At the end of CY 2023, the HSCRC made a difficult decision to end funding for diabetes programs early due to concerns over the long-term sustainability of the programs; however, hospitals may continue to support these programs independently using the infrastructure developed since 2021. Funding to Regional Partnerships will end June 30, 2024, but Regional Partnerships will have the full calendar year to transition their programs to a self-sustaining model or wind-down their programs if they determine they will not support them without the dedicated HSCRC funding. The HSCRC and its State partners remain committed to providing technical assistance to Regional Partnerships that will continue operating their programs after funding expires. At this time, all Regional Partnerships have indicated they intend to continue offering some form of diabetes management or prevention programming after the HSCRC funding expires.

Six Regional Partnerships were initially selected to provide diabetes prevention and management activities across Maryland. The award recipients self-selected ZIP codes with disproportionate rates of diabetes or in vulnerable communities more likely to have higher rates of prediabetes. The awardees and final revised funding amounts are listed below in Table 8 and 9.

Table 8. Regional Partnerships (Diabetes) Revised Funding Amounts

Regional Partnership	Originally Awarded Total Funding Amount	Revised Total Funding Amount	Program End Date
Baltimore Metropolitan Diabetes Regional Partnership	$43,299,986	$32,730,418	June 30, 2024

Western Regional Partnership	$15,717,413	$10,996,156	June 30, 2024
Nexus Montgomery	$11,876,430	$4,121,123	December 31, 2022
Totally Linking Care - Maryland	$7,379,620	$4,463,519	June 30, 2024
St. Agnes and LifeBridge Health Diabetes Care Collaborative	$5,962,333	$4,081,555	June 30, 2024
Full Circle Wellness for Diabetes in Charles County	$2,124,862	$1,425,078	June 30, 2024
Total	**$86,360,644**	**$57,817,849**	

Table 9. Regional Partnerships (Behavioral Health) Funding Amounts

Regional Partnership	Total Funding Amount	Program End Date
Greater Baltimore Region Integrated Crisis System (GBRICS)	$44,862,000	December 31, 2025
Totally Linking Care (TLC)	$22,889,722	December 31, 2025
Tri-County Behavioral Health Engagement (TRIBE)	$11,316,332	December 31, 2025
Total	**$79,069,054**	

In 2023, Regional Partnerships receiving behavioral health funding met significant infrastructure and programmatic milestones. On the Eastern Shore, TRIBE continued to grow patient volumes for its two crisis centers. GBRICS and TLC both launched care traffic control software as part of their local 988 call centers and expanded mobile response teams in their areas. GBRICS, through their Open Access Pilot, has increased access to same day behavioral health appointments by providing technical support to 17

behavioral health sites. TLC is scheduled to open the first 24/7/365 crisis stabilization center in Prince George's County in summer 2024. In addition, Regional Partnerships have actively participated in efforts (e.g. workgroups and advocacy) to ensure the programs they implement into communities are aligned with sources of funding to support long term sustainability.

Maternal and Child Health Funding Initiative

In 2021, the Health Services Cost Review Commission (HSCRC) approved cumulative funding of $40 million across four years (FY 2022 – FY 2025) to support maternal and child health (MCH) investments led by Medicaid and the Prevention and Public Health Administration (PHPA) under the Maryland Department of Health (MDH or the Department), in conjunction with the Medicaid HealthChoice Managed Care Organizations (MCOs). This funding will scale existing statewide evidence-based programs and promising practices and support the expansion of new services for mothers and children.

Funding supports the following MCH initiatives within Maryland Medicaid:

- Home Visiting Services pilot expansion;
- Reimbursement for doula services;
- CenteringPregnancy, a clinic-based group prenatal care model;
- HealthySteps, a clinic-based intensive prenatal and postpartum case management framework; and
- Maternal Opioid Misuse (MOM) model expansion/intensive case management for high-risk pregnancies.

Funding to PHPA supports the expansion and/or implementation of mutually reinforcing programs:

- Medicaid's asthma home visiting program
- Community-based asthma home visiting initiatives (all-payer)
- Community-based home-visiting services and CenteringPregnancy implementation (all-payer)

In FY 2023, Medicaid and MDH prioritized implementing enhanced infrastructure necessary to expand these programs and interventions. Medicaid and MDH recently released the Maternal and Child Health Population Health Improvement Fund Annual Report (FY 2023) showing the impact to date. Through 2025, the HSCRC will continue to monitor and support MDH and Medicaid as they implement the programs listed above that have been strategically designed to provide services to underserved populations and those who are at greater risk of being affected by severe maternal morbidity and severe asthma.

Stakeholder Engagement

HSCRC Workgroup Activities

The HSCRC continues to engage broadly with stakeholders in guiding policy and methodology development through various workgroup meetings throughout CY 2023. All workgroups are comprised of a wide range of healthcare industry stakeholders, including hospitals, clinicians, payers, consumer representatives, and community organizations. All workgroup meetings are conducted in public sessions, and comments are solicited from the public at each meeting. There are also several sub-workgroup meetings and task forces to discuss technical, data-driven matters related to specific policies, which report back to the larger workgroups. Input is also solicited in informal meetings with stakeholders. All proceedings and reports of workgroup activities, as well as membership rosters, may be found on the Workgroups page on the HSCRC website.[8]

Payment Models Workgroup

The Payment Models Workgroup is charged with vetting potential recommendations for HSCRC consideration on the structure of payment models and how to balance its approach to payment updates. Staff and workgroup members meet between January to June of each calendar year to discuss the annual update factor policy (discussed in Section II). This policy is voted on by the Commission in the June meeting and provides updates to hospitals that includes: inflation, volume, quality, and other adjustments while considering and projecting that the update will meet the financial requirements of the TCOC Model.

Performance Measurement Workgroup

The Performance Measurement Workgroup (PMWG) develops recommendations for HSCRC consideration on pay-for-performance quality measures that are important, reliable, informative, and feasible for assessing a number of important quality and efficiency issues. Throughout the fall of 2022 and into the spring of 2023, the Workgroup reviewed and has updated the MHAC and QBR program RY 2025 policies and will continue to implement the RY 2023 RRIP policy for RY 2025. In CY 2023, PMWG has been tasked with proposing quality, health equity, and population health program recommendations for the future model.

Total Cost of Care Workgroup

The Total Cost of Care Workgroup is charged with providing feedback to the HSCRC on the development of specific methodologies for managing the Medicare Total Cost of Care, as required by the contract with CMS. The TCOC Workgroup met throughout 2023 to further refine methodologies related to Medicare

[8] HSCRC Workgroups. https://hscrc.maryland.gov/Pages/Workgroups-Home.aspx

TCOC policy. Additionally, the TCOC Workgroup discussed the source of cost drivers in Maryland and future benchmarking methodologies.

Section VII: Methods of Rate Determination

Global Budget Overview

Under the TCOC Model, 95 percent of regulated hospital revenues must remain under global (or "population-based") budget structures. With 98 percent of regulated hospital revenues under global budget structures since CY 2016, Maryland currently exceeds this target level. The two percent of revenue not included in GBR accounts for drug costs, which are based on volume. All regulated acute-care Maryland hospitals operate under Global Budget Revenue (GBR) agreements. The HSCRC continues to work with stakeholder workgroups (discussed in Section VI) to refine the GBR methodology and develop a number of policies discussed in this section.

Volume Methodologies

Market Shift Policy

The Market Shift Adjustment (MSA) provides criteria for increasing or decreasing the approved regulated revenue of Maryland hospitals operating under global revenue caps. Specifically, the MSA provides the criteria to reallocate funding to account for shifts in cases between regulated hospitals, with the objective of ensuring that funding follows the patient and that hospitals continue to have a competitive interest in serving patients efficiently and effectively. The MSA does not currently address all volume changes, only those the Commission can quantify as shifts between hospitals and only volume the Commission deems appropriate to evaluate, i.e., the Commission does not evaluate readmissions and preventable admissions in the MSA because doing so would incentivize competing for care that is potentially avoidable.[9]

The MSA works by first defining distinct markets and then evaluating growth and declines in those markets among hospitals that provide services in those areas. To do so, the HSCRC developed an algorithm to calculate MSAs for a specific service area (e.g., orthopedic surgery) and a defined geographic location (e.g., ZIP code). The algorithm compares the growth in volumes at hospitals with utilization increases to the decline in volumes at hospitals with utilization decreases. Adjustments are capped at the lesser of the growth for volume gains or the decline for volume losses, i.e., what can be quantified as a market shift

[9] The Market Shift evaluates about 70% of all hospital revenues attributable to in-state hospital volume only. Volumes attributable to Potential avoidable Utilization (PAU) 11%, Non-Maryland Residents 9%, Outpatient Oncology 8%, Categorical Exclusions 2% and Chronic 0.4% are not evaluated within the Market Shift Policy. These volumes, however, get accounted for in other methodologies and policies.

versus overall changes in utilization. As such, the net MSA for the State is typically near breakeven, with funds awarded to hospitals receiving cases and funds taken from hospitals losing cases.

Demographic Adjustment

The Demographic Adjustment methodology provides funding increases or decreases to recognize anticipated changes in hospital volume based upon projected age-adjusted population changes at the ZIP code level, while disallowing increases in utilizations due to potentially avoidable utilization (PAU). This adjustment is used to prospectively amend acute hospitals' GBRs for the forthcoming fiscal year and capped by the Maryland Department of Planning estimates of statewide population changes to align with the per capita constraint of the TCOC Model parameters.

Deregulation of Services

Deregulation is the movement of a hospital service from an HSCRC regulated space to an unregulated space. Deregulation is a desirable outcome of the TCOC Model as it moves services to less costly settings for patients, reduces total cost of care and can reduce the burden on hospital emergency rooms. Service movement can be initiated by payers, the hospital itself, or physician practices. In some cases, the deregulation may simply be a function of service discontinuation or cross-border movement to an unregulated setting. If services are shifted to an unregulated setting, global budgets generally must be reduced to prevent excess billing. HSCRC staff have worked with hospitals to make necessary adjustments to their global budgets when necessary. The Commission suspended deregulation adjustments in FY 2021 and FY 2022 due to the COVID-19 public health emergency. The Commission recognized that hospitals had to suspend certain services and that the public was reluctant to use hospital services during the pandemic. The HSCRC reinstated deregulation adjustments in FY 2023.

CDS-A Drug Funding

As stated previously, 98 percent of hospital revenue is currently under the global budget system. The remaining two percent of revenue accounts for drug costs, which are funded based on volume. For the past seven years, the HSCRC has provided funding prospectively for the utilization of certain high-cost, physician-administered outpatient oncology and infusion drugs. The HSCRC provides this prospective funding as a portion of the annual update factor which enables hospitals to afford these high-cost drugs. The HSCRC also makes retrospective adjustments to hospital GBRs based on changes in volume between expected and actual utilization during the prior year in order to address any under or overpayment that may have occurred. While the FY 2024 Update Factor is still being developed, a portion of that funding has been earmarked to continue funding these high-cost drugs.

Integrated Efficiency Policy

HSCRC staff developed an Integrated Efficiency (IE) Policy to evaluate and scale global budgets based on hospital efficiency. The policy evaluates hospital cost per case and total cost of care efficiency and then formulaically penalizes or rewards hospitals based on that performance. Overall, this policy will ensure that the limited resources of the GBR system are distributed to cost-efficient hospitals that are advancing the goals of the TCOC Model.

The IE Policy was approved in 2021 and was subsequently used to scale the FY 2022 and FY 2023 Annual Update Factor. In effect, inefficient hospitals received a reduced inflation factor for FY 2022 and 2023. This funding was then redistributed to efficient hospitals. Staff also used IE Policy to assess budget enhancement requests from efficient hospitals that sought additional funding. The criteria hospitals submit must demonstrate that they have been financially disadvantaged by a Commission methodology or will make population health investments that will further reduce TCOC.

In July 2023, Commissioners approved an updated IE policy that incorporated the Revenue for Reform policy (discussed in Section IV). The Revenue for Reform policy safe harbors dollars that would otherwise be removed from hospitals deemed inefficient under the IE policy if those dollars are directed to population health investments.

Capital Policy

Over the course of the HSCRC's 40-year rate setting history, allotments have been made in rates to fund large-scale capital replacement projects to ensure that hospitals can provide high-quality care and have updated, modern infrastructure. The need for this policy is greater under the GBR system because hospitals can no longer grow volume to fund capital projects and instead must reduce avoidable utilization, which is not an opportunity that is spread evenly among all hospitals.

As such, the Commission has adopted a capital methodology that will utilize various evaluations of capital cost efficiency, hospital cost per case efficiency, total cost of care efficiency, presence of potentially avoidable utilization (or lack thereof) and excess capacity, to determine the reasonableness of a hospital's capital request. Capital funding is restricted to the most efficient hospitals to ensure that the best-performing hospitals are recapitalized. Additionally, to ensure that hospitals expend funding from capital reserves when implementing large scale capital projects, capital funding is limited to major capital projects that are 35 percent of the hospital's permanent revenue for hospitals larger than the average global budget (~$300 million) and 50 percent of the hospital's permanent revenue for hospitals smaller than the average global budget (~$300 million).

Full Rate Reviews

Historically, the HSCRC has had a full rate application methodology to assess hospitals' efficiency. The methodology allowed staff to review a hospital's entire regulated rate structure and was employed:

- When a hospital submitted a full rate application for an increased rate structure; or
- When HSCRC staff identified a hospital with high-cost inefficiency in order to reduce the hospital's rate structure.

Full rate application assessments have historically been based on the Interhospital Cost Comparison (ICC) methodology, which measures a hospital's cost per case efficiency relative to a peer group standard, i.e., a hospital's revenue base compared to average peer group cost per case with profit removed. However, given the incentives of the TCOC Model and the broader cost accountability hospitals now face, the Commission developed total cost of care metrics that complement the Commission's cost review methodology in a TCOC Model. These metrics adhere to the Commission's statutory mandate (Maryland Health-General Article, An. Code Ann. § 19-219(a)) to assure each purchaser of hospital services that:

1. The total costs of all hospital services offered by or through a facility are reasonable;
2. The aggregate rates of the facility are related reasonably to the aggregate costs of the facility and;
3. The rates are set equitably among all purchasers or classes of purchasers without undue discrimination or preference.

Specifically, the Commission developed a TCOC algorithm that assesses total cost of care performance relative to attainment and growth standards that then modifies a hospital's ICC result.

Complexity and Innovation Policy

The cornerstone methodology of the TCOC Model is the hospital GBR system, which reimburses hospitals for baseline volume plus or minus market shifts and demographic changes. This methodology removes incentives for hospitals to increase utilization in order to drive profitability. Historically, hospitals had funded high-intensity cases or health care innovation, such as organ transplants or gene therapies, by increasing lower-acuity volume, thereby generating more revenue while maintaining the same fixed costs.

This economic behavior has been particularly important for the State's two academic medical centers, the University of Maryland Medical Center and the Johns Hopkins Hospital. To ensure that these two national leaders in academic research and innovation remain at the forefront of quaternary care, the HSCRC developed a standalone volume policy that reimburses the academic medical centers for growth deemed to be high complexity and/or innovative.

Funding for Complexity and Innovation is provided prospectively in rates through the annual update factor and is established by the historical average growth rate of these services. Allotted funding reflects increases due to emerging technologies and declines as these services shift to community hospitals once procedures become more mainstream. In a given fiscal year, academic medical centers are at financial risk should the prospective budgeted amounts diverge from actual experience; however, future budgetary allotments will account for changes in historical growth rates, thereby providing a stable funding source that comports with the tenets of a population-based system.

Section VIII: Reporting Requirements to CMS

Under the TCOC Model, the HSCRC is required to report to CMS on relevant policy and implementation developments. The HSCRC provides two annual monitoring reports to CMS on patient experience of care, population health and health care expenditures. The HSCRC submitted an annual report on CY 2023 healthcare expenditures to CMS in July 2023. The HSCRC submitted a second report on the State's CY 2023 performance on quality measures, inclusive of measures on patient experience of care and population health performance, in March 2024. As mentioned earlier in this report, the State also submitted an annual report to CMMI on 2023 progress under SIHIS. The following reports are included with this submission.

1. Annual Monitoring Report - Expenditures
2. Annual Monitoring Report – Quality
3. SIHIS Annual Report – 2023

Section IX: Adverse Consequences

At this time, the HSCRC has not observed any adverse consequences on patients or the public generally as a result of the implementation of the TCOC Model.

A number of policies developed over the course of the Model guard against potential adverse consequences that HSCRC staff and stakeholder workgroups identified as possible unintended outcomes of implementation. For example, the GBR agreements initiated by the HSCRC to implement the global budgets contained consumer protection clauses. In addition, the HSCRC implemented a Market Shift Policy (discussed in Section VII) and a Transfer Adjustment Policy to help ensure that "the money will follow the patient" when shifts in utilization occur between hospitals or other health care settings. These policies aim to guard against hospitals inappropriately limiting the number of high-cost, high-risk cases admitted and to provide open access and resources when patients need to be transferred to receive highly specialized care offered in academic medical centers.

As mentioned earlier in the report, one area of caution for our current contract is the fluctuation in trends of the total cost of care. Under the TCOC Contract, CMMI monitors the total cost of care in Maryland to ensure

that reductions in hospital potentially avoidable utilization do not result in unreasonable increases in the total cost of care. More detail on total cost of care performance is provided in Section II.

Section X: Hospital Financial Performance

Hospital Profitability

The HSCRC monitors hospital financial performance of regulated hospitals through hospital financial data submissions. Specifically, the HSCRC conducts monthly monitoring of unaudited data and annual monitoring of audited data. The financial data provide a metric to monitor the efficiency and effectiveness of hospitals, pursuant to the HSCRC's statutory charge. While each hospital may adjust and correct its unaudited data throughout the year, the unaudited data provide a good indicator of the direction of trends in statewide hospital revenue, expenditures, utilization, and profitability. Below is a summary of key data regarding the profitability of hospitals on an audited basis in FY 2023 and on an unaudited basis for FY 2023 through February of 2024.

The HSCRC only regulates inpatient and outpatient hospital services located at the hospital. The HSCRC does not regulate the rates of physicians. It also does not regulate revenue-producing activities which, while not related directly to the care of patients, are business-like activities commonly found in hospitals for the convenience of employees, physicians, patients, and/or visitors (e.g., parking garages and gift shops).

Audited Financial Data – FY 2023

Data for FY 2023 show an increase in margins for services regulated by the HSCRC, but an overall decrease in operating margins due to increasing losses on unregulated services. Positive results in non-operating margins, driven by investment income, results in total operating and non-operating margins improving over FY 2022.

Profitability based on audited data for total operations (hospital operations regulated by the HSCRC plus unregulated hospital operations), and for total hospital activities (both operating and non-operating activities) is presented below:

- The total combined audited regulated and unregulated operating margin was 0.01 percent (0.80 percent in FY 2022).
- The total margin, i.e., the combined operating and non-operating margins, was 2.36 percent (-2.01 percent in FY 2022).
- The operating margin for services regulated by the HSCRC was 6.62 percent (6.48 percent in FY 2022).

Maryland's regulated hospital industry remained profitable despite low total operating margins. Both the regulated operating and total profit margin increased over FY 2022.

Unaudited Financial Data – FY 2024

FY 2024 total operating margin for both services regulated by the HSCRC and services not regulated by the HSCRC increased over FY 2023, as shown by unaudited year-to-date financial data. Total profit margins increased by 2.29 percentage points versus unaudited results for the same period last year due to better non-operating returns so far in FY 2024. Hospital total margins are shown below. Final audited data, when available, may result in adjustments to these margins:

- The total combined unaudited regulated and unregulated operating margin was 1.31 percent (0.2 percent for the equivalent YTD FY 2023 unaudited results).
- The total margin, (the combined operating and non-operating margins), was 4.64 percent (2.35 percent for the equivalent YTD FY 2023 unaudited results).
- The operating margin for services regulated by the HSCRC was 5.90 percent (2.85 percent for the equivalent YTD FY 2023 unaudited results).

Uncompensated Care

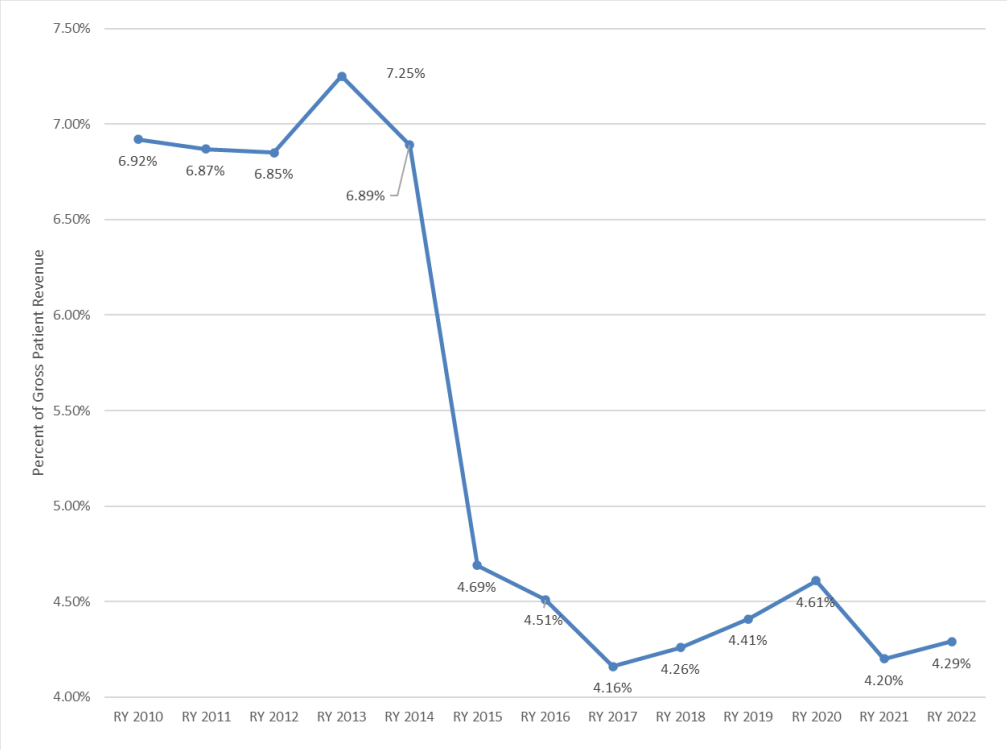
Uncompensated Care (UCC) is care provided for which no compensation is received (typically a combination of charity care and bad debt). Maryland recognizes the financial burden hospitals take on when providing quality care to patients who are unable to pay. Unlike in other states, Maryland's rate setting system factors the cost of UCC into the State's hospital rate setting structure. This provision increases access to hospital services for patients who cannot readily pay for care while hospitals get credited for the care provided.

The HSCRC's current policy provides for uncompensated care statewide at the level of the most recent year's actual statewide experience. Hospital-specific UCC provisions are determined by a blend of a hospital's most recent year's actual experience and its predicted performance determined by way of a regression analysis.

Figure 12 below shows the actual total UCC rate for all regulated Maryland hospitals between FY 2010 and FY 2022. Uncompensated care steadily declined between FY 2010 and FY 2012; however, FY 2013 saw a 0.40 percent increase in uncompensated care. The HSCRC believes this can be partially explained by the increasing prevalence of commercial health insurance plans with high deductibles, coinsurance- and copayments, which leave patients to pay a higher portion of a bill out-of-pocket. Additionally, outpatient hospital service utilization, for which commercially insured patients tend to be responsible for paying a higher portion of the bill out-of-pocket, has increased in recent years. Periods of low UCC rates occurred from FY 2014 and continued to FY 2017, driven by coverage expansions brought on with the

implementation of the Affordable Care Act (ACA). From FY 2018 to FY 2020, there was a slight uptick in uncompensated care rates as the effects of the ACA appear to have mitigated. The probability of a patient subsequently deemed as having UCC is historically highest amongst commercial patients presenting though the ED. Thus, the significant declines in ED utilization by commercial patients having a write-off to UCC during the pandemic subsequently resulted in the decline in UCC experienced in FY 2021. UCC seem to be levelling back up to pre-pandemic levels in FY 2022 given the slight up-tick.

Figure 11. Uncompensated Care as a Percentage of Gross Patient Revenue, FY 2010-2022



Source: HSCRC Case-mix and Financial Data

Community Benefits

The Internal Revenue Code requires nonprofit organizations to report the amount of community benefits that they provide in exchange for not having to pay federal, state, or local taxes. Maryland law also requires hospitals to report similar data and qualitative information on community benefit expenditures and operations to the HSCRC. Community benefits are defined as activities that are intended to address community needs and priorities primarily through disease prevention and improvements in health status, including:

- Health services provided to vulnerable or underserved populations
- Financial or in-kind support of public health programs

- Donations of funds, property, or resources that contribute to a community priority
- Health education screening and prevention services

HSCRC posts the data provided by hospitals, along with a summary report on hospital community benefit activities on the HSCRC website. The most recently available data reflects community benefits for FY 2022. In that year, Maryland hospitals expended just over $1.21 billion in community benefits, or 6.2 percent of total hospital operating expenses, after offsetting expenditures related to amounts that are included in rates and not generated through hospital resources.

Since 2012, federal law requires nonprofit hospitals to conduct a community health needs assessment every three years. Beginning with FY 2022 data, the Commission required hospitals to submit to HSCRC annual information on each hospital's community health needs assessments and how their community benefits expenditures relate to their community health needs assessment. Hospitals reported that 37.2% of their community benefits spending in FY 2022 was associated with their Community Health Needs Assessments.

Section XI: Statutory and Regulatory Updates

2023 Legislative Updates

2023 Reports Required by the Joint Budget Committees' Report

HSCRC completed the following reports in 2023, required by the "Report on the Fiscal 2024 State Operating Budget (HB 200) And the State Capital Budget (HB 201) And Related Recommendations".

1. **Evaluation of the Maryland Primary Care Program:** This report evaluates the effectiveness of the Maryland Primary Care Program (MDPCP or Program) with a comparison between cost savings, utilization, and the additional payments provided to primary care practices, in addition to focusing on racial equity within the Program and primary care in general. The Joint Chairmen's Report (JCR) also asked HSCRC to describe the relationship between outcome-based credits and MDPCP. This report was submitted in October 2023.

2023 Reports Required by Legislation of Legislature Committees

The HSCRC completed the following legislatively-required reports during 2023:

1. Annual Governors Report, required by Health-General §19-207(b)(9);
2. Summary of UMMS Board of Directors Financial Disclosure, required by Education Article §13-304(l)(4);
3. Maryland Hospital Community Benefit Report: FY 2022, required by Ch. 437, 2020; and

2024 Statutory Updates

During the 2024 Legislative Session, the Legislature passed a number of bills with a direct impact on HSCRC operations.

Budget Bill (SB 360)

The Budget Bill for Fiscal Year 2025 funds HSCRC's operations, including the uncompensated care fund. The Budget Bill also requires HSCRC to submit a report evaluating findings and recommendations from the Commission to Study Trauma Center Funding in Maryland. The Budget bill conditions $125,000 of HSCRC's budget on the submission of this report, which is due October 1, 2024

Trauma Funding and Reports (SB 360, HB 1439, and SB 1092)

Three bills increased funding for trauma services in the State, the Budget Reconciliation and Financing Act (SB 362), Funding for Trauma Centers and Services (HB 1439), and Emergency Medical System Surcharge - Increase and Distribution of Funds (SB 1092). This legislation increases a surcharge on motor vehicle registration and fines for driving under the influence. This revenue is used, in part, to increase funding for the Maryland Trauma Physician Services Fund, which is administered by the Maryland Healthcare Commission and HSCRC. The legislation also increases funding for Shock Trauma at the University of Maryland Medical System, one of the hospitals that HSCRC regulates. The legislation amended the components of the required annual report on the Maryland Trauma Physician Services Fund, which will require additional data from HSCRC.

Maryland Emergency Department Wait Time Reduction Commission (HB 1143)

This bill establishes the Maryland Emergency Department Wait Time Reduction Commission to address factors throughout the healthcare system that contribute to increased emergency department wait times. This will be co-chaired and staffed by HSCRC, which will develop and implement the work plan. The Commission will report annually on its activities, findings, and recommendations, including an update on development, implementation, and impact of the recommended policies and programs developed to improve emergency department wait times.

Hospitals – Financial Assistance Policies – Revisions (HB 328)

This bill removes language from existing law that allows hospitals to restrict eligibility for reduced cost care to patients in their hospital service area (a geographic area surrounding the hospital). The bill also prohibits hospitals from using asset tests for monetary assets under $100,000 or for any nonmonetary assets.

Outpatients Facility Fees (SB 1103)

This bill strengthens consumer notice requirements for outpatient facility fees for hospital outpatient clinic services. HSCRC is required to convene a workgroup and conduct a study to make recommendations including whether notices should be expanded to all outpatient services and the effectiveness of the current notice provided to consumers. HSCRC will submit reports to the legislature by December 1, 2024 and December 1, 2025.

Maryland Commission on Health Equity (MCHE) (HB 1333)

The CMS's AHEAD Model specifies the membership of the entity that provides AHEAD Model governance in the State. The Maryland Department of Health and HSCRC worked together on this bill which modifies the membership of the existing Maryland Health Equity Commission to allow it to play a key role in AHEAD governance. The bill also modifies the MCHE's duties to include development of a State Health Equity Plan, which is a requirement of the AHEAD model. The Secretary of Health and the Executive Director of HSCRC will co-chair the MCHE. MCHE will submit reports to the legislature in 2024 and 2025.

Health Commissions and Maryland Insurance Administration – Study (SB 694 / HB 1887)

This bill requires the Maryland Department of Health to hire an independent consultant to conduct a study of the HSCRC, the Department, Maryland Health Care Commission, Maryland Community Health Resource Commission, and Maryland Insurance Administration. The study will identify and examine any overlap of duties and make recommendations for increased alignment and efficiencies. HSCRC will provide any requested information to the consultant.

Regulatory Updates

The Commission proposed and/or adopted amendments to the following existing regulations in 2023:

COMAR 10.37.01.02, Accounting System; Hospitals

On January 27, 2023, the Commission proposed to amend regulation .02 under COMAR 10.37.01 for the purpose of updating the Commission's manual entitled "Accounting and Budget Manual for Fiscal and Operation Management (August 1987)." This regulation became effective 12/11/23.

COMAR 10.37.10.26, Rate Application and Approval Procedures – Patient Rights and Obligations; Hospital Credit and Collection and Financial Assistance Policies

On August 26, 2022, the Commission proposed to amend Regulation .26 under COMAR 10.37.10. The purpose of this action was to have the Commission's existing regulations on Patient and Obligations -

Hospital Credit and Financial Assistance Policies conform to legislation enacted in the 2021 Maryland General Assembly legislative session. Based on public comments, HSCRC made substantial changes to the regulation. In 2023, the Commission approved the publication of the revised regulations as proposed. The Commission anticipates adoption of the proposed regulations in 2024.

COMAR 10.37.01.02 Uniform Accounting and Reporting System for Hospitals and Related Institutions (ELF Docket #23-162)

On January 27, 2023, the Commission proposed to amend regulation .02 under COMAR 10.37.01 for the purpose of updating the Commission's manual entitled "Accounting and Budget Manual for Fiscal and Operation Management (August 1987)." This is an annual update to this manual for hospitals.

Section XII: Commission Infrastructure

Commissioners

The HSCRC is the only agency in the country with the mission of setting all-payer rates for hospital services within a state. The HSCRC functions as an independent Commission within MDH. Seven Governor-appointed Commissioners oversee the HSCRC. Below is a list of current Commissioners.

Table 10. Current HSCRC Commissioners

Commissioner	Term Start Date	Term End Date
Joshua Sharfstein, MD, Chairman	July 1, 2023	June 30, 2026
Joseph Antos, PhD	July 1, 2016	June 30, 2024
James N. Elliott, MD	July 1, 2018	June 30, 2026
Ricardo Johnson, JD	July 1, 2023	June 30, 2027
Maulik Joshi, DrPH	July 1, 2021	June 30, 2025
Adam Kane	July 1, 2017	June 30, 2025
Nicole McCann	July 1, 2023	June 30, 2027

Staff

The State charges the HSCRC with regulatory authority over the rates and revenues of Maryland's 44 acute care hospitals, seven Freestanding Medical Facilities, three psychiatric hospitals (commercial rates only), and one pediatric specialty hospital (commercial rates only), an industry with annual revenues in excess of $20 billion. This responsibility is accomplished by a relatively small and highly skilled staff of 47 full-time

equivalents and several contractual employees. To meet the demands of the TCOC Model, the Commission organized its staff structure under five centers:

1. Medical Economics and Data Analytics
2. Hospital Rate Revenue and Regulations
3. Quality and Population-Based Methodologies
4. Healthcare Data Management and Integrity
5. Administration and Operations

As the State continues under the TCOC Model, the HSCRC continues to hire new staff to provide needed expertise and support to design and implement new programs, methodologies, and analyses.

Budget

A small user fee assessed on hospital rates in Maryland supports Commission staff salaries and operations. Due to the technical nature of the work of the Commission, expenses are driven primarily by personnel costs and contracts. The total user fee assessment in FY 2023 was $19.6 million and the fund balance at the end of the fiscal year was $9.2 million, which will be reduced in the following year by lowering user fees assessed on hospitals in FY 2024.

Section XIII: Future Outlook

In 2024 and throughout FY25, HSCRC will continue to support and expand the unique Maryland Model while preparing for its next iteration - States Advancing All-Payer Health Equity Approaches and Development (AHEAD) Model. HSCRC collaborated with MDH to respond to CMMI's Notice of Funding Opportunity for the AHEAD Model, and the agency will continue to work with the Governor's Office, the Maryland Department of Health, and stakeholders on the development of the new model. While the current TCOC agreement with CMS ends December 2026, with a two-year transition period, HSCRC anticipates transitioning to the AHEAD Model in advance of that date, by January 2026.

The TCOC agreement with CMS, combined with HSCRC's hospital rate-setting authority, continues to support private and public efforts to improve the health and lives of Marylanders through innovative healthcare reforms. Maryland is increasing accountability for hospitals on health equity. Hospitals and the State are using the Maryland Model to invest in population health (including investments in crisis support for behavioral health, maternal health, and childhood asthma). The goal is to invest "upstream" from traditional hospital care to further limit growth in future healthcare expenditures as people live healthier lives. HSCRC continues to work to develop and implement policies that enhance the quality of healthcare and patient experience, improve population health and health outcomes, and reduce the total cost of care for Marylanders. The HSCRC will continue to lead efforts to meet the ambitious goals of the TCOC and

AHEAD Model. Achieving these goals is a collaborative effort between the State, hospitals, non-hospital providers, payers, and a broad spectrum of community partners, all working together to create long-term health improvements and cost savings for Marylanders.

Appendices

1. Annual Monitoring Report – Expenditures
2. Annual Monitoring Report – Quality
3. SIHIS Annual Report – 2023
4. Maternal and Child Health Improvement Fund Report – FY2023

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Maryland Total Cost of Care Model

Annual Monitoring Report: Expenditures

July 2022

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Introduction

The State of Maryland is leading a transformative effort to improve care and lower healthcare spending growth through the Maryland Total Cost of Care (TCOC) Model. The TCOC Model builds on the successes of the All-Payer Model, a 5-year demonstration project with the Centers for Medicare and Medicaid Services (CMS), which began January 1, 2014, and ended December 31, 2018. The TCOC Model, which began on January 1, 2019, aims to control total healthcare costs, enhance the quality of care, and improve health by progressively transforming care delivery across the healthcare system.

While the All-Payer Model (APM) focused primarily on hospitals, the Total Cost of Care (TCOC) Model focuses on transforming care across the entire healthcare system. The Model will continue through 2028 so long as Maryland meets the following spending and quality requirements included in the TCOC State Agreement:

- Average annual hospital revenue growth per capita must stay at or below 3.58 percent on a cumulative basis since 2013;
- Reach annual savings in Maryland Medicare TCOC per Beneficiary of $120 million by (2019) and reach $300 million in annual savings by 2023;
- The State's Medicare TCOC per Beneficiary growth cannot exceed national Medicare FFS growth by more than 1 percent in any given year or exceed the national growth two years in a row;
- The State must maintain the improvements made in certain hospital quality measures; and
- Ninety-five percent of in-state hospital regulated revenue must be under population-based budget agreements.

The Maryland TCOC Model agreement requires the State to limit its compounded average annual all-payer hospital per capita revenue growth rate to 3.58 percent. This number is based on the average growth in per capita gross state product (GSP) for the period 2002 through 2012. In 2022 under the TCOC Model, the State continued its favorable performance. The State now has an average of 2.77 percent since 2013, 0.81 points below the limit. While 2021 to 2022 growth was high, this was a continued consequence of COVID-19. Much of the revenue provided to hospitals for pandemic-related policies occurred during Calendar Year (CY) 2022. This revenue was one-time in nature and will not affect CY 2023 revenue. While average per capita revenue growth of 3.83 percent from 2018 to 2022 is above the 3.58 percent limit under the TCOC Model performance targets, this primarily relates to disruption due to the COVID crisis.

Cumulative savings during that same period exceed $6.7 billion and the HSCRC expects to return to positive performance under this metric in the future. Additionally, Maryland population estimates used to determine per capita cost growth have historically been understated as the 2020 census restated Maryland population upwards. We anticipate this change will improve Maryland's performance on this test. We are

working to determine actual population growth during the model period and will work with CMS to determine the appropriate adjustments to this calculation to reflect the higher estimates.

The TCOC Model requires that the State reach an annual total cost of care savings of $300 million relative to the national growth rate by 2023, relative to a 2013 base year. Thus, there must be sustained improved performance overtime to meet the new TCOC Medicare Savings Requirements. In CY 2022, the annual TCOC run rate in Maryland deteriorated from a high of $379 million. Current estimates put the CY 2022 annual TCOC run rate between $219-$259 million, which is below the required run rate of $267 million. Although the Commission did take significant actions in December of 2022 to ensure that the State meets the total cost of care savings run rate of $300 million in 2023, progress must be sustained through CY2023, as the savings requirement is not a cumulative test and 2023 will be the last year the current Model is evaluated.

While the State maintained quality improvements for potentially preventable complications (PPCs) in 2022, Maryland did not maintain required improvements for readmissions. The Maryland Medicare unadjusted readmission rate was higher than the National Medicare unadjusted readmission rate by 0.17 percentage points (15.53 percent for Maryland vs. 15.36 percent for the Nation). However, on a risk-adjusted basis, Maryland does perform better than the nation for Medicare readmissions.

Under the TCOC Model, Maryland must maintain improvements achieved under the All-Payer Model and not exceed the CY 2018 potentially preventable complication (PPC) rates for the fourteen payment program PPCs. In CY 2022, Maryland experienced a lower case-mix adjusted rate than in CY 2018, for both all-payer and Medicare FFS, signifying that Maryland has met the contractual obligation of improving rates from CY 2018.

Finally, 98.1 percent of in-state regulated revenue remained under population-based payment methodologies, ensuring Maryland met the TCOC Model requirement of 95 percent.

Measures included in Monitoring Report

The purpose of this report is to provide performance information on expenditure growth across Medicare, Medicaid, and all payers.

Results for the measures were developed using hospital unaudited financial data and claims-based files obtained from CMS and Maryland hospitals (e.g., HSCRC Hospital Abstract Data). This report presents available data for January through December 2022 for the goals and measures outlined in Table 1, as required by Appendix D of the Total Cost of Care State Agreement. Growth is calculated against 2013 per capita charges. For illustrative purposes under the TCOC Model, CY 2019-2022 data are presented in this report and growth is compared to 2013. Data has been revised to reflect the most up-to-date information

available from the data sources and may differ from last year's report. Additionally, the Medicare data presented in Goal 19.b is payment data that includes non-claims-based payments or adjustments for CY 2019 - 2022.

Table 1. Monitoring Report Measures - Expenditures

Goal		Description
19.a	Control Expenditure Growth - Hospital	Per capita hospital charges and expenditures (inpatient and outpatient) by payer category for which there is available and reliable data
19.b	Control Expenditure Growth – All Health Services	Per capita health expenditures and expenditures (hospital and non-hospital) by payer category for which is there available and reliable data

Key Findings

Goal 19a. Control Expenditure Growth – Hospital

This report evaluates hospital expenditure growth by tracking per-capita Maryland hospital charges in five payer categories: (A) All-payer hospital charges, (B) Medicare hospital charges, (C) Medicaid hospital charges, (D) Private Payer hospital charges, and (E) Medicare/Medicaid dually eligible hospital charges.

Goal 19a. Control Expenditure Growth - Hospital	
Goal Summary	Controlling hospital expenditure growth is one of the primary metrics on which the Maryland TCOC Model is assessed. Data on hospital expenditures are available across all payers, as well as for Medicare FFS (including dually eligible), Medicaid (including dually eligible), Medicare/Medicaid dually eligible separately, and for those with Private insurance only. The data for each category captures in-state spending on Maryland residents.
Measurement Methodology	**All-payer Maryland Hospital Per Capita Charges for Maryland Residents:** (Total inpatient and outpatient charges for all Maryland residents) ÷ (Total population in the state of Maryland) **Medicare Maryland Hospital Per Beneficiary Charges for Maryland Residents:** (Inpatient expenditures for Medicare beneficiaries with Part A ÷ Maryland Part A Beneficiaries) + (Outpatient expenditures for Medicare beneficiaries with Part B ÷ Maryland Part B Beneficiaries) **Medicaid Maryland Hospital Per Beneficiary Charges for Maryland Residents:** (Total fee-for-service and managed care expenditures for Maryland Medicaid beneficiaries) ÷ (Total number of Medicaid member months ÷ 12)

	Medicare/Medicaid Dually Eligible Maryland Hospital Per Beneficiary Charges for Maryland Residents: (Total inpatient and outpatient hospital expenditures for dually eligible beneficiaries) ÷ (Total number of Medicaid Duals member months ÷ 12) **Private Payer Maryland Hospital Per Beneficiary Charges for Maryland Residents:** (Total inpatient and outpatient costs for private payer Maryland beneficiaries) ÷ (Total estimated private payer beneficiaries) *The denominator for the 2022 commercial hospital per capita data is not available until 2024.* **Data Sources:** **Hospital Expenditures**: HSCRC Financial Data (All-payer and Medicare) and Inpatient and Outpatient Abstract Data (Medicaid, Commercial, and Dual). **Population Estimates**: All-payer (Maryland Department of Planning), Medicare (CMS), Medicaid and Dual Eligible (Maryland Medicaid eHealth Statistics), Private Payer (State Health Access Data Assistance Center (SHADAC)).
Monitoring Results **(See Table 2)**	Between 2013 and 2022, all-payer per capita hospital charges grew by 25.86 percent. Medicare per beneficiary hospital charges increased by 9.08 percent between 2013 and 2022, from $6,979 to $7,613. During the same time period, per beneficiary hospital charges increased for Medicaid by 5.58 percent (this data is preliminary and subject to change). Between 2013 and 2022, per beneficiary hospital charge for Medicare/Medicaid dually eligible beneficiaries increased by 23.83 percent (this data is preliminary and subject to change). Per beneficiary hospital charges for private payers increased by 11.10 percent between 2013 and 2021.

Table 2. Goal 19a: Hospital per Capita Total Charges, by Payer, 2019-2021

Measures	Population		2013	2019	2020	2021	2022
All-payer Maryland Hospital per capita total charges for MD residents	Maryland	Total Hospital Charges ($)	14,070,827,137	16,392,737,941	16,428,322,903	17,406,740,884	18,425,350,726
		Population	5,932,654	6,054,954	6,055,802	6,165,129	6,164,660
		Per capita charges ($)	2,372	2,707	2,713	2,823	2,989
		% Change from 2013		**14.00%**	**14.24%**	**18.89%**	**25.86%**
Medicare FFS Maryland hospital per capita total charges per Beneficiary[1]	Maryland	Total Inpatient Charges ($)	3,577,606,896	3,887,260,993	3,899,905,840	3,841,928,786	4,019,559,375
		Part A Beneficiaries	792,589	903,160	914,701	893,075	879,945
		Part A Per capita charges ($)	4,514	4,304	4,264	4,302	4,568
		Total Outpatient Charges ($)	1,704,310,983	2,232,913,809	2,079,768,401	2,145,686,067	2,255,460,815
		Part B Beneficiaries	691,255	771,398	779,568	756,289	740,708
		Part B Per capita charges ($)	2,466	2,895	2,668	2,837	3,045
		Total Hospital Per capita charges ($)	6,979	7,199	6,931	7,139	7,613
		% Change from 2013		**3.14%**	**(0.69%)**	**2.29%**	**9.08%**
Medicaid Maryland hospital per capita total charges per Beneficiary[2]	Maryland	Total Charges ($)	2,595,383,354	3,617,010,109	3,628,304,162	3,753,659,158	3,983,983,179
		Total Enrollees	1,240,517	1,576,475	1,599,812	1,702,578	1,803,618
		Per capita charges ($)	2,092	2,294	2,268	2,205	2,209
		% Change from 2013		**9.66%**	**8.40%**	**5.38%**	**5.58%**
Medicare/ Medicaid Dual Eligible Maryland hospital per capita total charges per Beneficiary[2]	Maryland	Total Charges ($)	1,047,382,694	1,387,958,184	1,403,377,323	1,524,465,306	1,695,334,467
		Total Enrollees	111,430	173,781	172,263	178,916	188,059
		Per capita charges ($)	9,399	7,987	8,147	8,521	9,015
		% Change from 2013		**9.71%**	**11.91%**	**17.04%**	**23.83%**
Private Payer (SHADAC)	Maryland	Total Charges ($)	4,844,844,194	5,101,717,888	5,005,521,217	5,389,301,224	Not Available
		Total Enrollees	3,762,456	3,761,708	3,837,279	3,767,087	Not Available
		Per capita charges ($)	1,288	1,356	1,304	1,431	Not Available
		% Change from 2013		**5.32%**	**1.30%**	**11.10%**	Not Available

Goal 19b. Control Expenditure Growth – All Health Services

This report evaluates the expenditure growth of all health services by tracking per-capita Maryland health services expenditures in four payer categories: (A) Medicare total expenditures, (B) Medicaid total

[1] Medicaid Enrollment was restated back to CY 2015 to remove beneficiaries with limited hospital benefits.

expenditures, (C) Dually Eligible Medicaid-only total expenditures, and (D) Private Payer total expenditures. The HSCRC is not able to provide an accurate estimate for the All-Payer total expenditure for the foreseeable future given data limitations.

Goal 19b: Control Expenditure Growth - All Health Services	
Goal Summary	Total health expenditure growth is used to monitor potential shifting of costs between categories of health services under the new model agreement.
Measurement Methodology	Separate estimates are generated for the following populations: **Medicare Per Beneficiary Health Expenditures:** The sum of (Part A per capita expenditures for Medicare beneficiaries with Part A) and (Part B per capita expenditures for Medicare beneficiaries with Part B) **Medicaid Per Beneficiary Health Expenditures:** (Total fee-for-service and managed care expenditures for Maryland Medicaid recipients) ÷ (Total number of Medicaid member months ÷ 12) **Dually Eligible Medicaid/Medicare per Beneficiary Health Expenditures:** (Total Medicaid costs for dually eligible beneficiaries) ÷ (Total number of Medicaid Duals member months ÷ 12) **Private Payer per Beneficiary Health Expenditures:** (Total Costs for private payer Maryland residents) ÷ (Total member insured months ÷ 12). **Note:** The total costs for Private payers is limited to Maryland Private payers that report to the Maryland Health Care Commission (MHCC), which excludes most self-insured employers and the Federal Employee Health Benefit Plan (approximately two-thirds Maryland Private Payer population). **Data Sources:** **Health Expenditures:** Medicare (CMS Financial Reports), Medicaid and Dual-Eligible (Maryland Medicaid), Private Payer (MHCC All-Payer Claims Database); **Population Estimates:** Medicare (CMS); Medicaid and Dual-Eligible (Maryland Medicaid); Private Payer (MHCC All-Payer Claims Database).
Monitoring Results (**See Table 3**)	Maryland Medicare per capita health expenditures increased by 22.52 percent between 2013 and 2022, compared to an increase of 24.60 percent for the U.S. Total Maryland Medicaid per beneficiary health expenditure increased by 25.62 percent between 2013 and 2022 (this data is preliminary and subject to change). Medicare/Medicaid dually eligible health expenditures per beneficiary has grown by 7.43 percent, from $14,572 to $15,655 (this data is preliminary and subject to change). Per beneficiary health expenditures for private payer beneficiaries increased from $3,132 in 2013 to $4,644 in 2021 – a 48.28 percent increase.

Table 3. Per Capita Annual Health Expenditures, by Payer, 2019-2022

Measures	Population		2013	2019	2020	2021	2022
Medicare per capita total expenditure[2]	Maryland	Total Part A Expenditures ($)	4,419,176,140	4,949,018,125	4,969,631,567	5,083,958,586	5,250,119,094
		Part A Beneficiaries	792,589	903,160	914,701	893,075	879,945
		Part A Per capita expenditures ($)	5,576	5,480	5,433	5,693	5,966
		Total Part B Expenditures ($)	3,847,620,277	5,244,180,423	4,906,867,374	5,605,501,507	5,692,150,102
		Part B Beneficiaries	691,255	771,398	779,568	756,289	740,708
		Part B Per capita expenditures ($)	5,566	6,798	6,294	7,412	7,685
		Total Per capita expenditures ($)	11,142	12,278	11,727	13,104	13,651
		% Change since 2013		**10.20%**	**5.26%**	**17.62%**	**22.52%**
	National	Total Part A Expenditures ($)	178,838,635,359	188,048,114,200	179,750,269,026	179,251,115,898	177,447,091,310
		Part A Beneficiaries	36,435,042	37,339,465	36,574,202	35,133,571	33,998,630
		Part A Per capita expenditures ($)	4,908	5,036	4,915	5,102	5,219
		Total Part B Expenditures ($)	152,511,071,263	192,508,310,877	178,721,164,102	197,714,858,353	196,599,726,176
		Part B Beneficiaries	32,927,792	32,894,164	32,078,442	30,672,371	29,486,989
		Part B Per capita expenditures ($)	4,632	5,852	5,571	6,446	6,667
		Total Per capita expenditures ($)	9,540	10,889	10,486	11,548	11,887
		% Change since 2013		**14.13%**	**9.92%**	**21.05%**	**24.60%**
Medicaid per capita total expenditure (includes Dually eligible)[3]	Maryland	Expenditures ($)	7,575,448,645	11,724,987,703	11,724,020,419	12,966,147,686	13,675,656,100
		Yearly Average Total Enrollment	1,275,913	1,609,202	1,630,129	1,733,937	1,833,552
		Per capita expenditures ($)	5,937	7,286	7,192	7,478	7,459
		% Change since 2013		**22.72%**	**21.13%**	**25.95%**	**25.62%**

[2]These figures do include adjustments for non-claims-based payment data for CYs 2019- 2022.
[3]Expenditures and enrollment data for Medicaid beneficiaries for CY 2022 is preliminary and subject to change.

Measures	Population		2013	2019	2020	2021	2022
Medicare/ Medicaid dual eligible per capita total expenditure (Medicaid expenditures only)[4]	Maryland	Expenditures ($)	2,055,772,516	2,591,995,790	2,588,841,113	2,728,286,058	2,943,977,246
		Yearly Average Total Enrollment	141,075	173,781	172,263	178,916	188,059
		Per capita expenditures ($)	14,572	14,915	15,028	15,249	15,655
		% Change since 2013		**2.35%**	**3.13%**	**4.64%**	**7.43%**
Private Payer per capita total expenditure	Maryland	Expenditures ($)	7,760,817,042	7,137,410,735	6,864,583,981	8,234,167,855	Not Available
		Yearly Average Total Members	29,722,861	1,768,682	1,693,011	1,773,278	Not Available
		Per capita expenditures ($)	3,132	4,032	4,056	4,644	Not Available
		% Change since 2013		**28.74%**	**29.50%**	**48.28%**	Not Available

Conclusion

The Total Cost of Care Model continues to incentivize broad collaboration among hospitals and non-hospital providers to increase patient satisfaction, improve health outcomes and population health, and slow growth in healthcare spending. Over the next six years of the Model, the HSCRC will continue to lead efforts to meet the ambitious goals of the TCOC Model through supporting provider-led innovation efforts, leveraging the State's unique global budget system, and engaging stakeholders in a proactive and meaningful way. Through this work, the HSCRC can help effectuate long-term health improvements and cost savings for Marylanders in the State's healthcare system.

[4] Expenditures and enrollment data for Medicaid/Medicare Dual beneficiaries for CY 2022 is preliminary and subject to change.

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Total Cost of Care Model Annual Monitoring Report

CY 2023

January 2024

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Introduction

The State of Maryland is leading a transformative effort to improve care and lower the growth of healthcare spending. The Total Cost of Care (TCOC) Model agreement between the State and the Centers for Medicare and Medicaid Services (CMS) aims to control total healthcare costs, enhance the quality of care, and improve health by progressively transforming care delivery across the healthcare system. As the State's hospital rate-setting authority, the Maryland Health Services Cost Review Commission (HSCRC) plays a vital role in the implementation of this innovative approach to healthcare reform, including administering global budgets, providing incentives and rate support to hospitals and other providers to transform care, and administering quality pay-for-performance programs.

Under the TCOC State Agreement the State is required to meet the following spending and quality requirements:

- Maintain average annual hospital revenue growth per capita at or below 3.58 percent
- Achieve annual savings in Maryland Medicare TCOC per Beneficiary totaling $267 million by Model Year 4 (MY 4) (CY 2022)
- Ensure that the State's Medicare TCOC per Beneficiary growth does not exceed national Medicare FFS growth by more than one percent in any given year or exceed the national growth two years in a row.
- Maintain the improvements made in certain hospital quality measures during the All-Payer Model.
- Include ninety-five percent of in-state hospital regulated revenue under population-based budget agreements.

The State met all financial requirements included in the TCOC Model agreement for CY 2022. For more information on the financial performance of the Maryland Model during Model Year 4, please refer to the Annual Monitoring Report – Expenditures (submitted July 2023). For quality, in CY 2022, the State did not backslide on the potentially preventable complication (PPC) measures. Maryland maintained a 0.82 Case-mix Adjusted PPC Rate in CY 2022 for the 15 PPCs that comprise the Maryland's Hospital Acquired Condition (MHAC) pay-for-performance program, a reduction from the CY 2018 rate of 0.95. While the State was able to accomplish remaining below the national readmission rate in CY 2019 and CY 2020, in CY 2022, Maryland's Medicare unadjusted rate of 15.56 percent is above the national rate of 15.40 percent. Given the State did not meet this contractual requirement in CY 2021, HSCRC Staff submitted additional analytics on risk-adjustmented readmission rates in the RY 2024 Quality Programs Exemption Request

and CMMI has agree to move to a risk-adjusted measure in the future, and did not require a corrective action plan for CY 2022 performance due to this evidence. Given the differences between the unadjusted and adjusted results, staff are pleased that CMMI is developing a risk-adjusted readmissions measure to take into account the patient acuity in Maryland and the nation.

Report Submission in fulfillment of TCOC Model Requirements

In addition to the above-listed goals, the submission of this report completes the Maryland Model Agreement requirement that the State provide an annual monitoring report to CMS (14.c.ii, 16.b., and Appendix D, Table 1). This report is intended to document State performance with respect to selected quality and financial goals as outlined in the All-Payer Model Agreement Appendix D under three domains: Patient Experience of Care, Population Health, and Costs and Efficiency. The "Maryland Total Cost of Care Model Annual Monitoring Report: Expenditures" was submitted in July 2023 in fulfillment of the Costs and Efficiency Goals of the Annual Monitoring Report; the CY 2022 Annual Monitoring Report, containing data for Patient Experience and Population Health Goals, is submitted herewith.

Present and Future Measures included in support of Goal Achievement

In collaboration with CMS, the HSCRC plans to add new measures to this report as they are developed, and add any requested subgroup analyses if available. Further measure development and reporting may also take place as the HSCRC works with CMMI to adapt and enhance this monitoring plan for the Total Cost of Care Model. The HSCRC aims to ensure that CMS has the data it needs to show that the Maryland TCOC Model is effective at achieving the goals of delivering better care and better health at lower costs, and the State will continue to work collaboratively with CMS to establish benchmarks or targets for other high-priority measures that are currently being monitored or that will be developed in the future.

Performance on several of the goals is tracked using more than one measure. Due to International Classification of Diseases, 10th edition (ICD-10) implementation, some measure data in this report should not be trended across the ICD-9 and ICD-10 time periods (pre- and post- October 2015).

Goals to Improve Patient Experience of Care

Maryland believes that a TCOC Model can simultaneously control costs while improving the quality and patients' experience of care. Through the course of the TCOC Model, Maryland expects to enhance care transitions, sustain high levels of physician participation in public programs, and broaden provider engagement in innovative models of care throughout the State. Through these efforts, as well as ongoing

initiatives to reduce complications and readmissions, Maryland will improve both quality outcomes and patient experience.

Goal 1 - Increase Patient Satisfaction - Hospital

Goal 1. Increase Patient Satisfaction with Hospital	
Goal Summary	Patient experience with inpatient hospital care is monitored using the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey. The HCAHPS survey is a standardized tool that allows comparisons across hospitals for public reporting and is used by CMS as part of its Value-Based Purchasing (VBP) pay-for-performance program. The HSCRC also uses the HCAHPS results to reward or penalize hospitals for patient experience as part of its state-level VBP equivalent, the Quality-Based Reimbursement (QBR) program. The rate year (RY) 2024 QBR program was redesigned to address concerns about Maryland performance lagging behind the nation on patient experience. The RY 2024 and RY 2025 QBR policy, continues to weigh the Person and Community Engagement (PCE) domain at 50 percent (which is higher than the 25% weight in the CMS VBP program), but also incorporates scoring of both the top box and the linear measures that are available from CMS Hospital Compare. Providing credit for linear scores (i.e., scores that take into account the full distribution of performance) is designed to further incentivize improvements in HCAHPS survey results. Overall, HCAHPS results (top-box and linear scores) are weighted at 45 percent of the QBR program. For this report, we include top-box results on overall satisfaction with the hospital, as well as the composite scores for communication with doctors and nurses.
Measurement Methodology	HCAHPS Survey Questions[1] Overall patient satisfaction “9 or 10” - This is a global item with one survey question. The measure is the percentage of survey respondents reporting a “9” or “10" when asked the following: “Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay?” Doctors “always” communicated well - This is a composite measure combining responses from three survey questions. The measure is the percentage of survey respondents reporting “always” for each of the following questions: ● During this hospital stay, how often did doctors treat you with courtesy and respect? ● During this hospital stay, how often did doctors listen carefully to you? ● During this hospital stay, how often did doctors explain things in a way you could understand?

[1] For official HCAHPS Survey Question wording, please visit: https://www.hcahpsonline.org/globalassets/hcahps/survey-instruments/mail/effective-july-1-2020-and-forward-discharges/2020_survey-instruments_english_mail.pdf

Goal 1. Increase Patient Satisfaction with Hospital	
	Nurses "always" communicated well - This is a composite measure combining responses from three survey questions. The measure is the percentage of survey respondents reporting "always" for each of the following questions: • During this hospital stay, how often did nurses treat you with courtesy and respect? • During this hospital stay, how often did nurses listen carefully to you? • During this hospital stay, how often did nurses explain things in a way you could understand? Additional information on the HCAHPS survey (e.g., number of surveys collected, survey methods, and exclusion criteria) can be found at: https://www.hcahpsonline.org/.
Monitoring Results	• Across all years (2013–2022), patients in Maryland indicated lower levels of hospital satisfaction than patients across the United States. In 2022, approximately 64 percent of Maryland patients rated their hospital experience as a "9" or "10", compared to 70 percent of patients nationwide. Both Maryland and the nation decreased in 2022. • Patient experience with physician communication was also rated higher in the U.S. than in Maryland. In 2022, Maryland decreased by 1 percent from 2021 with 75percent of patients expressing a high level of satisfaction with physician communication; this compares to 79 percent of patients nationwide. Experience with physician communication changed little between 2013 and 2022 for both Maryland and U.S. patients. • Experience with nurse communication remained the same since 2021, with 74 percent of Maryland patients expressing a high level of satisfaction with nurse communication; this compares to 79 percent for the nation which decreased by 1 percent in 2022.

Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020 *	2021	2022
Patient's rating of hospital: Percentage of survey respondents reporting a 9 or 10 (10 being best)	Maryland	64%	65%	65%	65%	67%	65%	66%	66%	65%	64%
	National	71%	71%	72%	73%	73%	73%	73%	72%	72%	70%
Communication with doctors: Percentage of survey respondents reporting "always" on three questions (composite measure)	Maryland	77%	78%	78%	77%	78%	77%	77%	77%	76%	75%
	National	82%	82%	82%	82%	82%	81%	82%	81%	80%	79%
Communication with nurses:	Maryland	75%	76%	76%	75%	76%	76%	76%	75%	74%	74%

Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020 *	2021	2022
Percentage of survey respondents reporting "always" on six questions (composite measure)	National	79%	79%	80%	80%	80%	81%	81%	81%	80%	79%

*During the COVID-19 Public Health Emergency, CMS announced the suspension of Jan-Jun 2020 quality reporting. Therefore, the CY 2020 data in this annual report reflects Jul 2020-Dec 2020, as is available in the Care Compare flat files from October 2021.

Additional Commentary or Future Improvements

Maryland has historically lagged behind the nation in aggregated HCAHPS Patient Experience survey responses. While there is no "silver-bullet" solution to this improvement, Maryland has increased the prominence and weight of the HCAHPS measures within the Maryland pay-for-performance QBR program to double that of its federal counterpart, the VBP program. To drive improvement, in RY 2024 (CY 2022 performance), the HSCRC encouraged improvement across all levels of performance by incentivizing linear scoring. Because only the most positive responses ("always") receive any points under top-box scoring[2], there may be a cliff effect occurring that does not recognize more granular gradations in HCAHPS performance and therefore discourages further investment in improvement. Linear scoring, however, gives partial credit for intermediate response options ("sometimes" and "usually") and the inclusion of linear scores could motivate hospitals that earn low points on top-box scoring.

HSCRC is making additional efforts to address the ongoing concerns with HCAHPS performance. Specifically, HSCRC has begun to work collaboratively with Maryland hospitals, the Maryland Hospital Association (MHA), survey vendors, the Maryland Healthcare Commission (MHCC), and other important stakeholders to flesh out and implement Maryland's HCAHPS improvement framework. As proposed in last year's Quality Programs Exemption Request, key components of the framework include engagement of hospital leadership accountability, data analysis and data sharing, and sharing of best practices of high performance on HCAHPS. Additional detail on the framework is provided below.

Administrative Leadership Accountability:

Working with MHCC, HSCRC has identified key staff at each hospital accountable for HCAHPS survey administration, data analysis, and improvement. HSCRC has engaged these hospital contacts in activities established under the HCAHPS improvement framework, including sharing of data and best practices (see below).

[2] Top-Box Scoring: never= 0 points; sometimes = 0 points; usually = 0 points; always = 100 points

Timeline Status: *HSCRC began communications with key HCAHPS hospital contacts early in 2023 and will continue to communicate on an ongoing basis with these contacts regarding options for improving best practices, results of data analysis, and potential new incentives or measures targeted at improving HCAHPS (e.g.,adding ED wait time measures back to the payment program).*

Data Analysis and Data Sharing:

HSCRC is working with MHCC on HCAHPS data analysis using the newly obtained patient level data. These analyses will focus on both top box scores, and on linear scores newly added to the QBR program as of RY 2024. The analysis also includes hospital performance by patient-specific demographic factors that may be contributing to hospital-specific trends or that may indicate disparities in performance. The analysis results to date are presented in Section II and in Appendix II.

Timeline Status: *HSCRC conducts ongoing analysis on HCAHPS top box and linear scores and will continue to do this work going forward using the patient level data. HCAHPS data submission began with MHCC receiving CY 2021 Q3 data. MHCC has analyzed the initial year of patient-level HCAHPS data hospitals have submitted (CY 2021 Q3-CY 2022 Q2). Results of the analysis from the initial year are provided in Section II. These results have been shared with the hospitals through the PMWG and will be further discussed with stakeholders as future policies to advance health equity for patient experience are considered. Additionally, HSCRC is in the process of surveying hospitals on any additional questions beyond the standard they are asking patients based on best practices.*

Hospital Adoption and Sharing of Best Practices:

HSCRC has begun collaborations with representatives from the organizations listed below to explore options that have promise for disseminating best practices among hospitals.

Maryland Hospital Association- HSCRC believes that MHA is an important stakeholder for convening hospitals and facilitating sharing of best practices, similar to work they conducted in 2018 and 2019. Further, they have resources such as the Maryland Healthcare Education Institute (MHEI) subsidiary and the Maryland Patient Safety Center (MPSC) partnership that may be helpful in these efforts. In ongoing discussions with MHA, they have indicated their commitment to supporting hospitals' efforts to improve on HCAHPS.

Qlarant– Qlarant is the QIN-QIO is working with Maryland hospitals on Person and Family Engagement (PFE), which should improve patient experience. In a Performance Measurement Workgroup presentation,

Qlarant advised that hospitals can choose to participate in the Hospital Quality Improvement Contract and access support from American Institutes for Research[3] to implement five learning modules:

- PFE 1: Preadmission Planning Checklist
- PFE 2: Discharge Planning Checklist
- PFE 3: Shift Change Huddles and bedside reporting
- PFE 4:Designated PFE Leader
- PFE 5: Person Family Advisory Committee (PFAC) or representatives on hospital committees

HSCRC believes that improvement in PFE has potential to improve HCAHPS scores. HSCRC will consider options to encourage hospitals to participate in PFE training. The HSCRC continues to discuss with Qlarant how to align hospital quality improvement efforts across the State. Qlarant participates in the PMWG meetings to help provide input on resources for hospital quality improvement.

Press Ganey– The HSCRC staff has reached out to Press Ganey, the largest HCAHPS survey vendor, to discuss Maryland performance and disparities in HCAHPS performance. In these discussions, representatives noted that hospital HCAHPS scores nationally show similar trends to those in Maryland with regard to lower minority response rates, lower scores during and post-COVID, and lower scores among black in the maternity service line. Additionally, in discussing best practices, Press Ganey emphasized the importance of HCAHPS performance and the CMS position on HCAHPS:

> "Patient experience surveys sometimes are mistaken for customer satisfaction surveys. Patient experience surveys focus on how patients experienced or perceived key aspects of their care, not how satisfied they were with their care. Patient experience surveys focus on asking patients whether or how often they experienced critical aspects of health care, including communication with their doctors, understanding their medication instructions, and the coordination of their healthcare needs. They do not focus on amenities."

Additional materials shared by Press Ganey after these discussions supports providers' abilities to improve patient experience after adopting best practices.[4] Specifically, they have shown that when hospitals ask

[3]Person and Family Engagement Implementation Guides for Hospitals, found at:
https://hqic-library.ipro.org/2021/12/20/person-and-family-engagement-implementation-guides-for-hospitals/
[4] Study showing the impact of hourly rounding on Press Ganey inpatient measures as well as HCAHPS measures:
http://www.theinstituteforinnovation.org/sites/default/files/public/resources/inspiring-innovation-stories_patient-report-of-hourly-rounding_final.pdf
Bibliography about the impact of rounding:
http://www.theinstituteforinnovation.org/sites/default/files/public/resources/Hourly-Rounds_Apr2018.pdf
Publicly available training slide deck from Advent Health. Of note, slide 41 shows their bullseye charts that they used across their system to show the impact of rounding on HCAHPS measures.
https://www.adventhealth.com/sites/default/files/assets/AHCentralFloridaNorth_PatientExperiencePresentation.pdf

about receipt of a best practice and stratify results, those who report receiving the best practice have higher HCAHPS scores than those who do not report receiving the service within the same hospital. This highlights differential patient experience within hospitals that can be addressed through greater fidelity to best practices. The information shared by Press Ganey provides options for the Commission to adopt that could be linked to incentives, e.g., requiring hospitals to add a limited number of key questions to their HCAHPS surveys that ask about best practices, e.g., hourly rounding, and reporting the responses to the questions as part of the patient level data submitted to MHCC.

> ***Timeline Status:*** *HSCRC will continue working through 2024 and beyond with Qlarant/AIR, Press Ganey, MHA, hospitals, and others to share best practices and options for considering additional hospital incentives to improve HCAHPS such as adding additional HCAHPS questions that are based on best practices.*

Goal 2 – Increase Patient Satisfaction – Home Health

Goal 2. Increase Patient Satisfaction – Home Health	
Goal Summary	Patient experience with home health care is assessed using the Home Health CAHPS (HHCAHPS) survey. As with the hospital survey, the HHCAHPS is a standardized survey that allows comparisons across home health agencies for public reporting. For this report, we include results on overall satisfaction with home health, the composite score for communication with the home health team, and the composite of discussions regarding medicines, pain, and home safety.
Measurement Methodology	HHCAHPS Survey Questions[5] <u>Overall patient experience with home health agency</u> This is a global item with one survey question. The measure is the percentage of survey respondents reporting a "9" or "10" when asked the following: "Using any number from 0 to 10, where 0 is the worst home health care possible and 10 is the best home health care possible, what number would you use to rate your care from this agency's home health providers?" <u>Home Health team always communicated well</u> This is a composite measure combining responses from six survey questions. The measure is the percentage of survey respondents reporting "always" to each of the following questions: • When you first started getting home health care from this agency, did someone from the agency tell you what care and services you would get?

[5] For more information on the HHCAHPS survey questions, please visit - https://homehealthcahps.org/Portals/0/SurveyMaterials/HHCAHPS_Questionnaire_English.pdf

Goal 2. Increase Patient Satisfaction – Home Health	
	• In the last two months of care, how often did home health providers from this agency keep you informed about when they would arrive at your home? • In the last two months of care, how often did home health providers from this agency explain things in a way that was easy to understand? • In the last two months of care, how often did home health providers from this agency carefully listen to you? • In the last two months of care, when you contacted this agency's office did you get the help or advice you needed? • When you contacted this agency's office, how long did it take for you to get the help or advice you needed? <u>Home Health team discussed medicines, pain, and home safety</u> This is a composite measure combining responses from seven survey questions. The measure is the percentage of survey respondents reporting "yes" to each of the following questions: • When you first started getting home health care from this agency, did someone from the agency talk with you about how to set up your home so you can move around safely? • When you started getting home health care from this agency, did someone from the agency talk with you about all the prescription medicines and over-the-counter medicines you were taking? • When you started getting home health care from this agency, did someone from the agency ask to see all the prescription medicines and over-the-counter medicines you were taking? • In the last two months of care, did you and a home health provider from this agency talk about pain? • In the last two months of care, did home health providers from this agency talk with you about the **purpose** for taking your new or changed prescription medicines? • In the last two months of care, did home health providers from this agency talk with you about **when** to take those medicines? • In the last two months of care, did home health providers from this agency talk with you about the **side effects** of these medicines? Additional information on the HHCAHPS survey (e.g., number of surveys collected, survey methods, and exclusion criteria) may be found at: https://homehealthcahps.org/Home.aspx.The survey results are updated quarterly; results for CY2020 restate CY2019 HHCAHPS results.
Monitoring Results	• In 2022, 82 percent of Maryland residents indicated that they received the best home health care possible (down one percent from its highest rate in 2018) compared to 84 percent nationwide (nationwide score remains unchanged since 2013). From 2019-2022, Maryland's percent remained the same. • Maryland residents experience ratings of the home health team's communication decreased 1 percent to 83 percent in 2022 while the US residents overall remained at 85 percent.

Goal 2. Increase Patient Satisfaction – Home Health	
	• Patients who reported that their home health team discussed medicines, pain, and home safety with them were similar in 2022 compared to 2021, with scores of 79 percent for Maryland and 81 percent for the nation.

Measures	Population	2018	2019	2020*	2021	2022
Patient's rating of home health agency: percentage of survey respondents reporting a 9 or 10 (10 being the best)	Maryland	83%	82%	82%	82%	82%
	National	84%	84%	84%	84%	84%
Patients who reported that their home health team communicated well with them	Maryland	85%	85%	85%	84%	83%
	National	85%	85%	85%	85%	85%
Percent of patients who reported that their home health team discussed medicines, pain, and home safety with them	Maryland	81%	82%	82%	80%	79%
	National	83%	83%	83%	81%	81%

Source: CMS Home Health Compare*For CY 2020, CMS Home Health Compare is restating CY 2019 HHCAHPS survey results.

Goal 3 – Increase Patient Satisfaction – Nursing Homes

Goal 3. Increase Patient Satisfaction – Nursing Homes	
Goal Summary	Ongoing review of nursing home data has become even more important as hospitals and nursing homes increasingly collaborate to improve care for patients across settings. This report provides Maryland quality measures from Nursing Home Compare data and the Maryland Nursing Home Family Experience of Care Survey, to evaluate patient care performance in nursing homes in Maryland.
Measurement Methodology	Nursing Home Quality Measures

Goal 3. Increase Patient Satisfaction – Nursing Homes

For 2018 to 2022, Maryland is presenting Nursing Home quality measures derived from the Minimum Data Set (MDS) and Medicare claims data to measure the quality of care provided in nursing homes. The data are collected from publicly available data on Nursing Home Compare. The measures have been broadly vetted and endorsed as valid and reliable, important, and influenced by facility practice. Maryland has focused on a subset of the Nursing Home Compare measures for this report, which are listed below. HSCRC believes that measures of performance in 1) patient independence and functionality; 2) negative occurrences such as falls resulting in major injury, UTIs, and pressure ulcers; 3) the use of prescriptions, including anti-anxiety medications and antipsychotics; and 4) vaccination prevalence are key indicators of patient experience and quality of care in nursing homes.

Additional information on the Nursing Home Quality Measures (e.g., measure specifications, data availability, archived data, etc.) may be found at: https://data.medicare.gov/data/nursing-home-compare.

- QM-407 – Percentage of long stay residents with a urinary tract infection
- QM-410 – Percentage of long stay residents experiencing one or more falls with major injury
- QM-415 – Percentage of long stay residents assessed and appropriately given the pneumococcal vaccine
- QM-419 – Percentage of long stay residents who received an antipsychotic medication
- QM-434 – Percentage of short stay residents who newly received an antipsychotic medication
- QM-452 – Percentage of long stay residents who received an antianxiety or hypnotic medication
- QM-453 – Percentage of high risk long stay residents with pressure ulcers
- QM-454 – Percentage of long stay residents assessed and appropriately given the seasonal influenza vaccine
- QM-471 – Percentage of short stay residents who made improvements in function

Maryland Nursing Home Family Experience of Care Survey

For 2018 to 2022, Maryland is presenting Nursing Home patient satisfaction measures as reported in the Maryland Nursing Home Family Experience of Care Survey. All nursing facilities in Maryland with one or more residents that had a 100 day stay or longer are included in the sample. All nursing homes were asked to provide a list of the designated family members of each of their current residents. The designated family members were asked to complete a survey about their experience and satisfaction with the facility and care provided to residents. The survey contains two overall measures of satisfaction and 31 items which assess seven domains or aspects of residents' life and care:

Goal 3. Increase Patient Satisfaction – Nursing Homes	
	1. Staff and Administration of the Nursing Home 2. Care Provided to Residents 3. Food and Meals 4. Autonomy and Residents' Rights 5. Physical Aspects of the Nursing Home 6. Activities 7. Security and Residents' Personal Rights Beginning with the 2020 survey, three Overall COVID-19 Measures are included: ● Percentage who said staff of the nursing home "Always" or "Usually" kept them informed of how the COVID-19 outbreak was affecting their loved one ● Percentage who said staff of the nursing home "Always" or "Usually" kept them involved in the resident's care decisions during the COVID-19 outbreak ● Overall rating of care received at the nursing home in response to the COVID-19 outbreak ● Additional information on the Maryland Nursing Family Experience of Care Survey (e.g. survey questions, methods, etc.) may be found at: https://healthcarequality.mhcc.maryland.gov/3e923db3396c3e1ff53b0a1cb3cfae65.pdf
Monitoring Results	Nursing Home Quality Measures ● Of the nine measures, Maryland improved from CY 2018 to CY 2022 in all but three measures (percentage of long-stay residents who needed and got a vaccine to prevent pneumonia, percentage of long-stay residents who needed and got a flu shot for the current flu season, and percentage of long-stay high-risk residents with pressure ulcers). ● Of the nine measures, Maryland performs on par or better than the nation in CY 2022 in all but two measures (percentage of long-stay high-risk residents with pressure ulcers and percentage of long-stay residents who needed and got a vaccine to prevent pneumonia). The PSI for pressure ulcers has decreased on a risk-adjusted basis despite the reported increase on an unadjusted basis.. Maryland Nursing Home Family Experience of Care Survey ● Of the twelve domains, Maryland remained constant from CY 2018 to CY 2021 in two domains –Physical Aspects of the Nursing Home, Security and Resident's Personal Rights, but decreased by 0.2 and 0.1 points respectively in these two areas in CY 2022. ● Maryland performance declined from CY 2018 to CY 2022 in eight domains (Staff and Administration of the Nursing Home by 0.2 points, Care Provided to Residents by 0.3 points, Food and Meals by 0.2 points, Autonomy and Resident Rights by 0.2

Goal 3. Increase Patient Satisfaction – Nursing Homes	
	points, Physical Aspects of the Nursing Home by 0.2 points, Activities by 0.3 points, Overall Rating of Care Received by 0.5 points, and the percentage that would recommend the nursing home by 12 percentage points). We believe that the decrease in performance, at least in part, is attributable to the COVID-19 pandemic and its effects on care delivery. • Compared to 2021, Maryland performed worse on two COVID-19 Measures (Overall rating of care received at the nursing home in response to the COVID-19 outbreak and the percentage who said staff of the nursing home "Always" or "Usually" kept them involved in the resident's care decisions during the COVID-19 outbreak) in CY 2022. Compared to 2018, Maryland performed worse on one COVID-19 Measure (Percentage of long-stay residents who needed and got a flu shot for the current flu season) in CY 2022.

Nursing Home Quality of Care Measures

Measures	Population	2018	2019	2020*	2021	2022
Percentage of short-stay residents who improved in their ability to move around on their own. [QM-471]	Maryland	66.58%	66.25 %	71.82%	73.77 %	73.77 %
	Nation	67.41%	67.99 %	72.12%	74.14 %	74.14 %
Percentage of short-stay residents who got antipsychotic medication for the first time. [QM-434]	Maryland	1.57%	1.47%	1.71%	1.59%	1.59%
	Nation	1.80%	1.79%	1.89%	1.76%	1.76%
Percentage of long-stay residents experiencing one or more falls with major injury. [QM-410]	Maryland	2.67%	2.64%	3.00%	2.66%	2.66%
	Nation	3.37%	3.36%	3.41%	3.39%	3.39%
Percentage of long-stay residents with a urinary tract infection. [QM-407]	Maryland	2.47%	2.32%	2.22%	2.11%	2.11%
	Nation	2.76%	2.65%	2.49%	2.36%	2.36%
Percentage of long-stay high-risk residents with pressure ulcers. [QM-453]	Maryland	8.96%	8.89%	10.52%	10.04 %	10.04 %
	Nation	7.32%	7.32%	8.35%	8.13%	8.13%
Percentage of long-stay residents who got antianxiety or	Maryland	15.49%	14.88 %	14.89%	14.31 %	14.31 %

Measures	Population	2018	2019	2020*	2021	2022
hypnotic medication. [QM-452]	Nation	20.17%	19.70 %	19.70%	19.47 %	19.46 %
Percentage of long-stay residents who needed and got a flu shot for the current flu season. [QM-454]	Maryland	96.60%	96.52 %	96.36%	95.60 %	95.60 %
	Nation	95.76%	95.98 %	95.94%	95.16 %	95.17 %
Percentage of long-stay residents who needed and got a vaccine to prevent pneumonia. [QM-415]	Maryland	94.12%	93.93 %	93.32%	90.77 %	90.77 %
	Nation	93.66%	93.87 %	93.58%	92.39 %	92.40 %
Percentage of long-stay residents who got an antipsychotic medication. [QM-419]	Maryland	12.21%	12.52 %	13.23%	13.06 %	13.06 %
	Nation	14.48%	14.20 %	14.42%	14.47 %	14.47 %

*Source: CMS Nursing Home Compare. State and National MDS measures are reported from October or November archived files, in accordance with corresponding CY quarters in the by-facility reports. QM-453 is restated from historical QM-403, and QM-454 is restated from historical QM-411. All data represent Calendar Years except where specified. 2020 data is sourced from the Nursing Home Compare Flat Files, refreshed November 2021 (Source: NH_StateUSAverages_Oct2021). Please see caveats from the FY 2022 SNF PPS Final Rule.

The HSCRC continues its partnership with the Maryland Health Care Commission (MHCC), which administers an annual **Maryland Nursing Home Family Experience of Care Survey** and reports the results on a statewide basis.

Measures	Population	2018	2019	2020	2021	2022
Staff and Administration of the Nursing Home*	Maryland	3.4	3.4	3.4	3.3	3.2
Care Provided to Residents*	Maryland	3.4	3.3	3.4	3.1	3.1
Food and Meals*	Maryland	3.1	3	3.1	3.0	2.9
Autonomy and Residents' Rights*	Maryland	3.3	3.3	3.1	3.1	3.1
Physical Aspects of the Nursing Home*	Maryland	3.2	3.2	3.2	3.2	3.0
Activities*	Maryland	3.0	3.0	2.7	2.6	2.7

Measures	Population	2018	2019	2020	2021	2022
Security and Residents' Personal Rights*	Maryland	3.3	3.3	3.3	3.3	3.2
Overall Rating of Care Received at the Nursing Home (0-10)	Maryland	7.7	7.6	7.8	7.5	7.2
Percentage that said "Definitely Yes" Or "Probably Yes" to "Would you recommend the nursing home?"	Maryland	81%	78%	80%	75%	69%
Percentage who said staff of the nursing home "Always" or "Usually" kept them informed of how the COVID-19 outbreak was affecting their loved one	Maryland			81%	80%	80%
Percentage who said staff of the nursing home "Always" or "Usually" kept them involved in the resident's care decisions during the COVID-19 outbreak	Maryland			79%	75%	74%
Overall rating of care received at the nursing home in response to the COVID-19 outbreak	Maryland			81%	80%	52%

*Starred Domains within the Maryland Nursing Home Family Experience of Care Survey are assessed on a scale of 1-4.

Goal 4- Increase Patient Satisfaction - Ambulatory Care

Goal 4. Increase Patient Satisfaction - Ambulatory Care	
Goal Summary	At present, the HSCRC reports one measure of patient satisfaction from the Clinician and Group CAHPS (CG-CAHPS) to assess patient experience with ambulatory care. Estimates for the state of Maryland are not reported separately by CG-CAHPS and are not specifically presented in this report. Rather, Maryland patients' assessment of ambulatory care satisfaction is represented in data for the southern region of the United States. Data in this monitoring report are the "top box" scores for patients' ratings of their providers by region of the country. For the first year, the HSCRC is also reporting multiple years of the Maryland Health Care Commission's (MHCC) "Maryland Freestanding Ambulatory Surgical Facility Survey" results. This MHCC and HSCRC staff believe that areas particularly pertinent to the ongoing success of the TCOC Model include the proportion of Medicare and Medicaid patients served at Maryland ASCs and surgeries that are gradually shifting from inpatient settings to ASCs.

Goal 4. Increase Patient Satisfaction - Ambulatory Care	
Measurement Methodology	**CG-CAHPS Survey Question Reported[6],[7]** Global Ratings ● Using any number from 0 to 10, where 0 is the worst doctor possible and 10 is the best doctor possible, what number would you use to rate this doctor? The by-region analysis presents the percentage of respondents who responded "9" or "10". Additional information on the CG-CAHPS database is available here: https://www.cahpsdatabase.ahrq.gov/CGSurveyGuidance.aspx **Maryland Freestanding Ambulatory Surgical Facility Survey** In 2018, the HSCRC's "Sister Commission", the Maryland Health Care Commission (MHCC), updated the data collection website and questions for its annual "Maryland Freestanding Ambulatory Surgical Facility Survey". The data collected is self-reported for over 300 ambulatory surgical centers (ASCs) across the state. The survey gathers data along the following five domains: 1. Facility Contact Information, Ownership, and Operational Status 2. Services and Staffing 3. Utilization 4. Financing 5. Patient Safety Activities .
Monitoring Results	● Patients' rating of ambulatory care providers in the southern region of the United States (of which Maryland is a part) was four percent higher than the national rating in 2019. Between 2015 and 2019 satisfaction with ambulatory care decreased by 2 percentage points in the southern region (85 percent to 83 percent) but remained higher than the nation, which decreased four percentage points over the same time period (83 percent to 79 percent). In 2021, AHRQ suspended new data submission for the CG-CAHPS due to a decline in participation. ● The HSCRC Continues to seek improved measures and data sources to address the goal of increased patient satisfaction in ambulatory care settings. ● Please note, the Clinician and Group CAHPS have not published CY 2022 data at the time of the report, please see: https://cahpsdatabase.ahrq.gov/Summaryresults.aspx (presenting data through CY 2019).

[6] CG-CAHPS information was accessed via the CG-CAHPS Report Builder, which may be found here: https://cahpsdatabase.ahrq.gov/CAHPSIDB/CG/RptBuilder.aspx

[7] CY 2017 Aggregated total was accessed via the CG-CAHPS 2017 Executive Summary, which may be found here: https://cahpsdatabase.ahrq.gov/files/2017_CG_CAHPS_Chartbook_Executive_Summary.pdf

Measures	Population	2016	2017	2018	2019	2020	2021	2022
Patient's rating of provider: percent with top box scores ("9" or "10")	Maryland (South)			83%	83%			
	Northeast	83%		81%	78%			
	Midwest	82%		82%	81%			
	West	82%		77%	77%			
	National	82%	80%	80%	79%			

Quality Metrics from the MHCC Freestanding Ambulatory Surgical Facility Survey[8]

[8] Survey was not administered for CY2020 due to the COVID pandemic.

Domain	Measure	2018	2019	2021
Facility Counts	Total Facilities	315	322	344
	Physician Outpatient Surgery Center (2 or less operating rooms)	95%	95%	95%
	Ambulatory Surgery Facility (3 or more operating rooms)	5%	5%	5%
Patient Satisfaction	Answered "Yes" to: Does your facility administer a patient satisfaction survey?	88%	88%	88%
	If yes, frequency of survey:			
	After each surgery	87%	81%	87%
	Quarterly	8%	14%	9%
	Annually	2%	2%	2%
	Other	3%	3%	2%
Accreditation	Answered "Yes" to: Is your facility accredited by any of the following organizations?[9]	96%	95%	93%
	If yes, which organization?			
	The Joint Commission (JTC)	17%	18%	18%
	Accreditation Association for Ambulatory Health Care (AAAHC)	51%	51%	50%
	American Association for Accreditation of Ambulatory Surgery Facilities (AAAASF)	20%	18%	18%
	Accreditation for Podiatric Surgical Facilities (AAPSF)	9%	9%	9%
Healthcare Worker Influenza Vaccination[10]	Overall Healthcare Worker Influenza Rate	85%	86%	84%
	Does your organization have a mandatory influenza vaccination policy?			
	Yes-Mandatory policy	35%	30%	36%
	No- No mandatory policy	59%	63%	58%
	No- Not planning to implement	6%	7%	6%
Miscellaneous	Answered "Yes" to: Does your facility maintain an antimicrobial stewardship program (ASP) that aligns with the CDC or AHRQ guidelines (i.e. core elements)?	46%	49%	51%
	Answered "Yes" to: Does your facility participate in the CDC National Healthcare Safety Network (NHSN) surveillance system for reporting infections	40%	42%	49%
	Percentage of facilities that serve Maryland Medicare Patients[11]	85%	90%	86%
	Percentage of facilities that serve Maryland Medicaid Patients[12]	70%	70%	73%

[9] A freestanding ambulatory surgical facility can be accredited by multiple organizations, some years may equate to greater than 100%
[10] The survey responses represent the fu season prior to the survey (e.g., 2021 survey would encompass October 2020- May 2021); denominator excludes facilities that closed within the survey year
[11]Derived from the presence of Medicare payments received within the Calendar Year (CY)
[12]Derived from the presence of Medicaid payments received within the Calendar Year (CY)

Additional Commentary and Future Improvements

The current measure of Patient Satisfaction with Ambulatory Care specified for the Model Agreement, derived from the Clinician and Group CAHPS (CG CAHPS) tool, is not ideal and seems to have been suspended, as the data are available on a regional level (instead of a state level) and do not specifically reflect Maryland performance trends and results were last reported in 2019. To try and address these concerns, Maryland is reviewing alternative options for data sources on patient experience with ambulatory care, including the Outpatient and Ambulatory Surgery CAHPS (OAS CAHPS) survey which collects information about patients' experiences of care in hospital outpatient departments (HOPDs) and ambulatory surgery centers (ASCs). The survey has been voluntary since its implementation in 2016 and will continue to be voluntary through CY 2023 for HOPDs and 2024 for ASCs. The survey will be required and linked to reimbursement in CY 2024 for HOPDs and CY 2025 for ASCs. If an HOPD or ASC does not conduct and submit OAS CAHPS as part of the quality reporting requirement, they will receive a reduction of 2.0 percentage points in their annual fee schedule update.

Goal 5 - Enhance Care Transitions - Hospital

Goal 5. Enhance Care Transitions - Hospital	
Goal Summary	The three-item Care Transition Measure (CTM-3) assesses overall patient experience with hospital care transitions. The CTM-3 includes three major domains: 1) patients' understanding of their role in self-care, 2) patients' understanding of their medications' purpose, and 3) patients' perception that their preferences and those of their families were taken into account when discharge plans were being made. These three items were added to the HCAHPS survey, and hospitals in Maryland and nationwide began reporting them in January 2014. The CTM-3 item has been added to Maryland's QBR programs beginning in FY 2018. The HSCRC is particularly interested in this measure due to the importance of empowering patients to access and maintain the post-discharge care they will need to reduce potentially avoidable hospital utilization.
Measurement Methodology	This is a composite measure combining responses from three questions on the HCAHPS survey.[13] The measure is the linear transformation score of survey respondents reporting "Strongly Agree" for each of the following questions: • During this hospital stay, staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left. • When I left the hospital, I had a good understanding of the things I was responsible for in managing my health.

[13] For official HCAHPS Survey Question wording, please visit: https://www.hcahpsonline.org/globalassets/hcahps/survey-instruments/mail/effective-july-1-2020-and-forward-discharges/2020_survey-instruments_english_mail.pdf

Goal 5. Enhance Care Transitions - Hospital	
	• When I left the hospital, I clearly understood the purpose for taking each of my medications. Additional information on the CTM-3 and HCAHPS survey (e.g., number of surveys collected, survey methods, and exclusion criteria) can be found at: https://www.hcahpsonline.org/.
Monitoring Results	• The CTM-3 linear transition scores for Maryland of respondents who "Strongly Agree" that they understand post-discharge care are four percent below national scores (47.3 v. 51.3 percent) in 2022. • When "Strongly Agree" and "Agree" are combined, Maryland is much closer in performance to the Nation, at 92.3% compared to 93.6%. • Maryland respondents are higher at the rate at which they "Disagree" or "Strongly Disagree" that they understand their post-discharge care, 7.7 percent (MD) compared to 6.3 percent (Nation) in 2022.

Measures		Population	2016	2017	2018	2019	2020*	2021	2022
Three Item Care Transition Measure	Strongly Agree	Maryland	47%	49%	49%	49%	48%	47%	47.3%
		National	52%	53%	53%	54%	52%	52%	51.3%
	Agree	Maryland	46%	45%	44%	45%	45%	45%	45%
		National	43%	42%	42%	41%	42%	42%	42.3%
	Disagree or Strongly Disagree	Maryland	7%	6%	7%	6%	7%	8%	7.7%
		National	5%	5%	5%	5%	6%	6%	6.3%

*During the COVID-19 Public Health Emergency, CMS announced the suspension of Jan-Jun 2020 quality reporting. Therefore, the CY 2020 data in this annual report reflects Jul 2020-Dec 2020, as is available in the Care Compare flat files from October 2021.

Goal 6 - Enhance Care Transitions - Coordination with Primary Care; Other settings of Care

Measures used to assess the improvement of care transitions consist of (A) the rate of timely physician follow-up after discharge, (B) the rate of discharges in which the principal provider was notified, and (C) implementation of Care Transformation Initiatives (CTIs). The hospitals also continue to improve alignment with practices in the MD Primary Care Program (MDPCP).

Goal 6. Enhance Care Transitions - Coordination with Primary Care; Other settings of Care	
Goal Summary	The successful management of transitions of care—particularly following an hospital visit—is a key strategy to improve quality of patient care, including the

Goal 6. Enhance Care Transitions - Coordination with Primary Care; Other settings of Care	
	reduction of hospital readmissions. Of particular importance is appropriate and timely outpatient physician follow-up to ensure a patient's post-discharge care needs are being addressed. This goal tracks the rate of physician follow-up after discharge, as well as the proportion of discharges for which a physician is notified of the admission and/or discharge. Additionally, Care Transformation Initiative (CTI) proposals are aggregated and addressed here. For more information on CTIs, please review the Statewide Integrated Health Improvement Strategy (SIHIS) Proposal and annual reports. Finally, hospitals continue to improve alignment with practices in the MD Primary Care Program (MD-PCP). For more information on the MDPCP, please refer to the MDPCP Annual Report.
Measurement Methodology	Timely Follow-up after Acute Exacerbations of Chronic Conditions State of Maryland has adopted the National Quality Forum (NQF) endorsed measure of Timely Follow-Up after Acute Exacerbations of Chronic Conditions (NQF# 3455). This measure was developed as a health plan measure by IMPAQ International on behalf of CMS, and Maryland has adapted the measure to calculate rates of follow-up after discharge for Medicare beneficiaries who visit the hospital in Maryland. In CY 2023, the HSCRC, in collaboration with CRISP and Maryland Medicaid, was able to expand the measurement to include Medicaid patients. The measure assesses the percentage of emergency department visits, observation stays, and inpatient admissions after which a non-emergent outpatient follow-up visit was received within the timeframe recommended by clinical practice guidelines for the following conditions: • Hypertension: Within 7 days of the date of discharge • Asthma: Within 14 days of the date of discharge • Heart Failure: Within 14 days of the date of discharge • Coronary Artery Disease: Within 14 days of the date of discharge • Chronic Obstructive Pulmonary Disease: Within 30 days of the date of discharge • Diabetes: Within 30 days of the date of discharge NQF endorsed this measure for three main reasons: the overall importance of timely follow-up in favorable health outcomes; clinical evidence that timely follow-up is associated with reduced readmission rates for specific conditions; and in alignment with strong clinical practice guidelines to receive follow-up following discharge. Starting with CY 2021 performance, Maryland included a by-hospital incentive to improve the rates of timely follow-up for Medicare patients in the QBR program; hospitals are provided with monthly updates. In CY 2022, hospitals began receiving reports for Medicaid patients; the Medicaid measure was included in the QBR program beginning with CY 2023 performance.

Goal 6. Enhance Care Transitions - Coordination with Primary Care; Other settings of Care	
	Maryland is including improvement on this measure as a Goal under Domain 2: Care Transformation across the System, of the SIHIS proposal. Despite not meeting the CY 2021 SIHIS milestone target, Maryland is committed to achieving the SIHIS goal of 75% timely follow-up by Year 8 of the Model for Medicare patients. Finally, as discussed in more detail below, disparities in follow-up rates by race, ADI, and dual enrollment status in Medicaid was added to the QBR program for Medicare patients starting in 2024. The methodology for measuring within-hospital disparities in follow-up uses the same general methodology as is used for readmissions. Discharges with Principal Provider Notification Chesapeake Regional Information System for Our Patients (CRISP), Maryland's Health Information Exchange, provides an Encounter Notification Service (ENS), which sends information to providers on a real-time basis when a provider's patient visits a hospital. Providers can choose to receive different types of notifications through CRISP, such as Emergency Department (ED) registration events, inpatient admissions, and inpatient discharges. ENS works by gathering patient panels directly from providers rather than relying on self-reported data from patients during the admission process, which is known to be less reliable. CRISP encourages participating organizations to update their panels at least monthly. As ENS has demonstrated importance and reliability among the provider community, the types of organizations submitting ENS panels have grown. In addition to ambulatory physicians, CRISP regularly receives panels from long-term care facilities, care coordination entities, behavioral health organizations, and payers. HSCRC staff uses data from CRISP to calculate the percentage of inpatient discharges for which there is any associated ENS alert sent to a provider, an indicator of supporting transitions in care that is consistent with meaningful use requirements. In addition to the ENS notification, CRISP also sends providers the patient's most recent contact information; providers find this to be extremely valuable in connecting with patients post discharge. CRISP has retired this measure as of CY 2022 due to lack of data maintenance. Care Transformation Initiatives Under the TCOC Model, HSCRC staff are evaluating hospital efforts to address specific patient population needs, defined as Care Transformation Initiatives (CTIs). CTIs develop systematic understanding of best practices for improving care, account for the savings and improvements attributed to care transformation, incentivize initiatives that produce savings under the TCOC Model, and articulate Maryland's success stories in transforming care. Assessing CTIs help to delineate the level of effort each hospital is undertaking in the investments for system success to inform revenue distribution and policy incentives. Successful CTIs will financially reward hospitals through the Medicare

Goal 6. Enhance Care Transitions - Coordination with Primary Care; Other settings of Care	
	Performance Adjustment (MPA) Framework.[14] Savings of $130M were scored for the first completed year (FY22).
Monitoring Results	Follow-up After Discharge for Acute Exacerbation of Chronic Condition ● In CY 2018, Maryland had an overall timely follow-up rate across all six conditions for Medicare patients of 70.85 percent; during CY 2020, the overall rate of timely follow-up dropped to its lowest rate at 67.90% for Maryland but has been recovering each year since then with the CY 2022 rate increasing to 70.59% ● Maryland's timely follow-up rate has remained higher than the contemporaneous national timely follow-up rate. In CY 2022, Maryland performed almost four percent better than the Nation. ● In CY 2022, Maryland Medicare timely follow-up rates for all conditions were higher than the nation, and Maryland rates were also improved from CY 2021 except for those with Coronary Artery Disease (CAD) and Hypertension (HTN). For example, COPD had an almost 2% increase in follow-up, and diabetes had more than a 1% follow-up in CY 2022 compared to CY 2021. ● Results for Medicaid indicate much lower follow-up rates than for Medicare with only 48.24% of patients receiving timely follow-up in CY 2022 following a hospital visit and this rate is slightly lower than what was seen in CY 2018 and CY 2021. This lower rate and stagnant performance led to the Commission approval of the Medicaid measure in the QBR program for CY 2023. The lower rate also may be due to a younger and more healthy population, and also is why staff did not combine Medicare and Medicaid. Discharges with Principal Provider Notified in Maryland ● The percentage of Maryland discharges resulting in a provider being notified via an ENS alert has increased tremendously, from 10.26% in CY 2013 to 91.79% in CY 2021. While the rate slightly dropped in CY 2022 to 88.56%, the use of CRISP for ENS notifications is a clear success of Maryland's robust HIE. Care Transformation Initiatives In FY 2022, the HSCRC launched Care Transformation Initiatives (CTI), a new value-based payment program. CTIs assign Medicare beneficiaries to hospitals that have enrolled those beneficiaries in a care management program. The CTI holds hospitals accountable for the total cost of care for those beneficiaries assigned to them and rewards hospitals for any savings created by their care management programs. The program ensures that a single entity is accountable for managing patient care across the delivery system and that providers are paid on a population specific-basis, rather than on fee-for-service. The program allows HSCRC to develop a systematic understanding of best practices for improving

[14] For more information about the Medicare Performance Adjustment, please see the Total Cost of Care Workgroup page of the HSCRC website, https://hscrc.maryland.gov/Pages/hscrc-tcoc.aspx.

Goal 6. Enhance Care Transitions - Coordination with Primary Care; Other settings of Care	
	care, account for the savings and improvements attributed to care transformation, incentivize initiatives that produce savings under the TCOC Model, and articulate Maryland's success stories in transforming care. HSCRC staff regularly receive feedback from the Care Transformation Steering Committee, which prioritizes, develops, and finalizes each CTI proposed by hospitals. To date, the Steering Committee has approved five CTI categories: (1) Transitions of Care, (2) Palliative Care, (3) Primary Care Transformation, (4) Community-Based Care, and (5) Emergency Care. Forty-three hospitals participated in a cumulative total of 107 CTIs in FY 2022 and generated $127 million in Medicare savings. Forty-three hospitals are participating in 99 CTIs in FY 2023.

Follow-up After Discharge for Acute Exacerbation of Chronic Condition- Medicare

Measures	Population	2018	2019	2020	2021	2022
Overall	Medicare MD	70.85%	71.45%	67.90%	70.07%	70.59%
	Medicare Nat'l	66.82%	69.00%	64.75%	67.68%	67.26%
Asthma	Medicare MD	61.79%	60.84%	56.57%	58.30%	61.60%
	Medicare Nat'l	57.34%	59.73%	54.27%	58.63%	59.51%
CAD	Medicare MD	73.86%	74.89%	71.55%	74.05%	73.82%
	Medicare Nat'l	68.23%	70.58%	67.32%	70.70%	70.37%
CHF	Medicare MD	72.10%	73.23%	68.93%	72.20%	72.56%
	Medicare Nat'l	67.25%	69.21%	64.46%	69.56%	69.05%
COPD	Medicare MD	79.32%	79.67%	74.41%	77.60%	79.66%
	Medicare Nat'l	73.96%	77.67%	72.52%	75.58%	76.05%
Diabetes	Medicare MD	80.60%	80.77%	78.77%	80.68%	81.83%
	Medicare Nat'l	75.80%	79.21%	74.31%	78.27%	77.71%
HTN	Medicare MD	55.04%	55.94%	54.15%	55.44%	54.73%
	Medicare Nat'l	52.59%	53.66%	51.98%	53.16%	52.42%

Follow-up After Discharge for Acute Exacerbation of Chronic Condition- Medicaid

Measures	Population	2018	2019	2020	2021	2022
Overall	Medicaid MD	48.66%	49.92%	49.42%	50.43%	48.24%
Asthma	Medicaid MD	38.51%	38.38%	36.56%	37.67%	37.31%
CAD	Medicaid MD	58.39%	62.31%	59.87%	62.98%	59.17%
CHF	Medicaid MD	57.24%	57.75%	55.37%	57.77%	56.93%
COPD	Medicaid MD	62.04%	63.83%	61.97%	64.68%	62.22%
Diabetes	Medicaid MD	65.52%	67.24%	66.51%	68.92%	66.40%
HTN	Medicaid MD	37.61%	39.56%	39.79%	41.94%	40.39%

Discharges with Principal Provider Notified in Maryland

Population	2013	2014	2015	2016	2017	2018	2019	2020[15]	2021	2022[16]
Any Provider Notified	10.26%	35.69 %	47.88%	55.31 %	63.06 %	66.55 %	79.51 %	91.36%	91.79%	88.56%

Additional Commentary or Future Improvements

Prior to CY 2021, due to data availability, the timely follow-up measure only assessed Medicare FFS beneficiaries since both hospital and non-hospital data are needed to calculate the measure. Beginning in CY 2022, in collaboration with MD Medicaid and CRISP, the HSCRC is able to assess timely follow-up for Medicaid beneficiaries. While the measure is presently restricted to two payers, improvements in clinical practice incentivized by the QBR program may benefit all payers. Also, based on stakeholder feedback, the HSCRC is also exploring whether it is possible to expand this measure to other conditions, in particular, follow-up after behavioral health hospitalization.

In the Summer of CY 2022, staff convened a Health Equity Workgroup which stratified Maryland's quality measures by social demographic factors to glean disparities. Staff stratified the Timely Follow-Up measure by race, dual-eligibility status, and Area Deprivation Index (ADI) and uncovered disparities within all three factors among Medicare patients. For example, Black Medicare patients have a 58 percent higher odds of not receiving follow-up compared to their white counterparts; similar trends were seen where duals and those with higher area deprivation had higher odds of not receiving follow-up. Given the overwhelming

[15] The calculation used changed pre and post 2020.
[16] Calendar year 2022 results are missing about two weeks of data, according to CRISP.

evidence of disparities in this measure, HSCRC staff has developed a timely follow-up disparity gap metric. The timely follow-up disparity measure was approved to be included in the QBR program beginning with CY 2024 performance. Future iterations of this report will summarize statewide performance on reducing Medicare disparities in timely follow-up rates; staff will also explore how to add Medicaid disparities in the future.

Goal 7 - Sustain Physician Participation in Public Programs

Goal 7. Sustain Physician Participation in Public Programs	
Goal Summary	In an effort to ensure high physician participation in public programs, Maryland monitors participation rates for Medicare physicians.
Measurement Methodology	Medicare-Participating Providers per 1,000 Medicare Enrollees To approximate the number of Medicare-participating providers per 1,000 beneficiaries, the CCLF dataset was queried for Medicare paid claims for Maryland providers over CYs 2017-2020. Medicare beneficiary counts were pulled from TCOC Monthly files provided by CMMI, and approximate Medicare beneficiaries using total (Part A and/or Part B) beneficiaries as of December of each year.
Monitoring Results	• Medicare-Participating Physicians per 1,000 was approximated from CMMI data prior to CY 2017. With the advent of the TCOC Model and the ability to utilize the CCLF, CY 2020 Medicare-participating physicians per 1,000 is approximated at 34.6. This rate is higher than in CY 2017. Then in CY 2021, the data sources were modified again so trending is not possible historically, and the CY 2021 rate indicates 23.0 Medicare-participating physicians per 1,000. CY 2022 data was not available for trending due to a change in staffing at CMMI but staff hope the trend of increasing providers will continue.

Measures	Population	2017	2018	2019	2020	2021[17]	2022
Medicare-participating providers per 1,000 Medicare Enrollees	Maryland	33.5	34.2	34.1	34.6	23.0	

[17] For CY 2021, the data source for the number of Medicare-participating providers has changed. Therefore, this measure should not be trended pre- and post- 2020.

Goal 8 - Broaden Engagement in Innovative Models of Care

The TCOC Model offers the opportunity to Broaden Engagement in Innovative Models of Care. Please see below information about innovative models of care that the State of Maryland is currently pursuing and implementing. We hope in future years to provide additional updates, including metrics of engagement, as we continue to implement these models.

Regional Partnership Catalyst Program and Maternal and Child Health Funding

The HSCRC launched the Regional Partnership Catalyst Program in January 2021. This five-year program is intended to foster collaboration between hospital and community partners and enable the creation of a statewide infrastructure to implement evidence-based interventions to improve population health. The program is narrowly focused to support interventions that align with goals of the TCOC Model and two of the population health focus areas under the SIHIS: diabetes and opioid use.

The HSCRC awarded $57.8 million in funding to support diabetes prevention and management programs over 3.5 years (CY 2021- June 2024). The HSCRC opted to end funding for diabetes programs early due to lack of performance and concerns over the long-term sustainability of the programs; however, hospitals may continue to support these programs independently using the infrastructure developed since 2021. Additionally, $79.1 million was awarded to three Regional Partnerships to support the implementation and expansion of behavioral health crisis management models that improve access to crisis intervention, stabilization, and treatment referral programs. These dollars are intended to promote treatment of individuals in need of behavioral health crisis services in more appropriate community settings and avoid unnecessary emergency room visits, which in some cases can adversely impact patients in crisis.

A more detailed description of Regional Partnership activities is included in the State's annual SIHIS report.

In May 2021, the HSCRC approved cumulative funding of $40 million over four years (FY 2022 - 2025) to fund MCH investments led by Medicaid, Managed Care Organizations, and Public Health Services under the Maryland Department of Health. Funding directed to Medicaid and MCOs is supporting expansion of home visiting services, CenteringPregnancy, the Maternal Opioid Misuse (MOM) Model and doula reimbursement. Public Health Services funding is supporting the expansion of Medicaid's home visiting program for children with moderate to severe asthma, as well as community-based asthma home visiting programs in Baltimore City and Prince George's County. Funds are also supporting community-based maternal and infant home visiting programs and CenteringPregnancy expansion.

More details on the MCH Funding can be found in the State's annual SIHIS report.

Care Redesign Program (CRP)

The Maryland Care Redesign Program (CRP) aims to support effective care management and population health activities and deliver high quality, efficient, well-coordinated episodes of care, with a focus on high and rising-risk populations. During 2022, the State operated three care redesign tracks: the Episode Care Improvement Program (ECIP), the Hospital Care Improvement Program (HCIP), and the Episode Quality Improvement Program (EQIP).

The Episode Care Improvement Program (ECIP) is designed to allow a hospital to link payments across providers during an episode of care. Maryland modeled ECIP on CMS's Bundled Payments for Care Improvement Program Advanced Model. Episode payment models bundle payments to health care providers for certain items and services furnished during an episode of care. ECIP's bundled payment approach aligns incentives across hospitals, physicians, and post-acute care facilities to generate savings and improve quality through better care management during episodes, eliminating unnecessary care, and reducing post-discharge emergency department visits and hospital readmissions. ECIP provides hospitals with the opportunity to provide incentive payments to care partners that help achieve these goals. ECIP began on January 1, 2019, with nine hospital participants. ECIP participation grew to 21 hospitals in CY 2021 and 24 hospitals in CY 2022. The HSCRC made policy changes to ECIP for CY 2023, requiring hospitals to share incentives with care partners and/or provide significant resource sharing to care partners. These changes influenced hospital participation decisions. In CY 2023 17 hospitals are participating in ECIP, and sixteen hospitals have signed up to participate in CY 2024. Hospitals are opting to participate in CTIs and to support participation in EQIP by affiliated physicians. Care partner engagement, a key element of CRP implementation, has fallen as the number of participating hospitals has declined. For the second half of CY 2023, there are 2,507 unduplicated ECIP care partners and 7 facilities. The HSCRC has discontinued the HCIP track in CY 2023 after only one hospital participated in CY 2022. The HSCRC believes the declining participation in HCIP, which began in 2017, is a natural result of the hospitals strategically choosing how to best expend their resources. Hospitals are opting to participate in newer programs such as ECIP and CTIs, and also support participation in EQIP by affiliated physicians.

The Episode Quality Improvement Program is a voluntary program that engages specialist physicians who treat Maryland Medicare beneficiaries in care transformation and value-based payment through an episode-based approach. EQIP will hold participants accountable for achieving cost and quality targets for one or more Clinical Episodes. The first Performance Year of EQIP began on January 1, 2022 with 15 episodes focused on the specialty areas of cardiology, gastrointestinal, and orthopedics. Participation in PY1 EQIP included 1,981 providers. Year 1 results are favorable as EQIP saved $20 million in total cost of care compared to 2021, with a savings rate of 5%.The second Performance Year, beginning January 1, 2023 expanded the program to include 25 new episodes in the following specialty areas: Allergy,

Dermatology, Emergency Department, Ophthalmology and Urology. PY2 enrollment stands at 3,558 providers as of the end of 2022. An additional 5 episodes are planned for the next period beginning January 2024.

Goal 9 - Improve Process of Care - Inpatient

Goal 9. Improve Process of Care – Inpatient	
Goal Summary	Inpatient process of care measures report how often hospitals delivered recommended care processes in the following areas: blood clot prevention (venous thromboembolism or VTE) and treatment, stroke treatment (STK), Emergency Department (ED) wait times for admitted patients, and Sepsis (SEP) care. HSCRC gathered data on these measures from publicly reported data from CMS CareCompare, where the measures are published in accordance with CMS' Hospital Inpatient Quality Reporting (IQR) requirements. Of note, the HSCRC has reported relevant measures for which CMS CareCompare published recent results. As with most process measures, CMS "retires" measures that are "topped off" and may no longer be meaningful. The HSCRC reviews available process measures to update for the most relevant measures each year. Currently the remaining process measures focus on the Sepsis bundle.
Measurement Methodology	Sepsis Care • SEP_1 - Percentage of patients who received appropriate care for severe sepsis and septic shock composite measure: Applies to patients 18 years and older with a diagnosis of severe sepsis or septic shock. As reflected in the data elements and their definitions, these elements should be performed in the early management of severe sepsis and septic shock. • SEP_SH_3HR - Septic Shock 3-Hour Bundle: - Measure serum lactate - Obtain blood cultures prior to antibiotics - Administer antibiotics - Resuscitation with 30mL/kg crystalloid fluids • SEP_SH_6HR - Septic Shock 6-Hour Bundle - Repeat volume status and tissue perfusion assessment - Vasopressor administration (If hypotension persists after fluid • SEV_SEP_3HR - Severe Sepsis 3-Hour Bundle: - Measure serum lactate - Obtain blood cultures prior to antibiotics - Administer antibiotics • SEV_SEP_6HR - Severe Sepsis 6-Hour Bundle. - Repeat serum lactate if initial lactate is >2 For more information on the detailed CMS Sepsis Measures specifications, please see the links on the Quality Net website. For more information on the CMS Inpatient Process of Care measures, please see CMS Care Compare website.

Goal 9. Improve Process of Care – Inpatient	
Monitoring Results	Sepsis Care • The SEP_1 measure first became available on CMS CareCompare in CY 2017. In 2022, Maryland reports a higher percentage of patients who received appropriate care for severe sepsis and septic shock compared to 2017 (55 percent) and compared to the nation (64 percent for Maryland compared to 59 percent nationally). • In 2019, four other sepsis bundles became available on CMS CareCompare. In 2022, Maryland performed on par with the nation for Severe Sepsis 6-hour bundle, but better than the nation on the three other measures. The inclusion of sepsis related deaths in the QBR all-cause mortality measure is an important outcome that should improve with better adherence to the sepsis process measures.

Measures	Population	2017	2018	2019	Jul20-Dec20 *	2021	2022
Percentage of patients who received appropriate care for severe sepsis and septic shock [SEP_1]	Maryland	55	57	59	59	59	64
	National	50	57	60	57	57	59
Septic Shock 3-Hour Bundle [SEP_SH_3HR]	Maryland			86	85	81	77
	National			86	85	78	68
Septic Shock 6-Hour Bundle [SEP_SH_6HR]	Maryland			73	87	87	88
	National			69	82	83	84
Severe Sepsis 3-Hour Bundle [SEV_SEP_3HR]	Maryland			79	80	79	81
	National			80	78	78	78
Severe Sepsis 6-Hour Bundle [SEV_SEP_6HR]	Maryland			88	89	89	89
	National			89	89	89	89

Goal 10 - Improve Process of Care - Outpatient

Goal 10. Improve Process of Care - Outpatient	
Goal Summary	Per the terms of the TCOC Model Agreement, the HSCRC continues to monitor additional measures to support continued quality improvement. In this report, the HSCRC has included three outpatient process of care measures related to Timely and Effective Care:for appropriate ED care, for stroke care,and for follow-up related to colonoscopy care. As with the Inpatient Process of Care measures, the HSCRC reviews available process measures to update for the most relevant measures each year.

Goal 10. Improve Process of Care - Outpatient	
Measurement Methodology	The HSCRC is reporting the following quality measures of Outpatient Process of Care: • OP-18b – Average (median) time patients that are not admitted spent in the emergency department before leaving from the visit • OP-23 – Percentage of patients who came to the emergency department with stroke symptoms who received brain scan results within 45 minutes of arrival • OP-29 – Percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy For more information on these measures, please see CMS Care Compare.
Monitoring Results	• Maryland wait times/length of stay for the OP-18b ED wait time for discharged (i.e., not admitted) patients are longer than national wait times, 242 to 161 minutes. However, increases from CY 2021 are higher for the nation than Maryland, four minutes compared to two minutes. Starting in June of 2023, staff were requested by the Commission to report monthly hospital self-reported data on OP18 and ED1 as part of the Emergency Department Dramatic Improvement Effort. Furthermore ED length of stay measures for inpatients, was added back into the QBR program in CY 2024 to address the critically important patient experience and safety issue of boarding. • The percentage of patients with stroke symptoms who received brain scan results within 45 minutes of arrival decreased in Maryland, from 69 percent in 2021 to 66 percent in 2022. Nationally there were decreases as well, from 70 percent in 2021 to 69% in 2022. • In 2022, the percentage of Maryland patients receiving an appropriate follow-up colonoscopy screening was 95% compared to 91% of patients in the nation. Both the State and the nation have seen increases from 2015.

Measures	Population	2014	2015	2016	2017	2018	2019	Jul20-Dec20*	2021	2022
Average (median) time patients spent in the emergency department before leaving from the visit [OP-18b]	Maryland	192	203	218	202	202	212	223	240	242
	National	140	141	138	141	135	142	148	157	161
Percentage of patients who came to the emergency department with stroke symptoms who received brain scan results within 45 minutes of arrival [OP-23]	Maryland	62%	69%	75%	74%	69%	72%	76%	69%	66%
	National	65%	68%	71%	73%	72%	72%	72%	70%	69%
Percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy [OP-29]	Maryland		85%	91%	80%	96%		95%	96%	95%
	National		74%	85%	88%	89%		91%	90%	91%

Goal 11 - Improve Inpatient Care - Hospital-Acquired Complications

Goal 11. Improve Inpatient Care - Hospital-Acquired Complications	
Goal Summary	Progress in reducing high-priority hospital complications is assessed using the rate of National Healthcare Safety Network (NHSN) Hospital-acquired infections, and 3M-defined Potentially Preventable Complications (PPCs). PPCs are defined as harmful events or negative outcomes that may result from the process of care and treatment rather than from a natural progression of an underlying disease. Under the TCOC Model, Maryland is expected to maintain the reductions in PPCs achieved during the All-Payer Model (2014-2018).
Measurement Methodology	NHSN Hospital-acquired Infections The NHSN collects six measures of hospital-acquired infections and reports these using a standardized infection ratio (SIR), comparing observed and predicted infections. Maryland performance is compared to a national SIR of "1", as recalibrated in CY 2015. For comparison, a national SIR is approximated using the Sum of Observed Infections in a given year (NUMERATOR) / Sum of Predicted Infections using the 2015 base (ELIGCASES) for the same given year. For more information on the NHSN Safety Measures, please visit the CMS Care Compare website. PPC Rate per 1,000 At-Risk Discharges and Case-Mix Adjusted PPC Rate The PPC rate per 1,000 discharges is calculated by dividing the number of observed PPCS by the number of at-risk discharges (one discharge may be at-risk for multiple PPCs) * 1,000 discharges. This is an unadjusted PPC rate that does not take into account changes in case-mix that may occur over time. For the purposes of the waiver test, the HSCRC reports additional data on the case-mix adjusted PPC rate. The case-mix adjusted PPC rate is calculated as the Statewide Observed / Expected ratio. The expected number of PPCs for each hospital is calculated by taking the statewide PPC rate for each diagnosis and severity of illness category and multiplying it by the number of discharges at each hospital in each category. For additional information regarding the PPC measures, please refer to the MHAC Policy on the HSCRC Quality – MHAC website, https://hscrc.maryland.gov/Pages/init_qi_MHAC.aspx. PPC Data reflects most recent data submitted to CMS for MY 4 Performance Certification.
Monitoring Results	• Maryland SIRs decreased (i.e., better performance) for four measures (CAUTI, C.Diff, MRSA, SSI-Hyst), but increased for two (CLABSI, SSI-Colon) from 2018 to 2022.

Goal 11. Improve Inpatient Care - Hospital-Acquired Complications

- National SIRs, approximated from CMS CareCompare by-hospital data, suggest that Maryland has room to improve on five of the NHSN measures. During 2022, the nation saw better NHSN rates from 2021 on five of the six NHSN Measures (i.e., SSI-Colon was the only NHSN measure with an increase). Of particular interest to CMMI are the SSI-Hysterectomy rates, which despite being much higher than the nation, have decreased compared to some of the other years.
- The PPC rates per 1,000 at-risk discharges, which are unadjusted, have decreased during the past year and since 2018.
- The case mix-adjusted PPC rates have decreased since 2018 for All-Payers, Medicaid, and Medicare.

Measures	Population	2016	2017	2018	2019	2020*	2021	2022
CLABSI	Maryland	1.125	0.874	0.792	0.694	0.851	1.092	0.953
	National	0.891	0.813	0.742	0.685	0.867	0.985	0.844
CAUTI	Maryland	1.034	0.846	0.784	0.731	0.895	0.974	0.732
	National	0.94	0.873	0.801	0.717	0.766	0.793	0.670
C.Diff.	Maryland	0.998	0.925	0.805	0.607	0.592	0.64	0.565
	National	0.922	0.804	0.71	0.581	0.538	0.497	0.482
MRSA	Maryland	1.154	0.962	0.921	0.75	0.716	0.982	0.766
	National	0.948	0.867	0.848	0.821	0.923	1.089	0.907
SSI - Colon Surgery	Maryland	1.032	0.937	0.937	0.946	0.941	0.87	0.956
	National	0.931	0.908	0.895	0.866	0.843	0.845	0.877
SSI - Abdominal Hysterectomy	Maryland	1.02	1.165	1.656	1.242	1.308	1.377	1.281
	National	0.869	0.863	0.902	0.93	0.925	0.983	.934
NOTE: National SIRs are calculated using the HAI Flat Files, Sum(Numerator)/Sum(EligCases).								
* 2020 includes data Jul 1, 2019-Dec 2019, and Jul 1, 2020-Dec 2020, per Care Compare								

Measures	Population	2018	2019	2020	2021	2022
All Payer Potentially preventable complications per 1,000 at-risk discharges	Maryland	0.87	0.71	0.79	0.82	0.76
Medicare Potentially preventable complications per 1,000 at-risk discharges	Maryland	1.28	1.01	1.18	1.15	1.03
Medicaid Potentially preventable complications per 1,000 at-risk discharges	Maryland	0.57	0.46	0.50	0.54	0.52
All Payer Case Mix-Adjusted PPC rate	Maryland	0.95	0.77	0.82	0.82	0.75
Medicare Case Mix-Adjusted PPC rate	Maryland	1.09	0.85	0.94	0.88	0.79
Medicaid Casemix-Adjusted PPC rate	Maryland	0.89	0.71	0.75	0.74	0.72

Goal 12 - Reduce Readmissions

Goal 12. Reduce Readmissions	
Goal Summary	This report evaluates hospital readmissions in two statewide measures, 30-day all-hospital, all-cause, case-mix adjusted readmission rates under the RY 2024 readmission incentive program measure logic; and observed readmissions per 1,000 Maryland residents (under the same measure definition). The All-Payer Model (2014-2018) required Maryland to reduce Medicare FFS readmissions to at or below the national rate by 2018. Maryland achieved this rate, concluding CY 2018 with an unadjusted readmission rate of 15.40%, compared to the national readmission rate of 15.45%. The costs of 30-day readmissions at the receiving hospital are also included in the HSCRC measure of potentially avoidable utilization, which is used to adjust global budgets. The HSCRC has a Readmission/Potentially Avoidable Utilization Savings program and a Readmission Reduction Incentive program designed to incentivize hospitals to invest resources to reduce readmissions. In RY 2023, the HSCRC first implemented the Readmissions Disparity Gap Program which is a reward-only program that incentivizes reductions in within hospital disparities in readmission rates. Reducing readmissions remains an important quality improvement goal under the TCOC Model, and research shows that addressing disparities will improve the quality of care received for all patients.
Measurement Methodology	**Case-Mix Adjusted 30-Day All-Cause Readmission** = (Number of Observed Readmissions within 30 days of discharge ÷ Number of Expected Readmissions) x Statewide Unadjusted Readmission Rate in base period.

Goal 12. Reduce Readmissions	
	Expected readmissions are estimated by applying the statewide rates by APR-DRG and severity of illness category to each hospital's discharges, using V39 of the APR-DRG grouper per the RY 2024 logic. **Readmissions per 1,000 Maryland Residents** = (Number of 30-Day Readmissions ÷ Total Maryland Resident Population) x 1,000. **Data:** Population estimates, which were used in estimating readmissions per 1,000 population, were obtained from the Maryland Department of Planning.
Monitoring Results	● The Maryland 30-day case-mix adjusted, all-cause readmission rate fell from 12.27 percent in 2018 to 11.22 percent in 2022, a reduction of 8.56 percent.[18] ● Readmissions per 1,000 Maryland residents fell by 17.28 percent from 9.03 per thousand in 2018 to 7.47 per thousand in 2022. ● The State has seen an increase in readmission per 1,000 from 2020 likely due to the recovery in hospital utilization in 2021 compared to the steep declines seen in 2020.

With Maryland at or below the national readmission rate at the conclusion of the All-Payer Model, the State created an aggressive and progressive additional incentive to further reduce the All-Payer Case-mix adjusted readmission rate by 7.50% over five years of the TCOC Model. If achieved, the State Readmission Rate would be at approximately the 75th percentile of Readmissions (i.e., 25th lowest), according to a national benchmarking analysis conducted in CY 2018.

Measures	Population	2018	2019	2020	2021	2022
30-day all-hospital, all-cause, case-mix adjusted readmission rate	Maryland	12.27%	11.89%	11.35%	11.38%	11.22%
Readmissions per 1,000 Maryland residents	Maryland	9.03	8.60	7.19	7.57	7.47

Goal 13 - Reduce Readmissions from various Post-Discharge Settings

Goal 13. Reduce Readmissions from various Post-Discharge Settings	
Goal Summary	<u>Readmissions from Home Health</u> Home health agencies may be able to assist hospitals in reducing potentially avoidable inpatient and ED utilization. It is important to monitor admissions from home health

[18] The rates presented are based on RY2024's RRIP program which uses APR-DRG Grouper v39.1.

Goal 13. Reduce Readmissions from various Post-Discharge Settings	
	agencies to identify potential quality of care/care coordination issues. CMS Home Health Compare publicly reports the quality of care provided by Medicare-certified home health agencies, including measures on admission rates to acute inpatient hospitals and unplanned urgent visits to the ED for those receiving home health care. Measures of home health readmission included: (1) the percent of home health patients who had to be admitted to the hospital and (2) the percent of home health patients who had an unplanned urgent visit to an ED. Readmissions from Nursing Home Readmissions among patients discharged to a nursing home may be relatively high, due in part to the medical complexity of these patients; many nursing home patients are elderly and have multiple chronic conditions or physical limitations. In addition to their medical complexity, however, readmission rates may be high due to patients being discharged from the hospital earlier than recommended by best practices, complications that develop post-discharge, or deficiencies in quality of care. Coordination between the hospital and nursing home prior to and after discharge or transfer should reduce potentially avoidable readmissions.
Measurement Methodology	Readmissions from Home Health Data to estimate these measures were obtained from the CMS Home Health Compare website. They present the percentage of home health patients who had to be admitted to the hospital and the percentage who had an unplanned urgent visit to an ED. Additional information on Home Health Compare can be found at: http://www.medicare.gov/homehealthcompare/search.html. Data is restated for CY 2020, using CY 2019 data due to COVID PHE. Readmissions from Nursing Home **Numerator:** The number of All-Payer inpatient hospital stays where the patient was discharged to a nursing home but was readmitted to any hospital within 30 days of the initial hospital discharge date. **Denominator:** The total number of hospital discharges that have a nursing home or skilled nursing facility as discharge disposition. **Note:** These data are not case-mix adjusted. **Data Source:** HSCRC inpatient discharge case-mix data with CRISP unique patient enterprise identifiers (EIDs) for 2018-2022. Maryland does not presently have a national comparison for this measure.
Monitoring Results	• Between 2018 and 2022, the Maryland admission rate from home health agencies to hospitals decreased by two percentage points from 15.1 percent to 13.1 percent. The national admission rate decreased by 1.5 percentage points from 15.6 percent to 14.1 percent from 2018 to 2022. • Maryland home health patients' rate of unplanned urgent care visits to the ED decreased by 1.5 percentage points from 13.1 percent in 2018 to 11.6 percent in

Goal 13. Reduce Readmissions from various Post-Discharge Settings	
	2022. The national rate slightly decreased by 0.9 percentage points from 12.8 percent to 11.9 percent during the same time period. Thus Maryland now performs slightly better than the nation, on an unadjusted basis. • Readmissions of Maryland patients discharged to a nursing home decreased by 0.18 percentage points from 17.46 percent in 2018 to 17.28 percent in 2022.

Measures	Population	2018	2019	2020*	2021	2022
Admission rate from home health agencies to acute inpatient hospital	Maryland	15.1%	15.5%	15.5%	13.2%	13.1%
	National	15.6%	15.4%	15.4%	14.2%	14.1%
Unplanned urgent visits to the ED for patients receiving home health	Maryland	13.1%	13.6%	13.6%	11.7%	11.6%
	National	12.8%	13.0%	13.0%	11.6%	11.9%
Readmission rates for inpatient discharges to nursing homes	Maryland	17.46 %	16.81 %	16.43%	17.43%	17.28 %

Source: CMS Care Compare and HSCRC Inpatient Discharge Case-Mix Data
*Data from CMS (Home Health) Care Compare restates 2019 results due to COVID.

Goal 14 - Reduce Readmissions - Condition-specific

Goal 14. Reduce Readmissions - Condition-specific	
Goal Summary	This report further evaluates readmissions on an all-payer basis using five condition-specific measures, including: • Heart Failure readmission rates; • Acute Myocardial Infarction readmission rate; • Pneumonia readmission rates; • Chronic Obstructive Pulmonary Disease readmission rates; and • Hip/Total Knee Arthroplasty readmission rates.
Measurement Methodology	**Condition Specific Readmission Rates** = (Number of 30-Day Readmissions for Selected Condition ÷ Number of Condition Specific Discharges Eligible for a

Goal 14. Reduce Readmissions - Condition-specific	
	Readmission) x 100. Condition-specific readmission rates are not risk-adjusted and may not reflect changes in the patient population over time. Rates correspond to the following conditions: o Heart Failure (HF) o Acute Myocardial Infarction (AMI) o Pneumonia (PNA) o Chronic Obstructive Pulmonary Disease (COPD) o Hip/Total Knee Arthroplasty (THA/TKA) Note: The condition-specific readmission rates reflect full CY 2018-2022 all-payer case-mix data. **Data:** Population estimates, which were used in estimating readmissions per 1,000 population, were obtained from the Maryland Department of Planning.
Monitoring Results	• Between 2018 and 2022, readmission rates for HF and AMI decreased by 7.14% and 11% respectively. • Between 2018 and 2022, readmission rates for Pneumonia and COPD have increased by 5.55% and 2.04%, respectively. These rates are not risk adjusted and are likely to be impacted by the COVID-19 Pandemic. • Between 2018 and 2022, the readmission rate for the procedure Hip/Knee arthroplasty increased by 51.92 percent. Again, these rates are not risk-adjusted and with recent changes to site of care for these services, changes over time should be interpreted with caution since the patients remaining in the hospital for these procedures may be more complex than those who get shifted to other settings.

Measures	Population	2018	2019	2020	2021	2022
Heart failure readmission rate	Maryland	20.60%	19.76%	19.62%	19.24%	19.13%
Acute myocardial infarction readmission rate	Maryland	10.73%	10.87%	9.90%	9.91%	9.55%
Pneumonia readmission rate	Maryland	12.80%	12.27%	13.12%	14.04%	13.51%
Chronic obstructive pulmonary disease readmission rate	Maryland	19.60%	18.61%	18.85%	20.52%	20.00%
Hip/total knee arthroplasty readmission rate	Maryland	2.60%	2.61%	2.82%	4.58%	3.95%

Goals to Improve Population Health

Maryland believes that the TCOC model can establish incentives that improve population health outcomes and reduce health disparities. As broad population health measures, progress will take time, long-term investment, and commitment to achieve results.

Goal 15- Reduce Potentially Avoidable Hospital Admissions

Goal 15. Reduce Potentially Avoidable Hospital Admissions	
Goal Summary	Prevention Quality Indicators (PQIs) are a set of measures developed by the Agency for Healthcare Research and Quality (AHRQ) that flag hospitalizations for ambulatory care sensitive conditions. These conditions and hospitalizations are preventable if patients have access to high-quality outpatient care. Examples of these conditions include pneumonia, diabetes and its associated complications, and heart failure. The individual PQI measures can be collapsed into composite measures; here we have included the overall PQI Composite Rates. These measures are population-based and are adjusted for covariates such as sex and age. The HSCRC uses the PQI measures to identify potentially avoidable utilization (PAU). Tracking PAU aims to incentivize hospitals to work within their communities to improve care coordination outside the hospital and thus reduce potentially avoidable hospital utilization. With the advent of the TCOC Model, the HSCRC implemented the AHRQ risk-adjusted PQI rate logic, and is presenting risk-adjusted PQI rates per 100,000 CYs 2018-2020.
Measurement Methodology	The method for calculating the risk-adjusted PQI rate per 100,000 is as follows: Observed PQIs (HSCRC Case-mix Data) / Expected PQIs * National PQI Rate per 100,000. The PQI **overall** composite includes admissions in both the acute and chronic composites. The PQI **acute** includes admissions with diagnosis codes for bacterial pneumonia, or urinary tract infection. The PQI **chronic** includes admissions with diagnosis codes for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, and heart failure. **Data Sources:** PQIs are identified using the HSCRC Inpatient Discharge Abstract data. The expected values are calculated using population estimates and applying the AHRQ risk-adjustment methodology.
Monitoring Results	• The PQI Risk-Adjusted Rate for Maryland decreased from 1,324 per 100,000 in CY 2018 to 1010.25 per 100,000 in CY 2022, about a 24 percent decrease.[19]

Measures	Population	2018	2019	2020	2021	2022

[19] Monitoring performed using AHRQ v2022 methodologies.

Preventive quality indicator **overall** composite rate per 100,000 population, age 18 and over	Maryland	1,324	1,287	1,002	990	1010.25

Goal 16 - Reduce Potentially Avoidable ED Visits

Goal 16. Reduce Potentially Avoidable ED Visits	
Goal Summary	Condition-specific ED Visit Rates The Maryland State Health Improvement Process (SHIP) monitors diabetes, cardiovascular disease, asthma, and behavioral health emergency department visit rates as indicators of population health, and encourages the utilization of local health improvement coalitions (LHICs) to address these chronic conditions outside of the emergency department. ED visits related to complications with these chronic conditions may indicate that these conditions are not well controlled and, as with PQIs, may represent lack of access to or poor quality outpatient care. The TCOC Model works in tandem with the SHIP objective of reducing condition-specific emergency department visits, and builds off of related SHIP measures to create the HSCRC measure methodology outlined below; accordingly, rates will differ between this report and those displayed on the SHIP website.
Measurement Methodology	Condition-specific Emergency Department Rates The method for calculating the rate of condition-specific ED visits per 1,000 Maryland residents is as follows: The total number of ED visits related to the condition divided by the total number of Maryland residents multiplied by 1,000. These rates are not risk-adjusted. **Numerator**: HSCRC outpatient data of relevant condition-specific ICD-10 codes, as defined by the Agency for Healthcare Research and Quality (AHRQ) Clinical Classification Software (CCS) categories. The CCS Categories are as follows: • Asthma - 128 • Behavioral Health - 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 670 • Diabetes - 49, 50 • Hypertension - 98, 99

	Denominator: Updated Maryland Department of Planning population estimates through 2022.
Monitoring Results	• The Maryland Asthma-related ED visit rate decreased by 33.69 percent between 2018 and 2022, decreasing from 5.61 to 3.72 per 1,000 Maryland residents. There was a sharp decline seen in 2020, likely due to COVID disruptions, but there has been a 31.45 percent increase since 2020 through 2022. • Maryland Behavioral Health-related ED visit rates have decreased by 29.18 percent between 2018 and 2022, decreasing from 24.50 to 17.35 per 1,000 Maryland residents. ED visits rates have declined every year since 2018. • The Maryland Diabetes-related ED visit rate decreased by 14.13 percent between 2018 and 2022, decreasing from 4.46 to 3.83 per 1,000 Maryland residents. ● The Maryland Hypertension-related ED visit rate decreased by 7.02 percent, decreasing from 7.12 to 6.62 per 1,000 Maryland residents.

Measures	2018	2019	2020	2021	2022
Asthma-related ED visit rate per 1,000 population	5.61	5.30	2.83	3.11	3.72
Behavioral Health-related ED visit rate per 1,000 population	24.50	23.73	19.75	19.62	17.35
Diabetes-related ED visit rate per 1,000 population	4.46	4.53	3.74	3.93	3.83
Hypertension-related ED visit rate per 1,000 population	7.12	7.61	5.91	6.47	6.62

Additional Future Considerations

For RY 2026, which evaluates CY 2024 performance, HSCRC staff are proposing for the Commission to approve a pay-for-performance that incentivizes reductions in ED visits by multi-visit patients (MVPs) on a improvement-only and reward-only basis.

Additionally, in conjunction with the concurrent submission of the Statewide Integrated Health Improvement Strategy Proposal, it should be noted that Goal 16 currently presents asthma-related ED visits per total Maryland population, while the SIHIS Proposal aims to reduce Pediatric Asthma ED Visits, defined as ages 2-17. For more information on the pediatric asthma-related ED visit rate, please refer to the SIHIS Proposal.

Goal 17 - Other Measures of Population Health

Goal 17. Other Measures of Population Health	
Goal Summary	The TCOC Model seeks to improve life expectancy for Maryland residents over time. Maryland remains concerned about declines in life expectancy experienced during the COVID-19 pandemic, as well as ongoing disparities in the life expectancy of white and black residents.
Measurement Methodology	Life expectancy is calculated by the Maryland Vital Statistics Administration, a bureau of MDH. Please note that Maryland Life Expectancy at birth data are preliminary, until such time as the Annual Reports are posted to the Maryland Vital Statistics website, at the link below: https://health.maryland.gov/vsa/Pages/reports.aspx Data are currently finalized through CY 2021 for Maryland.
Monitoring Results	• The average life expectancy declined in both Maryland and the Nation which can be attributed to the COVID-19 PHE. • Maryland saw a decrease of 1.3 percentage points from 79.1 in 2016 to 77.8 in 2021. The Nation saw a decrease in life expectancy of 1.6 percentage points from 78.7 in 2016 to 76.1 in 2021, double that seen in Maryland. • There are persistent disparities in life expectancy by race, at both the national and state levels.

Measure	Population	2016	2017	2018	2019[20]	2020[21]	2021	2022
Average life expectancy at birth	Maryland	79.1	79.1	79.2	79.3	78.6	77.8	
	White (MD)	79.8	79.7	80	80.2	79.6	78.5	
	Black (MD)	76.8	76.9	76.9	76.9	75.9	74.3	
	National	78.7	78.6	78.7	78.8	77.8	76.1	
	White			78.6	78.8	78.0	76.4	
	Black			74.7	74.7	72.0	70.8	

[20] National 2019 data at: https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-08-508.pdf (page 8); Maryland 2019 data at: https://health.maryland.gov/vsa/Documents/Reports%20and%20Data/Annual%20Reports/2019Annual.pdf, (page 85).
[21] Provisional National data at: https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf pg 2.

Goal 18 - Progress toward Population Health Goals

The State of Maryland has undertaken substantial and substantive efforts to establish broader population health improvement goals under the promise and opportunity of the TCOC Model. Efforts in CY 2019 largely revolved around the submission of the State's first outcomes-based credit (OBC) proposal and the development of the framework for implementing a Statewide Integrated Health Improvement Strategy (SIHIS). In 2020, the State engaged in a robust stakeholder process to develop the goals, measures, milestones, and targets for SIHIS, based on the framework outlined in the State's Memorandum of Understanding (MOU) with CMS. The State submitted its official SIHIS proposal in December 2020, which CMMI approved in March 2021.

Staff are committed to incentivizing hospitals to improve population health. Beginning in CY 2024, hospitals will be held financially accountable, through the Medicare Performance Adjustment, for all-payer avoidable admissions as defined by AHRQ Prevention Quality Indicators (PQIs). PQIs are population based indicators that identify hospitalizations that might have been avoided through access to high-quality outpatient care, thus providing insights into the quality of health services in a community. PQIs are also a component of the HSCRC's Potentially Avoidable Utilization (PAU) program and are a priority area of SIHIS with specified statewide goals.

Outcomes-Based Credits

The methodology underlying the State's first outcome credit, focused on reduction of diabetes incidence, is documented in the credit proposal approved by CMMI in 2019. The State submits an annual credit memorandum specifying diabetes incidence reduction for the preceding calendar year, along with a calculation of the dollar value associated with the incidence reduction (if any). The state anticipates finalizing diabetes performance estimates for CY2022 during Q1 2024.

The State has completed analytic work on the opioid use disorder credit and anticipates submitting a draft proposal to CMMI in Q1 2024.

The HSCRC has completed cost-per-case modeling for the hypertension outcome credit, and is awaiting BPW approval of the contract for performance measurement on the project.

Statewide Integrated Health Improvement Strategy

For more information on activities and achievements in support of the long-term success of the SIHIS, please see the Statewide Integrated Health Improvement Strategy Annual Report (submitted January 2024).

A note on "Goal 18. Progress of Population Health Goals" in Future Reports

For this Annual Monitoring Report, the submitted suite of reports (including the Annual Monitoring Report, Outcomes-based Credit calculation, and SIHIS Report) constitutes the present deliverables of demonstrable progress in population health.

Goals to Control Expenditure Growth

For additional information on the progress toward achieving the Goals to Control Expenditure Growth (at the hospital and total cost of care levels), please refer to the **"Annual Monitoring Report on Expenditures"** submitted July, 2023.

Conclusion

The State of Maryland and the HSCRC demonstrated meaningful progress towards the aims of the Total Cost of Care Model in MY 4 (CY 2022) of the Model's implementation. This report also outlines the ways in which the State of Maryland and the HSCRC continue to evolve programs, incentives, and measures to ensure the ongoing fulfillment of the requirements of the TCOC Model. We have benefited from a motivated and resilient healthcare delivery system in Maryland, and the flexibility and financial guarantees from the global budget system. We appreciate the opportunity to continue to work with CMMI to improve the patient experience, population health, and cost efficiency in the Maryland health care system. Over the last years of the TCOC Model, and as we prepare for a future model, the State of Maryland and the HSCRC will continue strive to meet the ambitious goals of the Model by supporting provider-led innovation efforts, leveraging and optimizing the State's unique global budget system, and engaging stakeholders in a proactive and meaningful way. Through this work, Maryland can effectuate long-term health improvements and cost savings for Marylanders in the State's healthcare system.

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Appendix I: Numerator, Denominator, Rate

Where applicable, please find additional data, including numerator, denominator, and reported rate information.

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
Rate of Physician Follow-up after Discharge - Overall	Maryland (CCLF)	Timely Follow-up				30,248	31,373	31,310	32,258	21,951	21,503
		Elig Disch				42,986	44,257	44,189	45,149	32,327	30,690
		Follow-up Rate				70.37%	70.89%	70.85%	71.45%	67.90%	70.07%
	National, (5% CCW Sample)	Timely Follow-up						78,418	74,829	48,922	46,722
		Eligible Discharges						117,350	108,451	75,551	69,033
		Follow-up Rate						66.82%	69.00%	64.75%	67.68%
Rate of Physician Follow-up after Discharge - Asthma	Maryland (CCLF)	Timely Follow-up				1,709	1,750	1,748	1,757	1,051	917
		Elig Disch				2,882	2,914	2,829	2,888	1,858	1,573
		Follow-up Rate				59.30%	60.05%	61.79%	60.84%	56.57%	58.30%
	National, (5% CCW Sample)	Timely Follow-up						3,462	3,309	1,907	1,658
		Eligible Discharges						6,038	5,540	3,514	2,828
		Follow-up Rate						57.34%	59.73%	54.27%	58.63%
Rate of Physician Follow-up after Discharge - Coronary	Maryland (CCLF)	Timely Follow-up				6,531	6,425	6,362	6,309	4,648	4,780
		Elig Disch				8,957	8,728	8,614	8,424	6,496	6,455
		Follow-up Rate				72.92%	73.61%	73.86%	74.89%	71.55%	74.05%

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Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
Artery Disease	National, (5 % CCW Sample)	Timely Follow-up						16,183	15,442	10,990	10,784
		Eligible Discharges						23,720	21,880	16,325	15,253
		Follow-up Rate						68.23%	70.58%	67.32%	70.70%
Rate of Physician Follow-up after Discharge - Congestive Heart Failure	Maryland (CCLF)	Timely Follow-up				5,339	5,881	6,260	6,865	4,947	5,099
		Elig Disch				7,493	8,201	8,682	9,374	7,177	7,062
		Follow-up Rate				71.25%	71.71%	72.10%	73.23%	68.93%	72.20%
	National, (5% CCW Sample)	Timely Follow-up						14,850	15,013	10,409	10,692
		Eligible Discharges						22,083	21,693	16,147	15,371
		Follow-up Rate						67.25%	69.21%	64.46%	69.56%
Rate of Physician Follow-up after Discharge - Chronic Obstructive Pulmonary Disease	Maryland (CCLF)	Timely Follow-up				7,306	7,439	7,312	7,294	4,338	3,621
		Elig Disch				9,216	9,372	9,218	9,155	5,830	4,666
		Follow-up Rate				79.28%	79.37%	79.32%	79.67%	74.41%	77.60%
	National, (5% CCW Sample)	Timely Follow-up						20,208	18,292	10,186	8,256
		Eligible Discharges						27,324	23,552	14,045	10,923
		Follow-up Rate						73.96%	77.67%	72.52%	75.58%
Rate of Physician Follow-up after Discharge - Diabetes	Maryland (CCLF)	Timely Follow-up				4,539	4,736	4,595	4,780	3,291	3,274
		Elig Disch				5,714	5,822	5,701	5,918	4,178	4,058
		Follow-up Rate				79.44%	81.35%	80.60%	80.77%	78.77%	80.68%
	National, (5% CCW Sample)	Timely Follow-up						11,869	11,069	7,204	6,933

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Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
		Eligible Discharges						15,659	13,975	9,694	8,858
		Follow-up Rate						75.80%	79.21%	74.31%	78.27%
Rate of Physician Follow-up after Discharge - Hypertension	Maryland (CCLF)	Timely Follow-up				4,824	5,142	5,033	5,253	3,676	3,812
		Elig Disch				8,724	9,220	9,145	9,390	6,788	6,876
		Follow-up Rate				55.30%	55.77%	55.04%	55.94%	54.15%	55.44%
	National, (5% CCW Sample)	Timely Follow-up						11,846	11,704	8,226	8,399
		Eligible Discharges						22,526	21,811	15,826	15,800
		Follow-up Rate						52.59%	53.66%	51.98%	53.16%
Discharges with Principal Provider Notified, Any Provider	Maryland	Discharges with Notification	62,583	231,001	301,468	343,950	385,912	397,897	462,289	476,647	488,099
		Total Discharges	609,853	647,229	629,672	621,812	611,969	597,914	581,406	521,716	531,775
		Rate of Notification	10.26%	35.69%	47.88%	55.31%	63.06%	66.55%	79.51%	91.36%	91.79%
Discharges with Principal Provider Notified, Ambulatory Care Provider	Maryland	Discharges with Notification	41,536	97,115	181,249	119,569	138,306	165,888	179,614		
		Total Discharges	609,853	647,229	629,672	621,812	611,969	597,914	581,406		
		Rate of Notification	6.81%	15.00%	28.78%	19.23%	22.60%	27.74%	30.89%		

Goal 7

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
Medicare-participating physicians per 1,000 Medicare Enrollees	Maryland	Medicare Participating Physicians or Providers			22,933	23,572	29,414	30,538	31,320	31,945	
		Medicare Beneficiaries			856,375	869,898	878,691	893,517	915,875	922,744	
		Participating physicians or providers per 1,000 beneficiaries			26.77	27.10	33.47	34.18	34.20	34.62	
	National	Medicare Beneficiaries			37,572,170	38,191,067	38,142,901	38,143,032	38,042,177	37,016,880	
Medicaid-participating physicians per 1,000 Medicaid Enrollee	Maryland	Medicaid Participating Physicians	37,086	40,199	42,830	44,233			27,073		
		Medicaid Beneficiaries	1,066,815	1,181,231	1,310,720	1,279,149	1,416,381	1,406,379	1,421,718		
		Participating physicians per 1,000 beneficiaries	34.76	34.03	32.68	34.58			19.04		

NOTE: Due to differences in the methodology, please do not trend participating physicians pre- and post-CY 2016.

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Goal 11

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
Central-line Acquired Bloodstream Infection (CLABSI) SIR	Maryland					1.125	0.874	0.792	0.694	0.851	1.092
	National (approx)					0.891	0.813	0.742	0.685	0.867	0.985
Catheter-Associated Urinary Tract Infection (CAUTI) SIR	Maryland					1.034	0.846	0.784	0.731	0.895	0.974
	National (approx)					0.940	0.873	0.801	0.717	0.766	0.793
Clostridioides difficile (C.Diff) SIR	Maryland					0.998	0.925	0.805	0.607	0.592	0.64
	National (approx)					0.922	0.804	0.710	0.581	0.538	0.497
Methicillin-resistant Staphylococcus aureus (MRSA) SIR	Maryland					1.154	0.962	0.921	0.75	0.716	0.982
	National (approx)					0.948	0.867	0.848	0.821	0.923	1.089
Surgical Site Infection - Colon Surgery SIR	Maryland					1.032	0.937	0.937	0.946	0.941	0.87
	National (approx)					0.931	0.908	0.895	0.866	0.843	0.845
Surgical Site Infection - Abdominal Hysterectomy SIR	Maryland					1.02	1.165	1.656	1.242	1.308	1.377
	National (approx)					0.869	0.863	0.902	0.930	0.925	0.983
Potentially Preventable Complications Rate per 1,000 discharges (14 Payment PPCs, beginning CY 2018)	Maryland All-Payer	Total Number of Observed PPCs	24,807	18,300	16,140	14,317		3,192	2,491	2,709	2,285
		Number at-risk Discharges	23,066,215	22,023,030	21,221,831	20,703,277		3,697,949	3,577,767	3,084,317	2,816,050
		PPCs per 1,000 at-risk Discharges	1.08	0.83	0.76	0.69		0.86	0.70	0.88	0.81

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Goal 11

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
Potentially Preventable Complications Rate per 1,000 discharges (14 Payment PPCs, beginning CY 2018)	Maryland Medicare FFS	Total Number of Observed PPCs	12,016	8,561	7,790	6,505		1,706	1,244	1,299	1,034
		Number at-risk Discharges	8,755,714	8,468,548	8,274,128	7,975,683		1,358,651	1,266,382	1,021,553	909,954
		PPCs per 1,000 at-risk Discharges	1.37	1.01	0.94	0.82		1.26	0.98	1.27	1.14
Potentially Preventable Complications Rate per 1,000 discharges (14 Payment PPCs, beginning CY 2018)	Maryland Medicaid	Total Number of Observed PPCs	3,497	3,085	2,681	2,527		514	388	424	371
		Number at-risk Discharges	4,170,854	4,897,741	4,790,226	4,692,467		884,619	847,109	763,696	686,520
		PPCs per 1,000 at-risk Discharges	0.84	0.63	0.56	0.54		0.58	0.46	0.56	0.54
Casemix-Adjusted PPC Rate (14 Payment PPCs, beginning CY 2018)	Maryland All-Payer		1.24	0.94	0.82	0.70		0.61	0.49	0.63	0.60
	Maryland Medicare FFS		1.44	1.05	0.94	0.78		0.69	0.53	0.70	0.65
	Maryland Medicaid		1.09	0.83	0.72	0.63		0.59	0.46	0.57	0.58

NOTE: NHSN Measures should not be trended pre- and post- CY 2015, as the National Standardized Infection Ratio re-based to 1 in CY 2015

NOTE: PPCs reduced from all 3M-validated PPCs 2013-2016. Beginning CY 2018, Maryland adjudicates case-mix adjusted PPC rates based on 14 clinically significant PPCs.

Goal 12

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
30-day All-Hospital, All-Cause readmission (Case-mix Adjusted - Observed/Expected* Statewide CY2018)	Maryland	Observed Readm				58,693	58,101	55,743	53,121	45,015	46,480	
		Expected Readm				56,164	56,381	55,752	54,745	50,022	46,480	
		Readmission Rate				12.24 %	12.07 %	11.71 %	11.36 %	10.54 %	11.37%	11.22%
Readmissions per 1,000 Maryland residents	Maryland	Readmissions	70,318	65,313	61,038	58,693	58,101	55,743	53,121	45,015	46,480	
		Population	5,931,129	5,967,295	5,994,983	6,016,447	6,023,868	6,035,802	6,045,680	6,055,802	6,165,129	
		Readmission Rate	11.86	10.95	10.18	9.76	9.65	9.24	8.79	7.43	7.54	7.47

Goal 13

Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Admission rate from home health agencies to acute inpatient hospital	Maryland	Readmission Rate	17%	16.4 %	16.0 %	16.3 %	15.3 %	15.1 %	15.5 %	15.5 %	13.2 %	13.1%
	National	Readmission Rate	16%	15.9 %	16.2 %	16.4 %	15.8 %	15.6 %	15.4 %	15.4 %	14.2 %	14.1%
Unplanned urgent visits to the ED for patients receiving home health	Maryland	Readmission Rate	11%	11.7 %	12.4 %	12.3 %	13.0 %	13.1 %	13.6 %	13.6 %	11.7 %	11.6%
	National	Readmission Rate	12%	12.2 %	12.5 %	12.7 %	13.0 %	12.8 %	13.0 %	13.0 %	11.6 %	11.9%
Readmission rates for inpatient discharges to nursing homes	Maryland	Readmissions	9,523	8,880	9,611	8,930	9,311	9,969	10,633	8,146	9,838	
		Eligible Discharges	46,464	45,194	50,806	49,197	50,955	56,746	62,691	49,141	56,103	
		Readmission Rate	20.50 %	19.65%	18.92%	18.15%	18.27%	17.57%	16.96%	16.58%	17.54%	17.28%

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Goal 14												
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Heart failure readmission rate	Maryland	Readmissions	3,949	3,926	3,977	3,313	2,108	2,006	1,964	2,778	1,539	
		Eligible Discharges	17,084	17,314	17,968	15,922	10,534	10,191	10,289	14,138	8,630	
		Readmission Rate	23.12%	22.68%	22.13%	20.81%	20.01%	19.68%	19.09%	19.65%	17.83%	19.13%
Acute myocardial infarction readmission rate	Maryland	Readmissions	1,003	959	999	949	900	768	769	601	565	
		Eligible Discharges	7,689	7,954	8,312	7,778	7,679	7,088	7,075	6,270	5,740	
		Readmission Rate	13.04%	12.06%	12.02%	12.20%	11.72%	10.84%	10.87%	9.59%	9.84%	9.55%
Pneumonia readmission rate	Maryland	Readmissions	2,096	2,004	1,777	1,649	1,144	1,276	1,125	2,315	726	
		Eligible Discharges	14,589	14,004	13,443	12,710	9,131	9,679	9,069	17,645	5,169	
		Readmission Rate	14.37%	14.31%	13.22%	12.97%	12.53%	13.18%	12.40%	13.12%	14.05%	13.51%
Chronic obstructive pulmonary disease readmission rate	Maryland	Readmissions	3,265	2,957	2,690	2,169	2,441	2,024	1,736	1,450	1,024	
		Eligible Discharges	15,731	14,552	13,681	11,467	12,735	10,264	9,510	7,675	5,128	
		Readmission Rate	20.76%	20.32%	19.66%	18.92%	19.17%	19.72%	18.25%	18.89%	19.97%	20.00%
Hip/total knee arthroplasty readmission rate	Maryland	Readmissions	608	576	547	572	506	394	368	177	108	
		Eligible Discharges	15,986	17,040	17,775	18,602	18,556	14,659	13,818	6,027	2,420	
		Readmission Rate	3.80%	3.38%	3.08%	3.07%	2.73%	2.69%	2.66%	2.94%	4.46%	3.95%

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Goal 15											
Measure	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021
PQI Acute Composite Rate	Maryland	Number of acute ACSC discharges	23,223	21,642	22,577	24,233					
		Population age 18 and over	4,532,085	4,604,251	4,649,690	4,667,719					
		Composite PQI Rate	512.41	470.04	473.19	519.16					
PQI Chronic Composite Rate	Maryland	Number of chronic ACSC discharges	46,361	44,466	41,471	39,076					
		Population age 18 and over	4,532,085	4,604,251	4,649,690	4,667,719					
		Composite PQI Rate	1022.95	965.76	942.15	837.15					
PQI Overall Composite Rate	Maryland	Number of overall ACSC discharges	69,582	66,105	64,048	63,307					
		Population age 18 and over	4,532,085	4,604,251	4,649,690	4,667,719					
		Composite PQI Rate	1,535.32	1,435.74	1,415.34	1,356.27					
PQI - Overall - Risk-Adjusted Rate (Observed/Expected * 2017 National Rate per 100,000)	Maryland	Observed PQIs					63,908	62,506	61,615		
		Expected PQIs					60,145	61,182	62,150		
		Risk-Adjusted PQI Rate					1388.05	1334.61	1295.09		
PQI National Rate per 100,000	National	Used for Risk-Adjusted PQI Rate					1306.33				

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Goal 16												
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Diabetes-related ED visit rate per 1,000 population	Maryland	Number of ED visits	13,899	14,708	14,817	15,481	16,859	17,296	17,773	14,408	15,281	
		Population	5,931,129	5,967,295	5,994,983	6,016,447	6,023,868	6,035,802	6,045,680	6,055,802	6,165,129	
		Visit Rate per 1,000	2.34	2.46	2.47	2.57	2.80	2.87	2.94	2.38	2.48	3.83
Hypertension-related ED visit rate per 1,000 population	Maryland	Number of ED visits	16,579	17,158	17,674	18,123	20,647	22,846	25,504	19686	21,963	
		Population	5,931,129	5,967,295	5,994,983	6,016,447	6,023,868	6,035,802	6,045,680	6,055,802	6,165,129	
		Visit Rate per 1,000	2.80	2.88	2.95	3.01	3.43	3.79	4.22	3.25	3.56	6.62
Asthma-related ED visit rate per 1,000 population	Maryland	Number of ED visits	40,802	40,598	38,065	35,596	32,598	30,864	29,181	15904	17,665	
		Population	5,931,129	5,967,295	5,994,983	6,016,447	6,023,868	6,035,802	6,045,680	6,055,802	6,165,129	
		Visit Rate per 1,000	6.88	6.80	6.35	5.92	5.41	5.11	4.83	2.63	2.87	3.72
Mental Health-related ED visit rate per 1,000 population	Maryland	Number of ED visits				111,893	117,115	116,197	113,095	94,514	95,541	
		Population				6,016,447	6,023,868	6,035,802	6,045,680	6,055,802	6,165,129	
		Visit Rate per 1,000				18.60	19.44	19.25	18.71	15.61	15.50	17.35

NOTE: Behavioral Health CCS Categories do not translate accurately across ICD-9 (through CY 2015) to ICD-10 (CY 2016 onward)

Appendix II: Measure Specifications

Where applicable, please find additional measure specifications, methodological assumptions, or definitions below, organized by Goal Number.

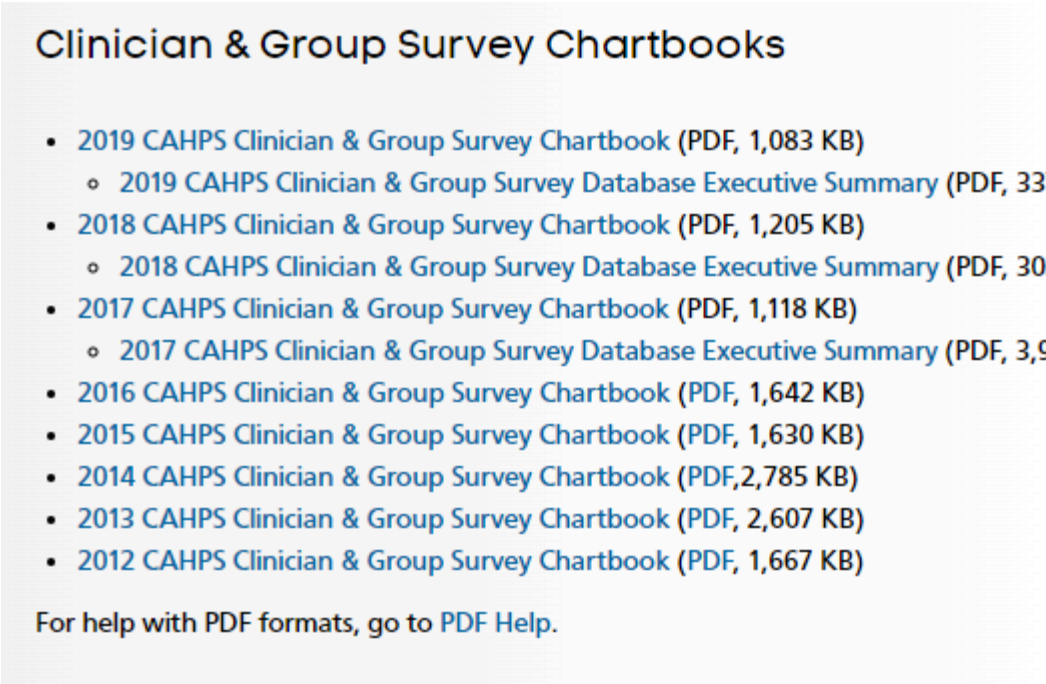
Should you have any questions or concerns, please share this feedback with the HSCRC so that future reports may address these concerns.

Goal 1 - No additional information.

Goal 2 - No additional information.

Goal 3 - For more information on the Patient Satisfaction and Quality of Care in Skilled Nursing Facilities and other Long-term Care, please refer to the **MHCC Maryland Nursing Home Family Experience of Care Survey,** https://healthcarequality.mhcc.maryland.gov/.

Goal 4. Per the report, at the time of publication there was no CY 2020 or 2021 data available, please see screenshot below from the following hyperlink: https://cahpsdatabase.ahrq.gov/Summaryresults.aspx



Clinician & Group Survey Chartbooks

- 2019 CAHPS Clinician & Group Survey Chartbook (PDF, 1,083 KB)
  - 2019 CAHPS Clinician & Group Survey Database Executive Summary (PDF, 337 KB)
- 2018 CAHPS Clinician & Group Survey Chartbook (PDF, 1,205 KB)
  - 2018 CAHPS Clinician & Group Survey Database Executive Summary (PDF, 302 KB)
- 2017 CAHPS Clinician & Group Survey Chartbook (PDF, 1,118 KB)
  - 2017 CAHPS Clinician & Group Survey Database Executive Summary (PDF, 3,990 KB)
- 2016 CAHPS Clinician & Group Survey Chartbook (PDF, 1,642 KB)
- 2015 CAHPS Clinician & Group Survey Chartbook (PDF, 1,630 KB)
- 2014 CAHPS Clinician & Group Survey Chartbook (PDF,2,785 KB)
- 2013 CAHPS Clinician & Group Survey Chartbook (PDF, 2,607 KB)
- 2012 CAHPS Clinician & Group Survey Chartbook (PDF, 1,667 KB)

For help with PDF formats, go to PDF Help.

Goal 5 - No additional information.

Goal 6 - Please see below for more information on a few of the attendant measures.

Follow-up after Discharge for Acute Exacerbation of Chronic Conditions

This measure is a National Quality Forum (NQF) endorsed measure of Timely Follow-Up after Acute Exacerbations of Chronic Conditions (NQF# 3455). This measure was developed as a health plan measure by IMPAQ International on behalf of CMS, and Maryland has adapted the measure to calculate rates of follow-up after discharge for Medicare beneficiaries in the State and for hospitals in Maryland. The measure

assesses the percentage of emergency department visits, observation stays, and inpatient admissions where non-emergent outpatient follow-up was received within the timeframe recommended by clinical practice guidelines for the following conditions:

- Hypertension: Within 7 days of the date of discharge
- Asthma: Within 14 days of the date of discharge
- Heart Failure: Within 14 days of the date of discharge
- Coronary Artery Disease: Within 14 days of the date of discharge

- Chronic Obstructive Pulmonary Disease: Within 30 days of the date of discharge
- Diabetes: Within 30 days of the date of discharge

For more information on the measure specification and modeling, please see the submitted SIHIS Proposal.

Percent of Discharges with Any ENS Alert Sent to Provider

Numerator**:** Number of discharges for which an associated ENS alert (admission or discharge) is sent to at least one provider (notification provider types include: ambulatory, behavioral health, care coordinators, long-term care, payers, and other).
Denominator: Total number of discharges
Source**:** Data obtained from the CRISP ENS

Goal 7 – Please see below for more information on the attendant measures.

Medicare-Participating Providers per 1,000 Medicare Enrollees

Numerator: The numerator includes any NPI Maryland provider included in the MD CCLF dataset who had a paid claim under the specified timeframe.

Denominator: Please refer to the TCOC Monthly Files, "Hospital Savings_V18". To approximate the total annual beneficiaries, which face substantial turnover each month, Maryland selected the Total Beneficiaries in the final re-stated Calendar Year files (typically April of the subsequent year), for point-in-time beneficiaries for December of that year.

Goal 8 - No additional information at this time.

Goal 9 - No additional information.

Goal 10 - No additional information.

Goal 11 – Please see relevant information below.

NHSN Safety Measures

Maryland NHSN Standardized Infection Ratios (SIRs) are reported directly from CMS Hospital Compare. Because CMS Hospital Compare presents the National SIR of 1 (rebased in CY 2015), more recent National SIRs are approximated by calculating: Sum of Observed Infections / Sum of Predicted Infections, using the relevant by-hospital files from CMS Hospital Compare.

Potentially Preventable Complications (PPCs)

CY 2013 to CY 2016: Under the All-Payer Model, Maryland presented the PPC Rates per 1,000 Eligible Discharges and the Case-mix Adjusted PPC Rates for all 3M-approved PPCs in version 36 of the 3M PPC Grouper.

CY 2018 to CY 2021: Under the TCOC Model, Maryland presents the PPC Rates per 1,000 Eligible Discharges and the Case-mix Adjusted PPC Rates for the fourteen measures included in the pay-for-performance program with particular focus under the TCOC Model.

Disclaimer: PPC Rates CY 2013 to CY 2016 should not be trended against PPC Rates CY 2018 and CY 2021.

Goal 12 – Please see relevant information below.

Case-mix Adjusted Readmission Rates

Number of Observed Readmissions within 30 days of discharge ÷ Number of Expected Readmissions) x Statewide Unadjusted Readmission Rate in base period. The base period is CY 2018, with a Statewide Readmission Rate of 11.37%.

Expected readmissions are estimated by applying the statewide rates by APR-DRG and severity of illness category to each hospital's discharges.

Goal 13 – Please see relevant information below.

Readmission Rate for Inpatient Discharges to Nursing Homes

Numerator**:** The number of All-Payer inpatient hospital stays where the patient was discharged to a nursing home, but was readmitted to the hospital within 30 days of the initial hospital discharge date.

Denominator**:** The total number of hospital discharges that have a nursing home or skilled nursing facility as discharge disposition.

NOTE**:** These data are not case-mix adjusted. Discharge disposition is self-reported by hospitals, and is audited in annual Case-mix audits.

Data Source**:** HSCRC inpatient discharge abstract data with CRISP unique patient enterprise identifiers (EIDs) for 2013-2019. Discharge disposition to a nursing home (codes 44 and 51) is self-reported by hospitals. Beginning FY 2019 (July 2018) the HSCRC transitioned to the Universal Billing 04 codes, and discharge to Nursing Home is presently captured by codes 03 and 63.

Goal 14 - Condition-Specific Readmission Rates

NQF crosswalks for condition-specific readmission rates (all rates besides THA-TKA) were current as of October 18, 2016 and, per the NQF website, may be subject to revision.

Condition-specific readmission rates for THA-TKA are sourced from:
http://www.qualitynet.org/dcs/ContentServer?c=Page&pagename=QnetPublic%2FPage%2FQnetTier2&cid=1219069855273

Goal 15 – For more information on the AHRQ-specified Prevention Quality Indicators (PQIs) and their associated risk-adjustment specifications, please refer to the AHRQ website: https://www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx.

Goal 16 – Additional information on the numerator and denominator definitions for the condition-specific ED visit rates is listed below.

Numerator: Condition-specific ED Visit Rates are sourced from CCS Categories as follows:

- Asthma - 128
- Behavioral Health - 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 670
- Diabetes - 49, 50
- Hypertension - 98, 99

ED Visits are defined as Outpatient Cases wherein Rate Centers 28, 34, and/or 90 have charges > $0.

Denominator: Where the Maryland Department of Planning numbers are referenced, these may be accessed here: https://planning.maryland.gov/MSDC/Pages/pop_estimate/InterCensalPopEst-AGR.aspx- referencing the "Estimates by Age, Race and Gender. "These can be sourced at Table 1A (the Maryland Department of Planning website has updated)..

Goal 17 – Life Expectancy at Birth

Maryland data 2016-2019 may be located within the Vital Statistics Annual Report, located at this website, https://health.maryland.gov/vsa/Documents/Reports%20and%20Data/Annual%20Reports/REV_2018annual.pdf. Maryland 2019 data at: https://health.maryland.gov/vsa/Documents/Reports%20and%20Data/Annual%20Reports/2019Annual.pdf, (page 85).

National data may be located within the relevant CDC Data Brief, page 3:

https://www.cdc.gov/nchs/data/hestat/life-expectancy/lifeexpectancy-H.pdf.

2018 National Data by race may be located within the relevant CDC Data Brief, https://www.cdc.gov/nchs/data/nvsr/nvsr69/nvsr69-12-508.pdf page 3.

2019 National Data by race may be located within the relevant CDC Data Brief, https://www.cdc.gov/nchs/data/nvsr/nvsr70/nvsr70-08-508.pdf (page 8).

2020 Provisional Data may be located within the relevant CDC Data Brief, Provisional National data at: https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf pg 2.

Goal 18 - Per the document, for more information please refer to the following submitted or pending reports:

- **Diabetes Outcomes-Based Credit Proposal under the Maryland Total Cost of Care Model** (submitted 2019)
- **2020 Diabetes Outcome Credit Proposal** (submission pending)
- **Opioid Use Disorder Outcome Credit Measurement Methodology** (submission pending)
- **SIHIS Proposal** (submitted Dec 14, 2020)

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Statewide Integrated Health Improvement Strategy

Annual Report

CY 2022 Performance and CY 2023 Activities

March 2024

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Executive Summary

In 2019, the State of Maryland collaborated with the Center for Medicare and Medicaid Innovation (CMMI) to establish the domains of health care quality and delivery that the State could impact under the Total Cost of Care (TCOC) Model. The Statewide Integrated Health Improvement Strategy (SIHIS) aligns statewide efforts across three domains that are interrelated and, if addressed successfully, have the potential to make significant improvement in not just Maryland's healthcare system, but in the health outcomes of Marylanders.

- Domain 1: Hospital Quality
- Domain 2: Care Transformation Across the System
- Domain 3: Total Population Health

This annual report summarizes efforts to achieve statewide population health improvement, provides updates on 2022 performance, details official performance on the official 2021 SIHIS milestones, and provides information on broad stakeholder engagement activities in 2023 to achieve success under SIHIS. As a note, the State did not have formal targets set for 2022. For some reporting areas, quantitative performance shows 2022 performance or performance compared to 2023 interim targets. Additionally, this report also highlights the State's efforts to achieve health equity and provides data on racial disparities across all domains. Final 2023 data is not yet available, and the State will provide updates as we determine final performance.

Background

The State of Maryland is leading a transformative effort to improve care and lower healthcare spending growth through the Maryland TCOC Model. The TCOC Model builds on the successes of the All-Payer Model, a five-year demonstration project with CMMI that established global budgets for hospitals and ended December 31, 2018. In 2019, the State of Maryland launched the TCOC Model with the goal of "testing whether statewide healthcare delivery transformation, in conjunction with population-based hospital payments, improves population health and care outcomes for individuals, while controlling the growth of Medicare Total Cost of Care."[1] Thus, the TCOC Model continued the hospital global budgets of the All-Payer Model, while also introducing additional responsibility and flexibility for the State to limit growth of Medicare total cost of care. Given the TCOC Model's broader mandate, the State and CMMI recognized that success under the new agreement would require more focus beyond hospital walls.

[1] Maryland Total Cost of Care Model Agreement. https://hscrc.maryland.gov/Documents/Modernization/TCOC-State-Agreement-CMMI-FINAL-Signed-07092018.pdf

The TCOC Model agreement did not include specific targets for hospital quality and population health, in recognition of the broader work and engagement needed to develop goals, measures and targets. In 2019, the State collaborated with CMMI to establish the broad domains for goals that the State would impact under the Total Cost of Care Model. The collaboration also included an agreed-upon process and timeline by which the State would submit proposed goals, measures, milestones, and targets to CMMI. As a result of the collaboration with CMMI, the State entered into an MOU that required Maryland to provide a proposal for the SIHIS to CMMI by December 31, 2020. The State submitted its proposal to CMMI on December 14, 2020. CMMI formally approved the proposal as submitted in March 2021.

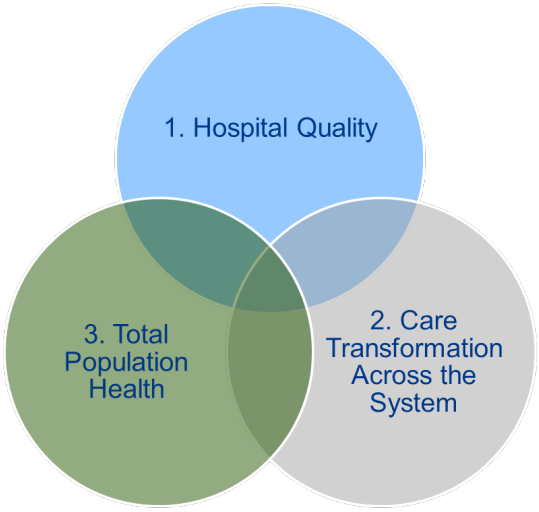
The MOU established the SIHIS proposal requirements and required the State to provide at least one goal for each of the three domains. Within each domain, the SIHIS proposal provided a Model Year 3 milestone that is measured on CY 2021 data, a Model Year 5 interim target that will be measured on CY 2023 data, and a Model Year 8 final target that will be measured on CY 2026 data. The MOU also set forth guiding principles that Maryland should use to develop the SIHIS. These guiding principles include the following:

- Maryland's strategy should fully maximize the population health improvement opportunities made possible by the TCOC Model;
- Goals, measures, and targets should be specific to Maryland and established through a collaborative public process;
- Goals, measures, and targets should reflect an all-payer perspective;
- Goals, measures, and targets should capture statewide improvements, including improved health equity;
- Goals for the three domains of the integrated strategy should be synergistic and mutually reinforcing;
- Measures should be focused on outcomes whenever possible; milestones, including process measures, may be used to signal progress toward the targets; and
- Maryland's strategy must promote public and private partnerships with shared resources and infrastructure.

Using the principles established in the SIHIS MOU, Maryland is expanding efforts to transform health care delivery across the State, developing value-based payment programs, and launching initiatives designed to improve population health outcomes. Collectively, these initiatives will improve the overall health of Marylanders while controlling the growth of healthcare costs both in the short and long term.

As part of the SIHIS, Maryland's efforts span three interrelated domains and, if successful, Maryland's efforts have the potential to make significant improvement in not just the State's healthcare system, but also the health outcomes of Marylanders.

Figure 1. SIHIS Domains & Goals



- *Hospital Quality* – Enhanced hospital quality and value-based performance targets will build on historical performance targets to drive continued improvement in quality of care.
- *Care Transformation Across the System* – System-wide care transformation activities and value-based payment models will improve care quality and reduce costs.
- *Total Population Health* – Key health priorities and the statewide mobilization of public and private resources will improve health outcomes for Marylanders.

Domain Area	Goal(s)
Domain 1 – Hospital Quality	Reduce avoidable admissions and readmissions
Domain 2 – Care Transformation Across the System	(1) Increase the amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), Care Redesign Program, or successor payment model (2) Improve care coordination for patients with chronic conditions

Domain 3 – Total Population Health "Diabetes"	Reduce the mean Body Mass Index (BMI) for adult Maryland residents
Domain 3 - Total Population Health "Opioid Use Disorder"	Improve overdose mortality
Domain 3 - Total Population Health "Maternal and Child Health"	Reduce severe maternal morbidity rate Decrease asthma-related emergency department visit rates for ages 2-17

Performance compared to 2023 targets and highlights of ongoing initiatives throughout 2023 to improve population health and health equity are detailed below.

Domain 1: Hospital Quality

Maryland hospitals made significant quality improvements under the All-Payer Model, achieving reductions in hospital-acquired complication and readmissions rates. Under the TCOC Model, Maryland hospitals must maintain these achievements and match any national quality improvement in these areas. While specific quality targets were not included in the contract, Maryland recognizes the need to make further progress in hospital quality, consistent with the broader care coordination, primary care, and population health aims of the TCOC Model. The Hospital Quality domain focuses on reducing avoidable utilization through two measures - reducing avoidable admissions and improving readmission rates by reducing within-hospital disparities. These goals align with the care coordination, primary care, and population health aims of the TCOC Model, as it requires Maryland hospitals to work with ambulatory providers and in their communities to address ambulatory care sensitive conditions as well as social determinants of health.

Goal 1: Reduce Avoidable Admissions

Maryland hospitals continue to work towards reducing avoidable admissions through prioritizing case management and care coordination for hospitalized patients. Furthermore, to meet this goal, the Maryland Primary Care Program (MDPCP) provides whole person, data-driven, team-based care and care management and is an essential component of the TCOC Model for both hospitalized and non-hospitalized patients. The global budget system overall is designed to incentivize hospitals to make investments in population health. Thus, improvements in potentially avoidable admissions are anticipated under the TCOC Model.

The metric used for assessing avoidable admissions is the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicator 90 (PQI-90). The PQI-90 composite measure captures the rate of potentially avoidable admissions in a population for those ages 18 years and older. The PQI-90 measure

specifically includes hospital admissions for one of the following conditions: diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure without a cardiac procedure, community-acquired pneumonia, or urinary tract infection. The TCOC Model provides hospital, primary care, and population health incentives to reduce these types of admissions across all-payers through improvements in post-discharge care coordination, community health investments, and enhanced primary care resources.

Table 1 shows that on an all-payer basis Maryland had about a 25 percent improvement in avoidable admissions from CY 2018 to CY 2022. This improvement exceeds the CY 2022 Year 4 interim target of an 11 percent improvement. This is an unofficial target set by the State to provide an annual goal to strive towards. Furthermore, the recent quantitative evaluation of the TCOC Model shows similar findings, i.e., during the first three years of the TCOC Model there was a statistically significant reduction in potentially preventable admissions that exceeded what was seen in the All-Payer Model.[2] However, there have been large declines in avoidable admissions both in Maryland and nationally during the COVID public health emergency (PHE) due to challenges such as access issues. As discussed in a recent CMMI report on its strategic plan implementation, the targets for avoidable admissions have not been updated to reflect the impact of COVID.[3] Specifically, CMMI stated in their report that "PQI #90 composite results are expected to increase towards pre-pandemic levels or potentially reflect the impact of delayed care during the pandemic before reducing over time with new initiatives." Thus, while Maryland has achieved its CY 2022 interim target, there is concern that PQI rates will increase in the near future and the timing of those increases may impact the ability of the State to hit future targets.

Table 1. Hospital Quality - Goal #1

Goal 1: Reduce Avoidable Admissions		
Measure	AHRQ Risk-Adjusted PQIs	
2018 Baseline[4]	1335 admits per 100,000	**Actual Performance**
2021 Year 3 Milestone (Both Met)	8 percent improvement 1228 admits per 100,000	**26.23 percent improvement** **985 admits per 100,000**
2022 Year 4 Interim Target[5]	11 percent improvement 1188 admits per 100,000	**24.65 percent improvement** **1006 admits per 100,000**

[2] Evaluation of the Maryland Total Cost of Care Model: Quantitative-Only Report for the Model's First Three Years (2019 to 2021), December 2022 https://innovation.cms.gov/data-and-reports/2022/md-tcoc-qor2
[3] Person-Centered Innovation – An Update on the Implementation of the CMS Innovation Center's Strategy – Supplemental Document. https://innovation.cms.gov/data-and-reports/2022/cmmi-strategy-refresh-imp-tech-report
[4] Recalculated using AHRQ PQI v2021; results vary somewhat from the older PQI rate of 1,335 per 100,000 reported in the original SIHIS proposal.
[5] The State has developed unofficial interim targets in the years between official SIHIS milestones and targets to serve as annual improvement goals to strive towards.

2023 Year 5 Target	15 percent improvement 1135 admits per 100,000	TBD
2026 Year 8 Final Target	25 percent improvement 993 admits per 100,000	TBD

An important goal of an advanced primary care program is the reduction of avoidable hospital utilization. To achieve this goal, primary care practices must identify and care for patients in a timely manner, and in the most effective and efficient setting. As discussed in Appendix A, the CY 2022 results for the Medicare FFS population indicate that those enrolled and participating in MDPCP practices have higher rates of improvement in avoidable admissions and emergency department visits than non-participating Medicare beneficiaries. As MDPCP continues to add new practices in 2023 and 2024, continued reductions in PQI events are anticipated, and this will serve to improve the overall statewide performance on these measures. Also, as MDPCP practices continue to benefit from the State's advanced primary care health information technology (HIT) and ongoing educational programs, MDPCP overall performance will continue to improve, further benefiting statewide overall performance.

Another critical opportunity to reduce avoidable admissions will be for Maryland to address disparities in these types of admissions. Table 2 includes a disparity index wherein a value over 1 indicates **negative** performance on the measure when compared to non-Hispanic (NH) White performance. While the disparity index has significantly improved in 2022, areas of opportunity still exist.

Table 2. PQI by Race & Ethnicity, Baseline & 2022 Performance

Race	2018 Baseline	2022 Performance	Disparity Index
NH White	1120	832	1.00
NH Black	2144	1602	1.48
Hispanic	755	644	0.42
NH Asian	306	264	0.25
Other	2277	1961	1.36
Total	1335[6]	1006	1.05

Source: HSCRC Casemix Data

[6] Table 3 uses the PQI baseline of 1,335 per 100,000 reported in the original SIHIS proposal.

Goal 2: Improve Readmission Rates by Reducing Within-Hospital Disparities

Racial and socioeconomic differences in readmission rates are well documented[7,8] and have been a source of significant concern among healthcare providers and regulators for years. In Maryland, the 2018 readmission rate for NH Black beneficiaries was 2.6 percentage points higher than for NH White beneficiaries, and the rate for Medicaid enrollees was 3.4 points higher than for other patients. A 2019 Annals of Internal Medicine paper co-authored by HSCRC staff[9] reported a 1.6 percent higher readmission rate for patients living in neighborhoods with increased deprivation. Maryland hospitals, in line with CMS priorities, identify reduction in disparities as a key priority over the near term. Thus, in March 2020, the Commission approved the nation's first program to provide financial incentives to hospitals that reduce socioeconomic disparities in readmissions. The program assesses patient-level socioeconomic exposure using the Patient Adversity Index (PAI), a continuous measure that reflects exposure to poverty, structural racism, and neighborhood deprivation. As shown in Figure 2, the relationship between PAI and readmissions is then assessed for each hospital for the base and performance period, and improvements in the slope of the line or in the difference in readmission rates at two points on the line (e.g., PAI = 1 vs PAI = 0) are compared for the base and performance period to calculate improvement. In the Readmission Reduction Incentive Program (RRIP) Disparity Gap financial incentive program, hospitals that improve on the within hospital disparity gap and improve on overall readmissions are eligible for a scaled reward up to 0.50 percent of inpatient revenue. Additional information on the development of the within-hospital disparity metric can be found in the RY 2021 RRIP policy.[10]

Figure 2. Hypothetical Example of Relationship between PAI and Readmission Rates

[7] Tsai TC, Orav EJ, Joynt KE. Disparities in surgical 30-day readmission rates for Medicare beneficiaries by race and site of care. *Ann Surg*. 2014;259(6):1086–1090. doi:10.1097/SLA.0000000000000326;
[8] Calvillo–King, Linda, et al. "Impact of social factors on risk of readmission or mortality in pneumonia and heart failure: systematic review." *Journal of general internal medicine* 28.2 (2013): 269-282.
[9] Jencks, Stephen F., et al. "Safety-Net hospitals, neighborhood disadvantage, and readmissions under Maryland's all-payer program: an observational study." Annals of internal medicine 171.2 (2019): 91-98.
[10] https://hscrc.maryland.gov/Documents/2.%20Final%20RY%202021%20RRIP%20Policy.pdf

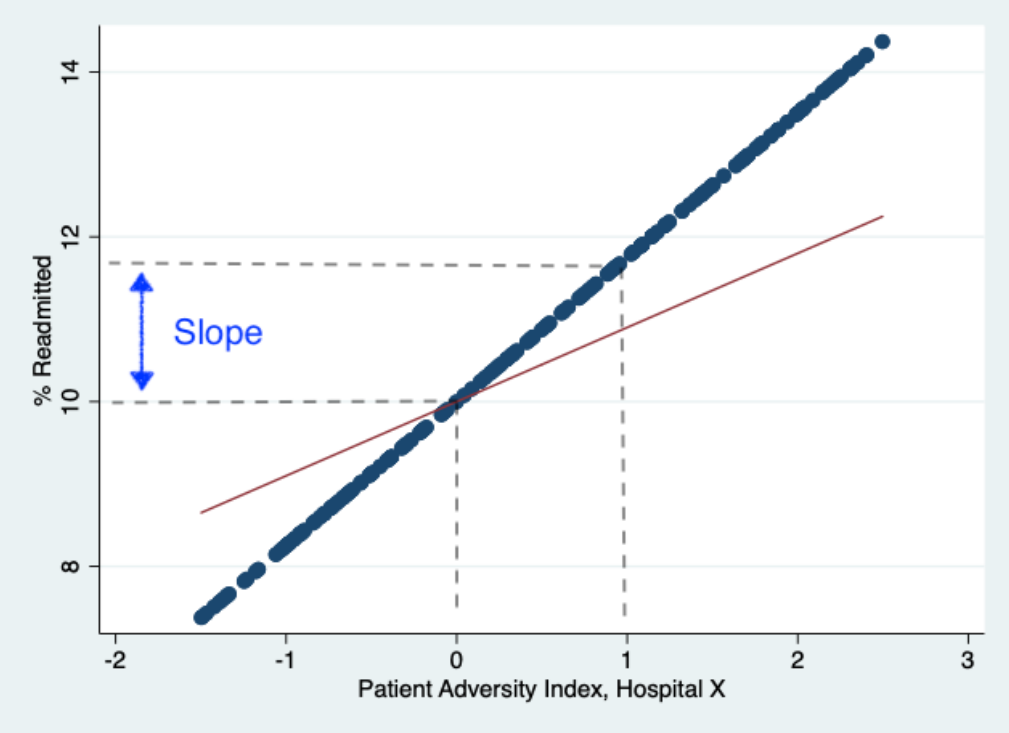


Table 3 provides the targets that were submitted to CMMI indicating that by the end of CY 2026 half of hospitals in Maryland will have a 50 percent improvement in disparity. CY 2022 data shows that 32 hospitals saw a reduction in their within-hospital disparities in readmissions, ranging from a 0.18 percent reduction to a 61.54 percent reduction. To meet the CY 2023 SIHIS Target, the State needs at least 22 hospitals to reduce their within-hospital disparities in readmissions by 25 percent.

Table 3. Hospital Quality - Goal #2

Goal #2: Improve Readmission Rates by Reducing Within-Hospital Disparities	
Measure	Readmission disparity gap
2018 Baseline	Hospital-specific risk difference for readmissions across levels of Patient Adversity Index (PAI)
2021 Year 3 Milestone	Establish and monitor a measurement methodology and payment incentive for reducing within hospital readmission disparities and set a 2023 and 2026 target
2023 Year 5 Target	Half of eligible hospitals achieving 25% improvement in disparity
2026 Year 8 Final Target	Half of eligible hospitals achieving 50% improvement in disparity

Post-COVID there have been some updates to the disparity gap methodology for readmissions. First, HSCRC staff updated the measure to use post-COVID CY 2021 norms that are applied to both the historical CY 2018 data, as well as to the performance periods. However, in doing this, staff decided that in order to fully measure improvement, all of the regression model coefficients used for risk-adjustment such as diagnosis-severity of illness, age, and sex (not just the PAI coefficient) should be "locked in" or not recalculated for each time period. This technical change ensures any improvement over time is fully captured, rather than only capturing improvement above the state average improvement (which would make the SIHIS goal challenging). Staff are working to lock model coefficients from the CY 2021 base period to be applied to the performance period, but initial analyses show this has only a minor impact on results. These updates to the RRIP-Disparity Gap methodology, however, are important for stakeholder engagement.

The State remains committed to ensuring hospitals are advancing health equity by continuing to financially incentivize reductions in disparities through the RRIP policy and other policies.

Domain 2: Care Transformation Across the System

Goal 1: Total Cost of Care Beneficiaries under Care Transformation Initiatives, the Care Redesign Program, or Successor Payment Models

Under the All-Payer Model, the delivery system in Maryland began moving away from the traditional fee-for-service (FFS) payment systems and towards value-based care. The State moved more than 95 percent of all hospital payments to a population-based payment system (i.e. global budgets). Under the TCOC Model, the State continues to accelerate the transition towards value-based care and move all payments – regardless of setting of care – to a value-based payment arrangement. The State already has significant delivery system reform efforts beyond the hospitals, including Care Redesign Programs (CRP) and the Maryland Primary Care Program (MDPCP). In addition to these "formal" programs, there are numerous endogenous care transformation efforts that hospitals have deployed in response to the incentives of the All-Payer Model and the global budgets. While these initiatives have helped the State to reduce the TCOC and the unnecessary hospitalization rate, the accountability for managing Medicare beneficiaries remains fragmented across many different providers in different settings of care. The State established the goals and targets, seen in Table 4, to address this fragmentation and further grow efforts to move towards a value-based care system that stretches beyond hospital walls. The State has measured performance based on the amount of TCOC or number of Medicare beneficiaries captured under Care Transformation Initiatives (CTIs) or the Episode Care Improvement Program (ECIP) track under CRP. Additional programs, such as the Episode Quality Improvement Program (EQIP) and Track 3 of MDPCP, are used to measure performance.

Table 4. Care Transformation Across the System - Goal #1

Goal: Increase the amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), Care Redesign Program, or successor payment model		
Measure	Percent of TCOC under Care Transformation	Number of beneficiaries under Care Transformation
2018 Baseline	$0	0
2021 Year 3 Milestone (Both Met)	12.5% of Medicare TCOC under a CTI or CRP or successor payment model **Actual Performance:** 33.01%	7.5% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model **Actual Performance:** 25.62%
2023 Year 5 Target	37% of Medicare under a CTI or CRP or successor payment model	22% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model
2026 Year 8 Final Target	50% of Medicare TCOC under a CTI or CRP or successor payment model	30% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model

Quantitative Performance

Beneficiaries Under Care Transformation Programs

As shown in Table 5, Maryland moved 30.79 percent of Medicare TCOC under a care transformation program year in 2022, compared to 25.62 percent in 2021. Year to date, Maryland has enrolled 41.41 percent of its Medicare TCOC under a care transformation program, which exceeds the State's 2023 interim target by 19.41 percent.

Table 5. Medicare Beneficiaries Under Care Transformation Programs, 2022 - September 2023

	2022 Performance	2023 YTD	2023 Target	Difference from Target
Percent	30.79%	41.41%	22%	+19.41%
Beneficiaries Under Care Transformation	252,047	332,827		
Total Medicare Beneficiaries	818,563	803,760		

Source: CCLF Data

Maryland also tracks performance by race and ethnicity. Table 6 includes a disparity index wherein a value over 1 indicates **positive** performance on the measure when compared to NH White performance. Currently, the percent of NH Black beneficiaries under care transformation programs exceeds all other race/ethnic populations. Also, each group has exceeded the 2023 interim target (22 percent), with the

exception of the Hispanic population. The State will strive for improvement in 2023 and is seeing growth across all populations in early 2023 preliminary data.

Table 6. Medicare Beneficiaries Under Care Transformation Programs by Race/Ethnicity, 2022

Race	Bene Count	Total Medicare Beneficiaries	% of Benes in Care Transformation Programs	Disparity Index
NH White	166,626	537,024	31.03%	1.00
NH Black	63,832	194,270	32.86%	1.06
Hispanic	4,503	23,482	19.18%	0.62
NH Asian	8,190	32,677	25.06%	0.81
Other	8,896	31,110	28.60%	0.92
Total	252,047	818,563	30.79%	0.99

Source: CCLF Data

Total Cost of Care Under Care Transformation Programs

As shown in Table 7, Maryland moved 50.06 percent of Medicare TCOC under a care transformation program in 2022, compared to 33.01 percent in 2021. Year to date, beneficiaries enrolled in a care transformation program account for 44.49 percent of Maryland's Medicare TCOC, which exceeds the State's 2023 interim target (37 percent) by 7.49 percent.

Table 7. Medicare TCOC Under Care Transformation Programs, 2022 – September 2023

	2022 Performance	2023 YTD	2023 Target	Difference from Target
Percent	50.06%	44.49%	37%	7.49%
Dollars Under Care Transformation	$5,197,609,305	$3,364,419,204		
Total Medicare TCOC	$10,383,745,515	$7,562,300,431		

Source: CCLF Data

Care Transformation Programs

As discussed above, 2022 performance captures TCOC amounts and Medicare beneficiaries currently under CTIs and ECIP. A description of each program is provided below.

Care Transformation Initiatives

In FY 2022, the HSCRC launched Care Transformation Initiatives (CTI), a new value-based payment program. CTIs assign Medicare beneficiaries to hospitals that have enrolled those beneficiaries in a care

management program. The CTI holds hospitals accountable for the TCOC for those beneficiaries assigned to them and rewards hospitals for any savings created by their care management programs. The program allows HSCRC to develop a systematic understanding of best practices for improving care, account for the savings and improvements attributed to care transformation, incentivize initiatives that produce savings under the TCOC Model, and articulate Maryland's success stories in transforming care. HSCRC staff regularly receive feedback from the Care Transformation Steering Committee, which prioritizes, develops, and finalizes each CTI proposed by hospitals. To date, the Steering Committee has approved five CTI categories: (1) Transitions of Care, (2) Palliative Care, (3) Primary Care Transformation, (4) Community-Based Care, and (5) Emergency Care. Performance Year 1 results report a total of 107 CTIs with an average savings of 1.9 percent. All participating PY1 hospitals elected to continue participation for PY2. Forty-three hospitals participated in a cumulative total of 92 CTIs in FY 2022 and 99 CTIs in FY 2023. Assessing CTIs helps to delineate the level of effort each hospital is undertaking to drive system success to inform revenue distribution and policy incentives. Successful CTIs will financially reward hospitals through the Medicare Performance Adjustment (MPA) Framework. Savings of $130M were scored for the first completed year (FY 2022).

Care Redesign Program – Episode Care Improvement Program

The Episode Care Improvement Program (ECIP) is designed to allow a hospital to link payments across providers during an episode of care. Maryland modeled ECIP on CMS's Bundled Payments for Care Improvement Program Advanced Model. Episode payment models bundle payments to health care providers for certain items and services furnished during an episode of care. ECIP's bundled payment approach aligns incentives across hospitals, physicians, and post-acute care facilities to generate savings and improve quality through better care management during episodes, eliminating unnecessary care, and reducing post-discharge emergency department visits and hospital readmissions. ECIP provides hospitals with the opportunity to provide incentive payments to care partners that help achieve these goals. ECIP began on January 1, 2019, with nine hospital participants. ECIP participation grew to 21 hospitals in CY 2021 and 24 hospitals in CY 2022. The HSCRC made policy changes to ECIP for CY 2023, requiring hospitals to share incentives with care partners and/or provide significant resource sharing to care partners. These changes influenced hospital participation decisions. Seventeen hospitals participated in ECIP and 16 hospitals are participating in CY 2024. Care partner engagement, a key element of CRP implementation, has fallen as the number of participating hospitals has declined. For the second half of CY 2023, there were 2,507 unduplicated ECIP care partners and 7 facilities. These declines in participation are not unexpected as many hospitals have opted to direct resources to participating in CTIs and supporting affiliated physicians participating in EQIP as it grows.

Care Redesign Program – Episode Quality Improvement Program

The Episode Quality Improvement Program (EQIP) is a voluntary program that engages specialist physicians who treat Maryland Medicare beneficiaries in care transformation and value-based payment through an episode-based approach. EQIP will hold participants accountable for achieving cost and quality targets for one or more Clinical Episodes. The first Performance Year of EQIP began on January 1, 2022 with 15 episodes focused on the specialty areas of cardiology, gastrointestinal, and orthopedics. Participation in Performance Year (PY) 1 EQIP included 1,981 providers. Year 1 results are favorable as EQIP saved $20 million in total cost of care in 2021, with a savings rate of 5 percent. The program expanded in PY 2 (CY 2023) to include 25 new episodes in the following specialty areas: Allergy, Dermatology, Emergency Department, Ophthalmology and Urology. An additional 5 episodes were added for PY3 (CY 2024) and enrollment stands at 3,203 providers.

Goal 2: Timely Follow-Up after Acute Exacerbations of Chronic Conditions

TFU Medicare

The TCOC Model provides incentives to improve care transitions by prioritizing and expanding case management for high-risk patients. Specifically, Maryland aims to improve timely follow-up (TFU) for Medicare beneficiaries who have exacerbation of a chronic condition. Leveraging CRISP tools, such as care alerts and encounter notification services (ENS), and enhancing communication between hospitals, PCPs, and other healthcare providers are key strategies for success under this goal.

Table 8 shows the milestones and targets for this SIHIS goal.[11] Table 9 shows annual performance for 2018 through 2022 for Maryland and the nation.[12] As shown in these tables, in CY 2021 Maryland had a TFU rate of 70.07 percent and did not meet the milestone of 72.38 percent in 2021. However, the follow-up rate in Maryland continues to remain higher than the nation in 2022 by 3.33 percent, equating to 975 additional follow-up visits in Maryland than would have occurred if Maryland had the same rate of follow-up as the nation.

Table 8. Care Transformation Across the System - Goal #2

Goal: Improve care coordination for patients with chronic conditions	
Measure	Timely Follow-up After Acute Exacerbations of Chronic Conditions (NQF#3455)

[11] The SIHIS baseline and targets have been updated since the SIHIS proposal was submitted. This resulted in lower CY 2018 baseline rates. However, the final target of 75 percent or 0.50 percent better than the nation was not adjusted.
[12] Maryland rates were calculated using the CCLF data provided to the HSCRC. National rates were calculated using the 5% sample in the Chronic Conditions Warehouse (CCW).

2018 Baseline	70.85%
2021 Year 3 Milestone (Milestone Not Met)	72.38% 2.16 percent improvement **Actual Performance:** 70.07%
2023 Year 5 Target	73.42% 3.62 percent improvement
2026 Year 8 Final Target	75.00% 5.86 percent improvement or 0.50 percent better than the national rate

Table 9. Timely Follow-Up, Maryland vs. Nation, CY 2018 - CY 2022

	CY 2018	CY 2019	CY 2020	CY 2021	CY 2022
Maryland	70.85%	71.45%	67.90%	70.07%	70.59%
Nation	66.82%	69.00%	64.75%	67.68%	67.26%
Simple Difference	4.03%	2.45%	3.15%	2.39%	3.33%

Source: CCLF (Maryland) and CCW (National)

Maryland also tracks performance by race and ethnicity. Table 10 includes a disparity index wherein a value over 1 indicates **positive** performance on the measure when compared to non-Hispanic (NH) White performance.

Table 10. Timely Follow-Up Rate by Race/Ethnicity and Disparity Index

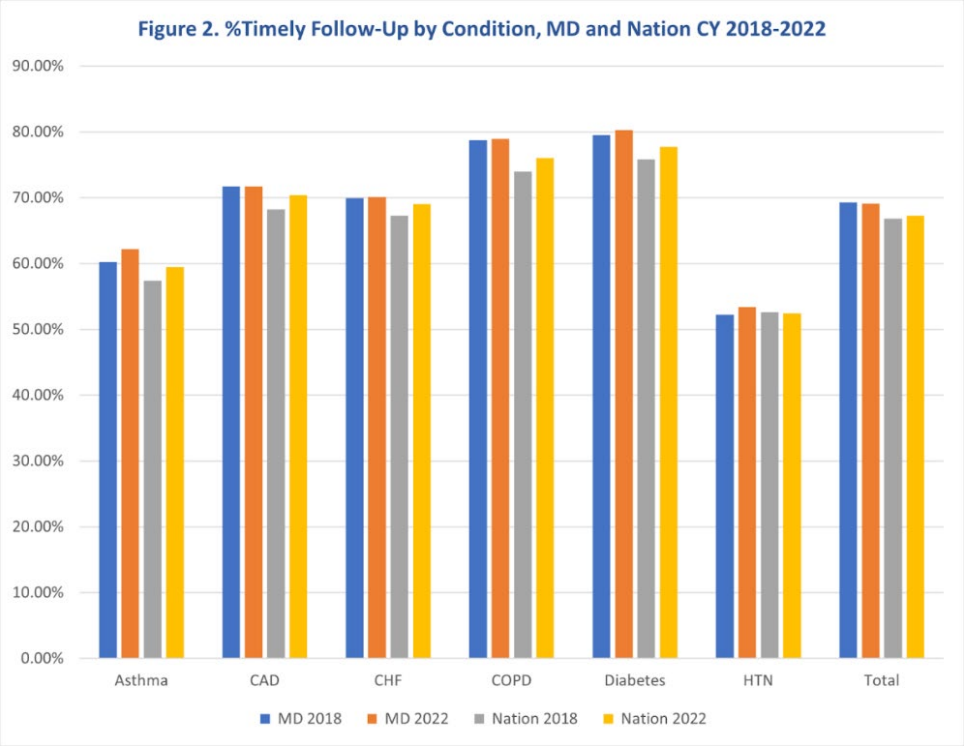
Race	2018 Baseline	2022 Performance	Disparity Index
NH White	75.17%	73.96%	1.00
NH Black	64.44%	64.52%	0.87
Hispanic	67.07%	67.48%	0.91
NH Asian	70.01%	73.74%	1.00
Other	72.73%	69.41%	0.94
Total	70.85%	70.50%	0.95

Source: CCLF Data

Figure 3 provides the change in follow-up by condition from CY 2018 to CY 2022 for Maryland and the nation. This shows that the follow-up rate in Maryland decreased for coronary artery disease (CAD), asthma, and diabetes. However, the follow-up rate in Maryland increased for congestive heart failure (CHF),

chronic obstructive pulmonary disease (COPD) and remained the same for hypertension (HTN). Those increases were offset by larger decreases in timely follow-up for asthma and chronic obstructive pulmonary disease (COPD). Meanwhile, the nation had increases for all conditions except HTN. While Maryland has a higher follow-up rate than the nation, the State did not meet the CY 2021 Year 3 milestone. These rates may have been impacted by the COVID PHE and resulting changes in patient and provider behavior.

Figure 3. Percent Timely Follow-Up by Condition, MD and Nation, CY 2018-2022



Source: CCLF Data (Maryland), CCW Data (Nation)

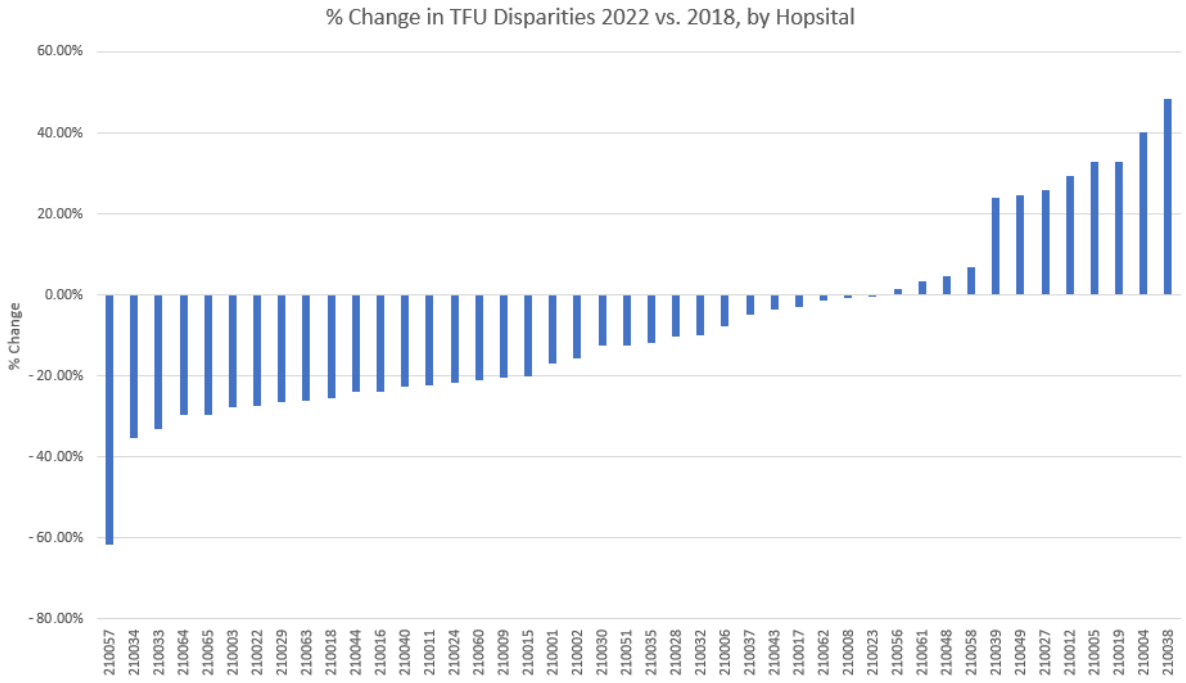
Despite the reduction in timely follow-up during the COVID PHE, Maryland remains committed to achieving the CY 2026 final target of 75 percent or 0.50 percent better than the nation.

Improving TFU Rates by Reduce within-Hospital Disparities

Given that the State did not meet the 2021 Year 3 milestone and the overwhelming evidence of disparities in this measure, HSCRC staff have developed a Timely Follow-Up (TFU) disparity gap metric which is similar to the readmissions disparity gap measure. The TFU disparity gap metric takes the patient-level social exposures of race, dual-eligibility status, and Area Deprivation Index (ADI) and estimates the association between these social exposures and the likelihood of receiving a follow-up in the recommended timeframe; these estimates are calculated for each performance year. The performance metric measures the improvement in within-hospital disparities by comparing the baseline to the performance period. Figure

4 shows hospital improvements in within-hospital disparities in TFU, comparing 2018 to 2022. To incentivize hospitals to improve on the disparities experienced by their patients, HSCRC is proposing to add this measure to the Quality Based Reimbursement (QBR) Program, specifically in the Person and Community Engagement (PCE) domain.

Figure 4. Percent Change in TFU Disparities 2022 vs. 2018, by Hospital



TFU Medicaid

As part of the SIHIS proposal, the State indicated it would explore expanding the TFU rates for chronic conditions to other payers and adding follow-up after a hospitalization for behavioral health. In CY 2022, staff worked with CRISP and Maryland Medicaid to provide hospitals monthly Medicaid TFU reports to measure their performance. In RY 2025, the HSCRC introduced the Medicaid TFU measure into the QBR program within the PCE domain.

Domain 3a: Total Population Health – Diabetes

Diabetes has been a statewide population health priority for Maryland since 2019. MDH has targeted overweight, obese, prediabetic, and diabetic populations to implement interventions that align with the Diabetes Action Plan (DAP). Approximately 11.1 percent of Maryland adults were informed they had diabetes in 2021.[13] According to the Centers for Disease Control and Prevention (CDC), 38 percent of

[13] 2021 Behavioral Risk Factor Surveillance System (BRFSS) Data. https://www.cdc.gov/brfss/index.html

adults are thought to have prediabetes, which equates to approximately 1.8 million adults in Maryland with prediabetes. Overweight and obesity are top risk factors for prediabetes and diabetes; over 68 percent of Maryland adults are overweight or obese.[14] The goals, milestones, and interim and final targets for the diabetes priority area are shown in Table 11.

Table 11. Total Population Health - Diabetes Goal

Goal: Reduce the mean body mass index (BMI) for adult Maryland residents[15]	
Measure	Mean BMI in the population of adult Maryland residents
2018 Baseline	28.13 kg/m^2
2021 Year 3 Milestone **(All Met)**	Delaware, Virginia, Mississippi, and Washington, DC were selected as the cohort of states to serve as the control group to measure progress. Launched the Diabetes Prevention and Management Program track of the HSCRC Regional Partnership Catalyst Program. Incorporated a quality measure for all MDPCP practices requiring BMI measurement for all patients, and for patients with an elevated BMI, requiring documentation of a follow-up plan (applying inclusion/exclusion criteria from MIPS measure 128). Expanded the CRISP Referral Tool to Regional Partnerships to increase patient referrals for Diabetes Prevention Programs.
2023 Year 5 Target	Achieve a more favorable change from baseline mean BMI than a group of control states
2026 Year 8 Final Target	Achieve a more favorable change from baseline mean BMI than a group of control states

Quantitative Performance

Performance Against Cohort of States

Maryland set 2023 and 2026 targets that require Maryland to achieve a more favorable change from baseline mean BMI than a group of control states. HSCRC selected three states and Washington, DC to serve as the synthetic control group: Delaware, Virginia, Mississippi, and Washington, DC. To identify synthetic control states, Maryland relied on multiple years of BMI data from the CDC's Behavioral Risk Factor Surveillance Survey (BRFSS). States in the control group are assigned the following weights which

[14] 2021 BRFSS Data.
[15] Mean BMI is determined using the results of the BRFSS.

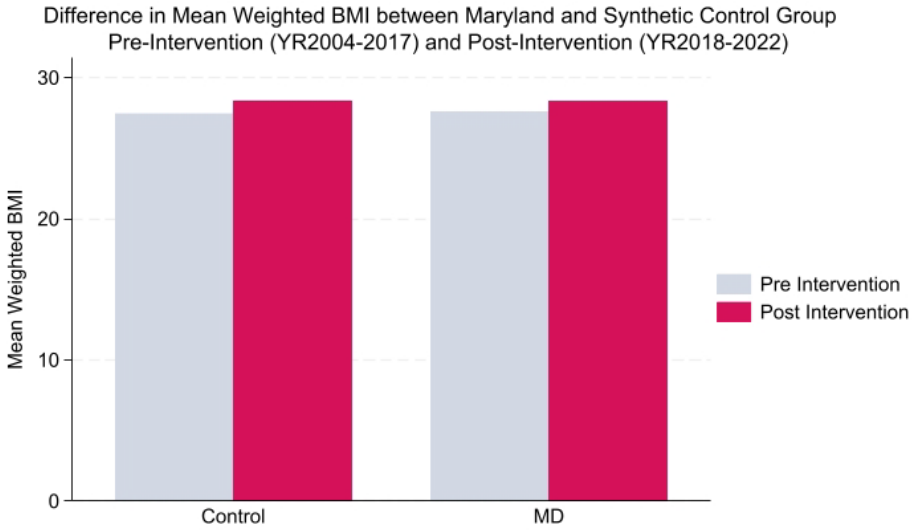
are used to calculate final performance. A description of the process to develop the synthetic control group is detailed in the 2021 SIHIS annual report.

Table 12. Diabetes Synthetic Control Group Weights

State	Weight
Virginia	0.362
Delaware	0.279
Washington, DC	0.25
Mississippi	0.108

Over the course of the TCOC Model, the State of Maryland has achieved a statistically significant reduction in mean BMI as compared to a group of similar states. Since the Model was implemented in 2018, the mean BMI of Marylanders rose to 28.32kg/m^2, while during the same period the mean BMI in control states rose to 28.37 kg/m^2. Thus, Maryland achieved a relative decline of approximately -0.054 kg/m^2 [95% CI: -0.067, -.040] compared to the control group. The comparison group was selected using the synthetic control method, which created a weighted average of BMI data from a selection of other states to closely match Maryland's BMI trend in the years prior to the TCOC Model. Any difference between Maryland and the control during the model period can be attributed to the impact of the TCOC Model.

Figure 5. Difference in Mean Weighted BMI



Performance by Race & Ethnicity

Adult mean BMI by race and ethnicity is shown below in Table 13. The State acknowledges that health disparities in BMI persist in 2022 and is committed to reducing them over the course of SIHIS and beyond.

Table 13. Maryland Adult Mean BMI by Race/Ethnicity, 2018 - 2022

Race	2018 Average BMI (95% Confidence Interval)	2019 Average BMI (95% Confidence Interval)	2020 Average BMI (95% Confidence Interval)	2021 Average BMI (95% Confidence Interval)	2022 Average BMI (95% Confidence Interval)
NH White	27.9 (27.7, 28.1)	27.7 (27.6 - 27.9)	27.7 (27.5 - 27.9)	28.2 (28.0 - 28.4)	28.1 (27.9 - 28.4)
NH Black	29.3 (29, 29.7)	29.9 (29.5 - 30.2)	29.5 (29.1 - 29.9)	29.7 (29.4 - 30.1)	29.8 (29.4 - 30.2)
NH Asian	25 (24.4, 25.5)	25.0 (24.5 - 25.6)	24.8 (24.3 - 25.3)	25.8 (25.1 - 26.6)	25.5 (24.9 - 26.0)
American Indian/Alaskan Native	28.6 (27.2, 30)	29.5 (27.5 - 31.5)	27.7 (25.7 - 29.6)	29.6 (26.4 - 32.9)	27.4 (25.8 - 29.0)
Hispanic	28.9 (28.1, 29.6)	28.3 (27.7 - 28.8)	28.3 (27.8 - 28.7)	29.0 (28.4 - 29.5)	28.7 (28.2 - 29.3)
Other	28 (27.2, 28.9)	28.6 (27.8 - 29.4)	28.2 (27.4 - 29.0)	27.9 (27.1 - 28.8)	29.0 (27.7 - 30.4)

Maryland	**28.2 (28.0 - 28.4)**	**28.3 (28.1 - 28.4)**	**28.1 (28.0 - 28.3)**	**28.5 (28.4 - 28.7)**	**28.5 (28.3 - 28.7)**

Source: 2018 - 2022 Behavioral Risk Factor Surveillance Survey

Updates on Milestones

As reported in the 2021 annual report on SIHIS activities and shown in Table 11, Maryland met all of the 2021 milestones for the diabetes priority area. Progress on 2022 performance and 2023 milestones and additional activities underway to address diabetes burden are detailed below.

Milestone 1: Identify cohort of states for synthetic control group

HSCRC selected three states and Washington, DC to serve as the synthetic control group: Delaware, Virginia, Mississippi, Washington, DC. A description of the approach to develop the synthetic control group can be found in the 2021 SIHIS Annual Report.

Milestone 2: Regional Partnership Catalyst Program – Diabetes Prevention & Management Track

In November 2020, the Health Service Cost Review Commission (HSCRC) originally approved $165.4 million in five-year cumulative funding for the Regional Partnership Catalyst Program to support population health investments. The Regional Partnership Catalyst Program provides funding to hospital-led teams that work across statewide geographic regions to build infrastructure for interventions that align with goals of the Total Cost of Care (TCOC) Model and support population health goals in the SIHIS. The SIHIS population health domain contains the following focus areas: diabetes, opioid overdose mortality, and maternal and child health. The Regional Partnership Catalyst Program funds program development focused on two priorities: diabetes prevention and management programs and behavioral health crisis programming. For diabetes, the HSCRC focused the Regional Partnership Catalyst Program on the implementation of the National DPP and diabetes self-management education training (DSMES).

The HSCRC funding was intended as seed funding, an initial investment in program development and growth. The HSCRC expected Regional Partnership programs to develop sustainable funding streams to support the programs after the HSCRC funding ended. At the end of CY 2023, the HSCRC made a difficult decision to end funding for diabetes programs early due to concerns over the long-term sustainability of the programs; however, hospitals may continue to support these programs independently using the infrastructure developed since 2021. Funding to Regional Partnerships will end June 30, 2024, but Regional Partnerships will have the full calendar year to transition their programs to a self-sustaining model or wind-down their programs if they determine they will not support them without the dedicated HSCRC funding.

Six Regional Partnerships were initially selected to provide diabetes prevention and management activities across Maryland. The award recipients self-selected ZIP codes with disproportionate rates of diabetes or in vulnerable communities more likely to have higher rates of prediabetes. The awardees and final revised funding amounts are listed below in Table 14. The HSCRC and its State partners remain committed to providing technical assistance to Regional Partnerships that will continue operating their programs after funding expires. All Regional Partnerships plan to continue offering programs to address diabetes after funding concludes.

Table 14. Regional Partnerships (Diabetes) Revised Funding Amounts

Regional Partnership	Originally Awarded Total Funding Amount	Revised Total Funding Amount	Program End Date
Baltimore Metropolitan Diabetes Regional Partnership	$43,299,986	$27,968,325	June 30, 2024
Western Regional Partnership	$15,717,413	$10,996,156	June 30, 2024
Nexus Montgomery	$11,876,430	$4,121,123	December 31, 2022
Totally Linking Care - Maryland	$7,379,620	$4,463,519	June 30, 2024
St. Agnes and LifeBridge Health Diabetes Care Collaborative	$5,962,333	$4,081,555	June 30, 2024
Full Circle Wellness for Diabetes in Charles County	$2,124,862	$1,425,078	June 30, 2024
Total	**$86,360,644**	**$53,055,756**	

MDPCP Interaction

In 2023, the Maryland Primary Care Program Management Office (MDPCPMO) conducted virtual meetings with all the Regional Partnerships (RPs) to understand their “current state” of interaction with MDPCP participants. Using a semi-structured interview guide, the MDPCPMO asked each individual RP questions about that particular RP’s relationship with practices, common referral methods and associated workflows, key areas for improvement, patient engagement, and prediabetes strategy. Interviews revealed key successes and challenges for RPs, practice’s utilization of the HEART payment, and RP’s barriers to successes.

To further promote the use of RPs, the MDPCPMO created an internal training to share the purpose of RPs and how to engage with them. Additionally, the MDPCPMO created a guide sharing the five W's (Who, What, When, Where, Why) of Regional Partnerships to disseminate to primary care providers to serve as a resource when talking with patients.

Milestone 3: Expansion of CRISP Referral Tool

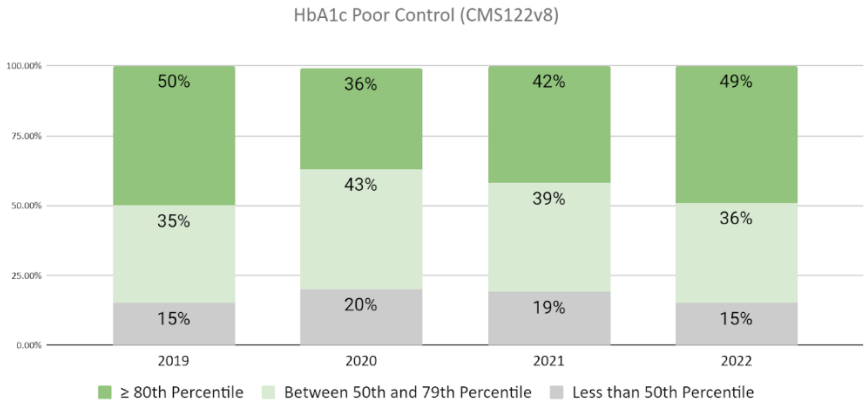
Starting in 2021, the State prioritized expanding the use of a bi-directional DPP e-referral tool for use by providers. The tool was designed to allow for electronic referrals at the point of care and permits the community organization to accept and send back information on the status of the referral. All Regional Partnerships that received funding to implement DPP were onboarded to the tool. The MDPCP Program Management Office continued to promote the use of the CRISP e-referral tool to MDPCP practices and pointed back to previous educational webinars and resources created in earlier years. Medicaid worked closely with the CRISP team in developing the DPP e-referral tool and continued to collaborate on improving technical capabilities to enhance provider experience. Additionally, Medicaid facilitated technical assistance opportunities for providers and the CRISP team. While all Regional Partnerships that received funding were onboarded onto the tool, the CRISP referral tool was one of many that RPs used to drive DPP electronic referrals.

Milestone 4: Maryland Primary Care Program – BMI Quality Measure

MDPCP has also aligned on reducing BMI and diabetes incidence. All MDPCP practices tracked electronic clinical quality measures (eCQM) related to BMI screening and follow-up plan (CMS69) and diabetes control (CMS122) in 2022. Figure 6 shows 2019-2022 diabetes control rates for all patients in MDPCP practices compared to the national median of reporting providers. MDPCP practices performed well, with 85 percent of practices scoring at or above the national median for A1c including 49 percent greater than the 80th percentile. As demonstrated by Figure 6, there is an approximately 5 percent increase in the overall scores from 2021 to 2022.

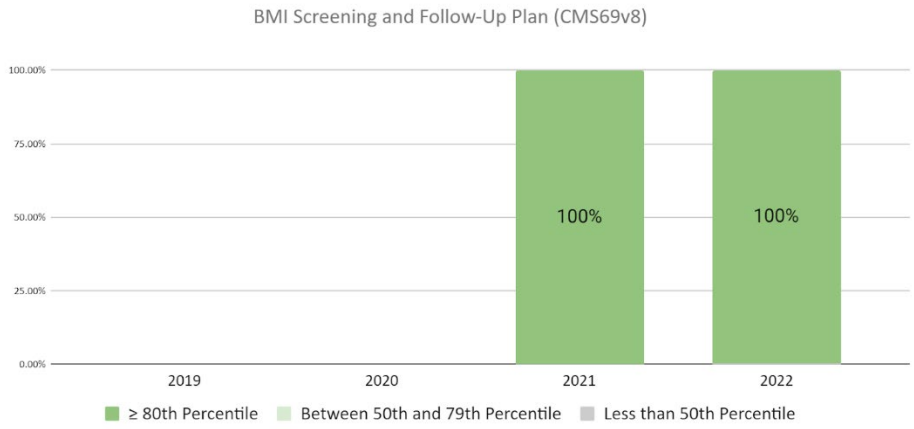
Figure 7 shows performance on the BMI Screening and Follow-up Plan eCQM. Note that the BMI eCQM was again nationally suppressed for 2022, meaning that all MDPCP practices received full credit for this measure.

Figure 6. Percent of MDPCP Practices above the National Median in HbA1c Control (CMS122)



Source: *Annual MDPCP Practice eCQM Reporting to CMS*

Figure 7. MDPCP Practices' Performance Against Benchmark BMI Screening and Follow-Up Plan (CMS69)



Source: *Annual MDPCP Practice eCQM Reporting to CMS*

The work with community-based organizations continued to address weight, implement lifestyle change programs, and develop education and best practices, as well as communications for participating practices.

The advent of a renewed focus on diabetes, by way of the MDPCP Comprehensive Diabetes Strategy, began in fall 2022 and continues into fall 2023, and beyond. In fall 2023, the strategy is reevaluated and modified for future years. The MDPCP Comprehensive Diabetes Strategy features new elements, all of which more intentionally provide a path for diabetes work, including: alignment with stakeholders, deliberate collaboration with other State departments, and focused initiatives. In 2023, the MDPCPMO continues to disseminate the MDPCP Diabetes Toolkit, which was originally developed in 2022 and includes resources

on nutrition, exercise, hypoglycemia, support resources, care plan templates, and a one-pager detailing a "who's who?" about the diabetes care team.

Education and technical assistance are a central component of MDPCP efforts to reduce mean BMI and diabetes incidence. In 2023, the MDPCPMO did the following:

- Features in the *MDPCP Today* monthly newsletter - highlights resources for BMI and diabetes prevention and management, as well as spotlight practices that are succeeding in this work;
- Continued dissemination of the MDPCP Diabetes Toolkit - includes resources on nutrition, exercise, hypoglycemia, support resources, care plan templates, and a one-pager detailing a "who's who?" about the diabetes care team;
- Development of a Regional Partnership (RP) Resource Guide - covers the five Ws (Who, Why, What, When, Where) of the RPs, talking points to promote RPs, RP activities, along with contact information, available to share with MDPCP providers and internal team members;
- Inclusion of awards at the "State of the MDPCP" All-Practice Calls - announces awards for practices that are doing outstanding work in the area of diabetes prevention and management.

Additional Programs & Interventions to Address Diabetes

Maryland Department of Health (MDH) Programs & Initiatives

Diabetes Prevention Efforts

MDH creates, oversees, and partners with networks and programs to assist Maryland providers in supporting CDC-approved diabetes prevention efforts with patients.

Diabetes Prevention Program Network

MDH works to support diabetes prevention efforts in the State by connecting people who have prediabetes with the 81 CDC Diabetes Prevention Recognition Program (DPRP) lifestyle change providers. MDH oversees the Diabetes Prevention Program Network, which addresses barriers people at risk may experience in successfully participating in the National Diabetes Prevention Program (National DPP) by directly supporting DPRP providers with an online referral and data tracking system. The network allows DPRP providers to share successes and support others as they problem solve to provide lifestyle programs in their communities. The network holds quarterly meetings for DPRP providers with an average attendance of 65 participants. MDH also provides continuing education events for lifestyle coaches, which include training on topics such as motivational interviewing, how to improve program enrollment, and sustainability.

Referrals through Collaboration with CRISP

MDH collaborated with CRISP to link the referral system (Workshop Wizard) to create "smart alerts," using applied logic to panels to send notifications to providers for patients meeting National DPP eligibility criteria and to ease the referral process for providers. This tool helped support the DPRPs during the post-COVID 19 transition from virtual to hybrid and in-person groups of participants (cohorts).

HALT Diabetes Online Platform

MDH has an agreement with ProVention to provide the Through the Health And Lifestyle Training (HALT) Diabetes online platform to allow Maryland DPRPs the ability to provide the National DPP lifestyle change program virtually and hybrid, in combination with in-person cohorts. Currently, 34 DPRPs use the HALT platform to deliver the National DPP; they have started or completed 84 cohorts, which included 1,027 participants with prediabetes or at risk of diabetes (March 2020 - June 2023).

Diabetes Self-Management Education Services (DSMES)

MDH oversees the DSMES Network, which provides education- and skill-building programming for diabetes educators in DSMES programs in Maryland. MDH has a contract with a DSMES subject-matter expert who provides ongoing support to DSMES program staff using monthly "drop-in" office hours. The DSMES Network worked with 28 DSMES programs across the state and conducted 8 training sessions with MDPCP to improve referral rates to diabetes providers. The training sessions included over 248 participants and had an additional 178 viewers of the recorded training sessions.

Whole Health Approach

The Cancer and Chronic Disease Bureau (CCDB) programs historically operated with a siloed approach focused specifically on their individual programs. In an effort to change this approach starting in 2021, a new model was developed to embrace intentional and ongoing collaboration between the programs within CCDB to improve public health in local jurisdictions. MDH aligned the common goals of prevention and control between Tobacco and Chronic Disease. To that end, MDH has utilized State tobacco funding to enhance chronic disease evidence-based programming within local communities. As part of this partnership, LHDs were each provided approximately $143,000 to implement community-based strategies focused on public health equity involving tobacco, diabetes, and chronic disease. This new approach involved each LHD implementing at least one of four evidence-based programs: National DPP, Taking Off Pounds Sensibly (TOPS), Healthy Heart Ambassador (HHA), and the Diabetes Self-Management Program.

In this program's first year (Fiscal Year 2023), 20 LHDs received funding (excluding Dorchester, Montgomery, and Prince George's counties, and Baltimore City); in the second year (Fiscal Year 2024), 22 LHDs received funding; only Prince George's County and Baltimore City declined. Diabetes and Chronic Disease efforts focused on implementing lifestyle change programs including implementing 14 new National

DPP cohorts, nine new TOPS chapters, four new Diabetes Self-Management Programs, and two new HHA groups with one LHD hosting one-on-one HHA sessions. LHDs identified populations to tailor outreach and program activities to address health disparities and health equity within the communities. LHDs also established cross-referral mechanisms between tobacco programs and chronic disease programs for the tobacco quit line, tobacco and vape cessation programs, and enrollment into the diabetes and chronic disease lifestyle change programs.

MDH also partnered with Johns Hopkins University to launch a pilot project in Charles County to educate rural corner stores, gas stations and small shop owners on stocking healthy foods and fresh produce for community customers. The project connected eight independently owned small food retail store owners with a designated third-party app designed to encourage group purchasing and delivery to address the infrastructure of supporting healthy foods in small stores and rural Maryland.

Medicaid Initiatives

HealthChoice MCO DPP

Medicaid continues to invest in primary care and funding Evaluation and Management (E&M) increases in order to expand and refine implementation of its National DPP coverage under the HealthChoice DPP across all nine MCOs. To support these efforts, Medicaid has invested $2.8M to increase E&M rates for FY 2023 and FY 2024.

Population Health Incentive Program

In 2022, Medicaid included a diabetes measure (HbA1c poor control) in the Population Health Incentive Program. This program provides financial incentives to MCOs that demonstrate high-quality care based on standardized measures of performance. MCOs may also share the incentives with the providers allowing them to improve performance. The Department prioritized the SIHIS Total Population Health areas including diabetes, in addition to measures prioritized by CMS through the Core Sets and Medicaid and CHIP Scorecard. As such, adding the diabetes measure to the incentive program encourages further prioritization of diabetes prevention as well as incentives MCOs to improve performance. This measure also is a priority measure under MDPCP. No other measures were added in 2023.

MCO DPP Retention Efforts: MCOs have incorporated a number of approaches to increase retention in DPP, including:

1. Offering small incentives throughout the program to encourage retention
2. Partnering with Hungry Harvest to provide food-based delivery options to eligible HealthChoice members

3. Providing members with promotional items such as cutting boards, food scales, measuring spoons/cups, and portion- controlled plates
4. Transportation, *e.g.,* cab service or Uber. Childcare reimbursements were also provided when that barrier to care was identified. Make-up sessions for members who missed classes
5. Member and provider services development trainings

Local Innovators

Local Health Improvement Coalitions (LHICs)

Following a statewide assessment on the local jurisdictions' LHICs, MDH determined that there were wide inconsistencies between the groups' work. MDH contracted with the Horowitz Center at the University of Maryland to implement LHIC infrastructure development for all jurisdictions based on the statewide assessment, and to provide additional support as needed. Once the LHICs were reestablished, monthly community-of-practice meetings occurred to provide additional training and support to develop diabetes prevention and treatment strategies in the local jurisdictions. The partnership with the Horowitz Center also produced other diabetes-related technical assistance deliverables such as: creation of a Data Guide for the LHICs; data training and health literacy trainings for the LHICs and LHD staff; review of each of the LHDs' Diabetes web pages; and review of MDH's Diabetes web page.

The LHIC partnership has transitioned from the Horowitz Center serving as the lead facilitator to MDH since January 2023. MDH staff continue to provide technical assistance to the LHICs to address diabetes prevention, diabetes treatment, and efforts to reduce diabetes prevalence. As a part of the technical assistance, MDH held monthly virtual group drop-in office hours to encourage open dialogue and problem solving. To further the LHICs' diabetes prevention and control efforts, MDH also facilitated quarterly convenings with the LHICs, which included trainings on pertinent subjects. Each of the year's four quarterly convenings hosted an average of 30 participants, and the training sessions covered topics such as: Overweight and Obesity Initiatives, Sustainability and Community Engagement, Health Equity, and Health Communication and Health Literacy. The LHICs have expressed a desire to continue these community-of-practice sessions as an opportunity to learn from each other regarding strategies that can be helpful for their communities. MDH has also created a web page for the LHICS to continue discussions on pertinent topics, watch recorded meetings and trainings, and obtain information on resources like grant opportunities.

Due to the level of interest expressed by the LHICs, MDH plans to expand the technical assistance in 2024 to include nine LHIC Convenings. LHICs have also expressed interest in expanding their efforts into topics outside of diabetes, including maternal and child health, environmental health, infectious disease prevention and treatment, vaccine equity, and tobacco and cancer prevention and control. MDH is working to

determine the topics with the strongest interest from LHICs, and to determine the best methods for logistics and support for the expansion into the chosen areas.

Local Health Departments (LHDs)

MDH issued funding to eight local health departments to support diabetes prevention strategies with a focus on overweight, obesity, and diabetes prevention. The LHDs focused on three domains: Food Security, Physical Activity, and Community-Wide Health Initiatives. Through these activities, the Charles County Health Department addressed healthy food security and knowledge about healthy food preparation by establishing two community and school gardens, hosting healthy cooking classes for 75 students and their families, hosting four cooking classes for people diagnosed with prediabetes, and developing a modified cooking class curriculum for people living with developmental disabilities. While the cooking class curriculum provided for people living with developmental disabilities was a pilot, the LHD found it to be successful and plans to continue offering it on an ongoing basis. Some of the LHDs also increased physical activity in their communities, with Charles County organizing a Senior Fitness Challenge and four community-wide walking events. Washington County Health Department created an initiative to create a walking group aimed at attracting community members residing in low socioeconomic status zip codes, as those communities have higher rates of obesity, diabetes, and other chronic illnesses. These efforts attracted 69 community members to a new walking group. Washington County also engaged community members and local organizations to participate in community-wide initiatives that included a focus on weight loss to lower community-wide BMI. Through this initiative, Washington County organized a workshop for 25 community-based organizations to develop action plans to meet weight loss goals, and enrolled 964 new users into their weight tracker system. Their efforts resulted in 13,364 community pounds lost.

Additional funding was provided to three local health departments to implement an overweight and obesity screening program centered in adult dental settings in Allegany, Charles, and Dorchester counties. Through this initiative, 8,717 BMI screenings occurred in 2023, resulting in 2,891 patients identified as being overweight or obese. 1,977 patients were referred to medical treatment or counseling; 1,987 patients were referred to virtual cooking classes and physical activity classes; and 12,497 individuals (patients and family members) were educated on healthy behaviors.

Diabetes Quality Task Force

The Diabetes Quality Task Force (DQTF) works to address quality assurance, clinical guidelines, and standard messaging for diabetes prevention and management. The DQTF consists of two committees: 1) the Community Clinical Linkages (CCL) workgroup and 2) the Health Systems Intervention and Data workgroup. The workgroups collaborated to establish clinical and population measures which are tracked on a public facing data dashboard. The CCL workgroup has worked diligently on multiple activities to increase enrollment into the National DPP, and to improve access to diabetes management and diabetes

prevention. They completed a diabetes resource guide for providers, patients, and community-based organizations to be included on MDHs Cancer and Chronic Disease Bureau webpage. The guide provides valuable diabetes management and prevention information, including prescription financial assistance for patients, links to locate provider specialists (e.g., podiatrists, ophthalmologists, endocrinologists) and National DPP providers (sorted by insurance providers and geographic region), and grant opportunities that address diabetes prevention. The CCL group also worked on expanding the community health worker (CHW) network as a cost-effective method to implement diabetes prevention interventions. To that end, the workgroup developed seventeen CHW certification training programs that have been accredited as of November 2023, with additional programs currently in the review process. The workgroup also updated the MDH website to include contact information for each of CHW certification training programs, and provide details on which diabetes-related "Training the Trainer" programs can be used towards professional development hours. The CCL group also identified barriers to participation in the National DPP through a statewide survey of National DPP cohort providers and participants, which identified "other personal life commitments", transportation, location of the National DPP, and the participation length requirement of the National DPP as the primary barriers to participation. Lastly, the CCL group worked with CRISP to improve access for pharmacists to the CRISP portal. The CRISP portal is what provides direct referrals to the National DPP programs for patients with prediabetes, and the CCL workgroup worked to increase awareness of the CRISP portal by developing and distributing to Maryland Pharmacists a one-pager with information on the program and how to gain access.

Diabetes Communication and Outreach Strategies

Communications Strategy – Paid Media Placement

MDH implemented a mass media health education initiative - the Know Your Risk Campaign. This campaign builds Marylanders awareness of diabetes and prediabetes, and promotes taking the risk test and talking to a health care provider about their risk for prediabetes and diabetes. MDH spent $100,000 on transit ads in 3 counties (Frederick, Harford, and Howard counties) and one city (Annapolis). Total impressions for the 8-week run is estimated at 40,912,000. Following the transit ads, MDH spent $45,000 on targeted digital ads statewide. These ads resulted in 5.3 million digital impressions during the 10-week campaign period.

MDH spent $500,000 on a transit ad campaign focusing on diabetes and tobacco use. The message used was "Smoking puts you at higher risk for diabetes. You can quit." This campaign ran in these areas: Harford, Howard, Frederick, and Montgomery counties; the Baltimore Area (Baltimore City/Baltimore County/Anne Arundel County); and Annapolis City. Total impressions for these ads were estimated at 270,739,000 over a 4-month period.

MDH ran the What's Your Why campaign, focusing on women of childbearing age and why they should choose healthy lifestyles. These ads promote maintaining a healthy body weight through healthy eating and physical activity. Transit ads ran over a 4-week period in the same areas as the diabetes and tobacco use campaign, listed above. The total cost for the campaign was approximately $200,000. It received a total estimated 74,342,000 impressions.

Figure 8. Summary of Paid Media Placement Communications Strategy, January–September, 2023

Campaign	Know Your Risk Digital	Know Your Risk Transit	Diabetes and Tobacco Transit	What's Your Why Transit
Total Amount Spent	$45,000	$100,000	$500,000	$200,000
Length of Ad Run	10 weeks	8 weeks	16 weeks	4 weeks
Total Impressions	5,300,000	40,912,000	270,739,000	74,342,000

Source: Maryland Department of Health

Community Outreach

Purple Ticket to Health Campaign (PTTH): The Baltimore Ravens, in partnership with MedStar Health, Novo Nordisk, and GEHA, created the Purple Ticket to Health Campaign (PTTH). PTTH uses the Ravens' national profile to promote people knowing their risk for diabetes and prediabetes by taking the simple Risk Test, which consists of a series of questions. Activations, which include a booth, table, posters, pop-up banners, and info plaques all jointly-branded with the Ravens, and staffed by MedStar, NovoNordisk, and MDH personnel, occur at select Ravens home games and activities throughout the year focusing on one-on-one outreach. MedStar Health facilitates the tests, and people at higher risk are encouraged to talk to their provider about their risk. If the individual does not have a medical provider, Medstar provides them with a link to find a provider in their area. The Ravens also run digital, radio, and TV ads with Mark Andrews (player with type 1 diabetes) as a spokesperson for PTTH, and people who complete the risk test are offered opportunities to win Ravens paraphernalia and prizes. In this initial year of MDH participation, MDH was included on the PTTH landing page and conducted outreach during the home pre-game Ravens Walk as part of the PTTH booth. In future years MDH plans to build on our partnership by being included in all marketing materials and having a larger presence online and during activations.

Autism Walk & 5K Run: As part of MDH's outreach to the disability community, MDH was a sponsoring partner for the Autism Walk and 5K Run in October 2023. MDH had a table at the event staffed with MDH health educators and informational handouts to promote taking the Risk Test, knowing individuals' risk for diabetes, as well as safe and proper management after diabetes diagnosis. MDH's health educators talked with and provided information to over 300 individuals in a single morning. MDH plans to have a larger role in

future years as a way to reach people in the disability community who are at higher risk of diabetes and prediabetes.

American Diabetes Association (ADA): MDH has a longstanding partnership with the American Diabetes Association (ADA). MDH coordinates with the ADA Institute of Learning Program to provide continuing education on improving care for patients with or at risk for diabetes. The continuing education training is offered to MDPCP internal medicine physicians, as well as other types of providers in the DPP and DSMES Networks. MDH staff also participate in the annual ADA State of Diabetes Conference during National Diabetes Awareness Month in November, which offers opportunities for health care professionals and community partners to attend panel discussions, educational presentations, and provides networking opportunities. In 2023, the Director for Center for Chronic Disease Prevention and Control served as a facilitator for a panel focusing on health equity and disparities.

Leveraging CRISP to Drive Progress

Pilot Program – SMART Alert

Prediabetes Smart Alert: In an effort to support diabetes prevention, the MDPCPMO has piloted and promoted the Prediabetes Smart Alert to MDPCP practices. This Smart Alert was developed by CRISP to identify panels of Maryland patients who likely have prediabetes based on Admission, Discharge, and Transfer (ADT) data as well as laboratory data, and align this patient population with Diabetes Prevention Programs (DPP) to focus on diabetes prevention, *before* a Type II diabetes diagnosis. Medicaid collaborated with MDPCPMO and CRISP in developing the Smart Alert and the e-referral tool notification system, and to refine its capabilities based on provider feedback.

There are two (2) prediabetes identification tools available for MDPCP practices:

- Encounter Notification Service (ENS) PROMPT: 'Prediabetes' Smart Alert uses an ENS PROMPT filter to identify patients who are likely prediabetic. Once the filter is applied to a panel, a practice can choose to view the alerts in line with all alerts or limit the list to only those likely prediabetic patients by setting a filter called 'Potential Prediabetes.'
- Full Panel File Comparison: compares a practice's panel(s) with the CRISP Prediabetes Panel and returns a subset panel of likely prediabetic patients.

Four MDPCP practices have fully implemented the prediabetes smart alert. The benefit of implementing and incorporating this into their practice workflow is to make patients aware of their predisposition to be diagnosed with diabetes and help reverse the patient's prognosis with education tools and care plans that include diet and exercise.

eReferral Tool/Enhancements

As part of the SIHIS initiative, CRISP is offering two different tools to recognize patients who likely have prediabetes using Encounter Notification Service (ENS) panels. Within ENS PROMPT, a tool used to monitor real-time hospital and emergency department (ED) encounters, CRISP developed a filter to recognize patients with prediabetes to assist staff in follow-up for DPP and other types of assistance. Additionally, CRISP users can request a prediabetes comparison panel based on their ENS panel, which is a subset of all patients on their panel for whom CRISP data shows potential prediabetes. These tools were piloted in 2022 and are continuing into 2023, with a total of four MDPCP practices having fully implemented the tool.

CY 2024 Priorities

MDH plans to continue partnering with local jurisdictions to implement overweight and obesity prevention and treatment activities, including growing the number of National DPPs, DSMES, Taking off Pounds Sensibly (TOPS), Healthy Heart Ambassador programs, and county-wide weight loss initiatives. MDH also plans to expand efforts with the Maryland CornerStore Initiative, with a focus on adding a rural community to increase healthier options in corner stores. Other priorities include restructuring the Diabetes Quality Task Force, and finalizing the launch of the Diabetes Dashboard.

Domain 3b: Total Population Health – Opioids

SIHIS presents a unique opportunity for the State to address the opioid crisis in Maryland. The Opioid pandemic continues to be a priority under the new administration. By executive order, Governor Wes Moore has moved the Opioid Operational Command Center (OOCC) into the Maryland Department of Health and renamed it as Maryland's Office of Overdose Response in order to broaden the State's efforts to combat the opioid and drug overdose crisis. The specific goal, measure, milestones, and targets for the opioids priority area are below.

Table 15. Total Population Health - Opioids Goal

Goal: Improve overdose mortality[16]	
Measure	Annual change in overdose mortality as compared to a cohort of states with historically similar overdose mortality rates and demographics.
2018 Baseline	Age-adjusted death rate of 37.2/100,000

[16] Maryland uses CDC data that measure age-adjusted overdose rates based on ICD-10 codes.

2021 Year 3 Milestones ***All Milestones Complete***	Identify the cohort of states that will serve as the synthetic control group to measure progress. Launch the Behavioral Health Crisis Programs grants track of the HSCRC Regional Catalyst Grants Program. Expand Screening Brief Intervention and Referral to Treatment (SBIRT) to 200 practices participating in the Maryland Primary Care Program (MDPCP)
2023 Year 5 Target	Achieve a more favorable trend in overdose mortality rate as compared to the weighted average of control states.
2026 Year 8 Final Target	Achieve a more favorable trend in overdose mortality rate as compared to the weighted average of control states

Quantitative Performance

Overdose Mortality- Performance Against Cohort of States

Maryland set 2023 and 2026 targets that require Maryland to achieve a more favorable change from baseline overdose mortality than a group of control states. HSCRC selected three states and Washington, DC to serve as the synthetic control group: Massachusetts, New Jersey, Delaware, and Washington, DC. To identify synthetic control states, Maryland relied on multiple years of age-adjusted overdose mortality data from the CDC. States in the control group are assigned the following weights (Table 16) which are used to calculate final performance. A description of the process to develop the synthetic control group is detailed in the 2021 SIHIS annual report.

Table 16. Opioids Synthetic Control Group Weights

State	Weight
Massachusetts	0.372
New Jersey	0.231
Washington, DC	0.231
Delaware	0.166

In 2022, the State experienced an overdose mortality rate 0.6 above the control group. The State continues to work diligently towards its 2023 and 2026 targets and monitors various other data sets that show promising progress.

Overdose Fatalities

In addition to the official overdose mortality measure, Maryland monitors overdose fatalities as a proxy measure through the SIHIS Directional Indicators Dashboard. The proxy measure uses data from the CDC WONDER Provisional Death Data. As shown in Table 17, Maryland experienced a 9.1 percent reduction in the overdose fatality rate per 100K, compared to a national rate increase of 59.5 percent.

Table 17. Overdose Fatalities Compared to National Average, 2018-May 2023

	2018 Baseline	Most Recent Rolling 12 Months	Percent Change	National Comparison Change
Rates per 100K	38.5	42.0	-9.1%	59.5%
Total Count	2,324	2,541	-9.3%	62.4%

Source: WONDER Provisional Death Data

Performance by Race & Ethnicity

The CDC National Vital Statistics data used to measure the official SIHIS goal for overdose mortality does not provide performance by race. Maryland monitors disparities for the opioids priority area using the overdose fatalities proxy measure. Table 18 includes 2018 baseline values, performance through May 2023, and a Disparity Index, wherein a value over 1 indicates **negative** performance on the measure when compared to non-Hispanic (NH) White performance. As shown below, overdose disparities persist for the NH Black population. The State also tracks a robust number of additional measures on fatal and non-fatal overdoses through a publicly available dashboard operated by Maryland's Office of Overdose Response.[17]

Table 18. Overdose Fatality Rates per 100k: Race/Ethnicity & Disparity Index, 2018-May 2023

	2018 Baseline	Most Recent Rolling 12 Months	Percent Change	Disparity Index
NH White	47.19	40.42	-14.3%	1.0
NH Black	44.21	62.21	40.7%	1.5
Hispanic	8.86	10.24	15.5%	0.3
Other	NA	22.06	NA	0.5
Statewide Total	38.5	42.0	9.1%	1.0

[17] https://stopoverdose.maryland.gov/dashboard/

Source: WONDER Provisional Death Data

Updates on Milestones

As reported in the 2021 annual report on SIHIS activities and shown in Table 15, Maryland met all of the 2021 milestones for the opioids priority area. 2022 performance and progress towards 2023 targets and additional activities underway to address opioid use are detailed below.

Milestone 1: Identify cohort of states for synthetic control group

HSCRC selected three states and Washington, DC to serve as the synthetic control group: New Jersey, Massachusetts, Delaware, and Washington, DC. A description of the approach to develop the synthetic control group can be found in the 2021 SIHIS Annual Report.

Milestone 2: Regional Partnership Catalyst Program – Behavioral Health Track

The Regional Partnership Catalyst Grant Program, discussed above in the diabetes section of this report, also supports the implementation and expansion of behavioral health crisis management models as described in the "Crisis Now: Transforming Services is Within Our Reach" action plan developed by the National Action Alliance for Suicide Prevention. Funding recipients are implementing and expanding at least one of the three main elements of the CrisisNow Model: 1) crisis call centers and "Air Traffic Control" services, 2) community-based mobile crisis teams, and 3) short-term, "sub-acute" residential stabilization programs. The HSCRC allocated $79.1 million to three Regional Partnerships to implement and expand behavioral health crisis services infrastructure. The awardees and funding amounts are shown in Table 19.

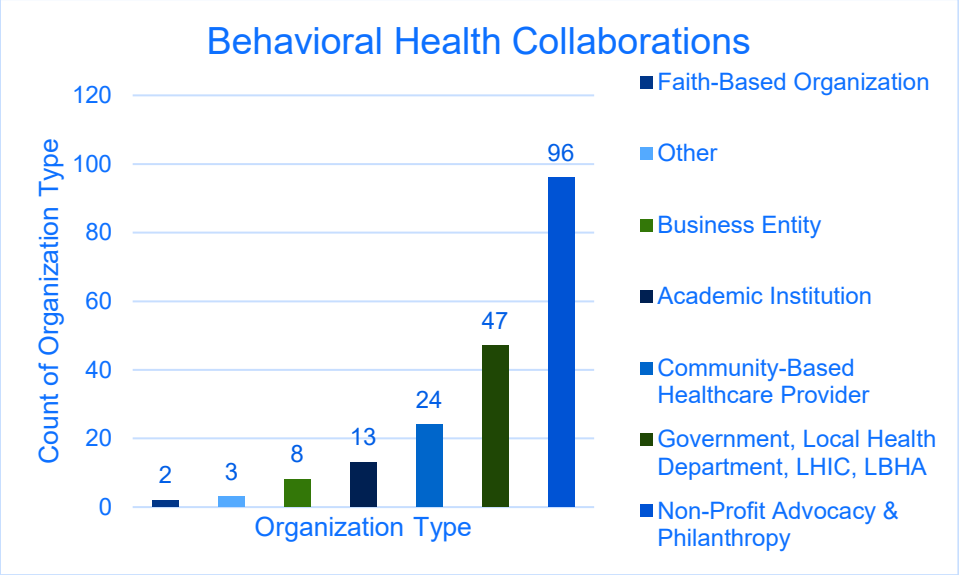
Table 19. Regional Partnership (Behavioral Health) Jurisdictions and Funding Amounts

Regional Partnership	Jurisdiction	5 Year Funding Amount
Greater Baltimore Regional Integrated Crisis System (G-BRICS)	Baltimore City/County, Howard, Carroll Counties	$44,862,000
Totally Linking Care (TLC)	Prince George's County	$22,889,722
Tri-County Behavioral Health Engagement (TRIBE)	Lower Eastern Shore	$11,316,332

Regional Partnerships are expected to partner with diverse community organizations including LHDs, provider organizations, and non-profits to implement and expand behavioral health crisis services. The

three Regional Partnerships receiving behavioral health funding reported collaborating with a total of 193 community partners to support the expansion of behavioral health crisis services in their communities. The largest category was non-profit, advocacy, or philanthropy organizations, followed by local public entities, and community-based healthcare providers (Figure 9).

Figure 9. Regional Partnership (Behavioral Health) Community Partners



The three Regional Partnerships made significant progress on activities in 2023 surrounding continuation and expansion of care traffic control, mobile crisis teams, and open access and crisis centers. Regional Partnerships also continued to expand formal structures, develop performance metrics and engagement reports, and ensure programs implemented are aligned for long term sustainability.

Care Traffic Control (CTC) Activities

Significant progress was made on care traffic control and open access activities. The 988 Regional Call Center for Central Maryland went live in April 2023, establishing a regional Care Traffic Control system by implementing a single hotline for substance use and mental health crisis calls. An outpatient scheduling module was also completed. Dozens of staff have been trained in using the new system, including on risk assessments, mobile crisis team dispatch, bed registry, and care coordination. Regional Partnerships are also looking into standard operating procedures for referring crisis calls to mobile crisis teams and have begun longitudinally tacking transferred calls to complete a full data analysis. Regional Partnerships continue to campaign and market 988 to increase awareness of the transition and to reduce barriers and stigmas.

Mobile Crisis Teams (MCT)

Two Regional Partnerships are engaged in integrating and expanding mobile crisis teams that have been developed. Mobile crisis team response volume grew dramatically over 2023 to divert patients from the emergency department (ED) who did not require a high-level intervention. Mobile crisis teams work in close collaboration with law enforcement and emergency medical services (EMS), with standard operating procedures around scene sharing and best practice protocols for the emergency crisis continuum. Regional Partnerships have focused on expanding hours and coverage in 2023, as well as evaluation of current processes.

Crisis Centers

Two Regional Partnerships reported on activities to continue crisis center operations and to continue development of new crisis centers in 2023. One Regional Partnership has continued to target marketing and improve operations of two crisis stabilization center sites: a primary site which opened in August 2022 and a secondary site which opened in January 2022. Both sites are across from emergency departments (EDs) to facilitate alternative access to emergency care. Another Regional Partnership continues construction of a new crisis center to be opened in 2024.

One Regional Partnership has focused on expanding same day access to care through an Open Access Pilot. Participating sites have grown throughout 2022 and 2023 and are offering same day appointments to patients. The first cohort of the pilot consisted of five clinics offering same day services and the second cohort consisted of 13 clinics. A third cohort with 17 sites will be announced soon with a 2025 evaluation following. The Regional Partnership is working on sustainability and continuation of services after contract ending. As of November 2023, there have been 1,105 new open access appointments and an improved wait time of 2.83 days for intake/assessment post implementation versus over two weeks prior to Open Access implementation. The Open Access Pilot preliminary data has shown the need for immediate-need behavioral health services.

Milestone 3: Maryland Primary Care Program (MDPCP) – SBIRT Implementation

To help primary care practices combat Maryland's statewide opioid epidemic, the PMO engages a contractor, Mosaic Group (referenced as "Mosaic"), that is experienced in integrating Screening, Brief Intervention, and Referral to Treatment (SBIRT), an evidence-based protocol, into primary care. The PMO has been working with Mosaic since 2019. As of May 2023, 354 MDPCP practice sites (including 7 FQHC sites) have implemented SBIRT to identify and appropriately refer patients with substance use disorders to services and treatment. This adoption of SBIRT far exceeds the 2021 SIHIS goal of implementing SBIRT in 200 MDPCP practices.

Since 2021, the PMO, in partnership with the Behavioral Health Administration (BHA), has implemented a three-fold strategy to use SBIRT to drive reductions in opioid use disorder (OUD). The following elements are components of this strategy:

- **SBIRT implementation in hot spot OUD areas:** The PMO prioritizes the implementation of SBIRT in opioid use disorder hot spots, including Anne Arundel, Baltimore, Montgomery, Prince George's, Washington and Harford counties, and Baltimore City. The State is focused on increasing the number of practices using SBIRT statewide but focuses particularly on recruiting practices to use this strategy in these hot spots.
- **Practice improvement:** The PMO, through a contractor, actively reviews data reported by MDPCP practices to ensure the practices are meeting performance targets related to the use of SBIRT. Practices that have implemented SBIRT are provided with a report on the assessment of their data and actions that the practice could take to improve their use of SBIRT. As of May 2023, 100 practices were working with the contractor to review SBIRT-related data, assess their current workflows, and identify the action steps to improve the use of SBIRT within the practice.
- **SBIRT data in CRISP:** As of May 2023, 247 practices had uploaded SBIRT data into a CRISP tool built to capture each practice's progress. Table 20 displays the number of SBIRT screenings, positive screens, and brief interventions for the August 2021 to May 2023 time period. The PMO is working with additional practices to increase the number of practices reporting SBIRT data through CRISP. Since SBIRT reporting is voluntary, practices' support of this work has been critical. Accordingly, the State does not anticipate all practices that have implemented SBIRT will report in any given month.

Table 20. Number of SBIRT Screenings, Positive Screens, and Brief Interventions for MDPCP Practices, August 2021-May 2023

SBIRT Screenings	Positive Screens	Brief Interventions
830,561	58,042	22,097

Source: Monthly MDPCP Practices Reporting to CRISP[18]

[18] MDPCP practices have been voluntarily reporting SBIRT data to MDH since August 2021.

Additional Programs & Interventions to Address Opioids

Public Health Services (PHS) & Behavioral Health Administration (BHA) – Led Initiatives

Reverse the Cycle

Since 2014, the State of Maryland has contracted with the Mosaic Group to develop and implement SBIRT in hospital EDs & mother-baby units, primary care practices, and several other settings. As this work progressed, two other programs were added to the SBIRT model. This includes both the Opioid Survivors Outreach Program and the Hospital Based Buprenorphine Program. Together, these three programs (SBIRT, OSOP, and HBBI) have been known as the 'Reverse the Cycle Program' and represent a comprehensive approach in Maryland's efforts to address the current opioid crisis.

RTC is a comprehensive hospital substance use response program with three vital components:

1. Universal screening + peer intervention
2. Outreach for patients with high risk of overdose and/or readmission
3. Initiation of medications for opioid use disorder

The Mosaic Group has provided hospital EDs with consultation, training, policy and medical protocol development, workflow, and electronic health record (EHR) modification(s) to implement SBIRT, OSOP, and changes regarding the manner in which medication for opioid use disorder (MOUD) is started with patients who present with an Opioid Use Disorder in their emergency department. This includes development of protocols to support a new medical order set for prescriptions and home induction. The Mosaic Group has implemented this process in 33 Maryland hospitals (two additional in FY 2023).

In FY 2024, there are several SBIRT-related projects planned that are funded by the State Opioid Response III Grant. These projects include Reverse the Cycle at two additional EDs, Reverse the Cycle at two crisis stabilization centers, statewide SBIRT training for nurses/social workers/peer recovery specialists, SBIRT at primary care practices, and Fidelity & Quality Assurance work at approximately 12 EDs that previously implemented the Reverse the Cycle program.

988 Launch in Maryland

Since the National Launch of 988 in July of 2022, the BHA has been very involved in the implementation of 988 across the state. In FY 2024, eight 988 call centers in the state are being funded to answer calls, texts, and chats 24/7/365. Three separate SAMHSA 988 grants have increased capacity to answer the increased number of 988 contacts. In FY 2024, state and federal funding in Maryland of 988 totals $9,817,213. This level of funding is needed to keep pace with the steady increase in call volume. The number of Maryland 988 calls in October of 2023 has grown to 5,273 (up from 3,851 as of July 2022). Current work includes

migrating the former state crisis hotline (211 Press 1) calls, texts, and chats over to 988. This migration will effectively double in-state 988 calls in December of 2023.

The BHA has reached the target of having a 90 percent in-state answer rate and continue to work on 988/911 coordination and integration with local mobile crisis teams. Additionally, through the use of State Opioid Response Grant III dollars, two full time opioid and stimulant use disorder navigators are being funded at each of the 988 call centers. These new positions will work with 988 callers who indicate some concern with opioids/stimulants after the initial crisis call to 988. This follow-up work includes treatment referrals, referrals for medications for opioid use disorder, harm reduction, and other wrap-around services. The team is working to continue the integration of 988 into the rest of the state behavioral health crisis system.

Naloxone Distribution

The Center for Harm Reduction Services (CHRS) within MDH administers the Overdose Response Program (ORP), which provides resources to train bystanders to administer naloxone in the event of an opioid overdose. MDH authorizes local entities as ORPs, allowing trained staff to provide overdose education and dispense naloxone directly to recipients through partnerships with prescribers.

Providing naloxone to individuals who are at the highest risk for overdose is a critical strategy for reducing overdose-related mortality. Targeted naloxone distribution programs work best when: 1) naloxone is provided to people at high risk of experiencing or witnessing overdose; 2) outreach workers, harm reduction staff, and trusted clinicians are properly educated and comfortable distributing naloxone to those using illicit opioids or receiving a high-risk opioid prescription; and 3) people who use drugs and first responders are well informed as to the potential effects and actions of naloxone. Comfort with carrying and administering naloxone is crucial.

To better understand how local jurisdictions are reaching people at the highest risk for overdose with naloxone, CHRS developed a naloxone saturation formula based on previous research that demonstrated the effectiveness of naloxone distribution in reducing opioid-related mortality. Presently, all but five jurisdictions in the State have reached naloxone saturation. One study showed that when naloxone was distributed to people at risk for overdose at 9-20 times greater than the number of overdose deaths, there was a 20 to 30 percent reduction in overdose-related deaths. Applying the naloxone saturation formula provides a framework for how to best address naloxone distribution in communities. Technical assistance and resource allocation can be provided to jurisdictions to ensure that jurisdictions are able to reach people at greatest risk for overdose with naloxone and to ensure that naloxone is distributed at levels where it can contribute to the greatest possible decrease in overdose fatalities.

In FY 2023, 404,172 doses of naloxone were purchased and distributed to ORPs throughout the State. In FY 2023, 324,507 doses of naloxone were distributed by ORPs statewide. 47.26 percent of naloxone doses distributed in FY 2023 were distributed to the priority population groups of those most likely to witness and be present at an overdose (i.e., those with social experience using drugs and family members of people who use drugs).

STOP Act

CHRS and Opioid Operational Command Center (OOCC) collaborated to pass the Statewide Targeted Overdose Prevention (STOP) Act, as an administration bill during the 2022 legislative session. The STOP Act has helped increase access to naloxone across Maryland by authorizing EMS personnel to distribute naloxone to individuals after they experience a non-fatal overdose, and requiring certain providers, such as treatment programs, hospitals, and homeless services organizations to provide naloxone free of charge to people at risk of a drug overdose. Since the STOP ACT was passed in 2022, CHRS has expanded the total number of authorized and approved ORPs from 173 ORPs at the end of FY 2022 to 230 ORPs at the end of FY 2023.

Maryland's Office of Overdose Response (MOOR) – Led Initiatives

Data-Informed Overdose Risk Mitigation (DORM) Initiative

The Data-Informed Overdose Risk Mitigation (DORM) initiative was created in response to legislation passed in 2018 that requires MDH to develop an annual report that links individual-level death records from overdose decedents to public health and public safety records for the purposes of developing overdose risk profiles.[19] The OOCC submitted the 2022 DORM report to the Maryland General Assembly in August 2023. Policy implications from the report include continuing to address growing racial disparities in overdose outcomes, exploring and addressing factors driving the increase in overdose deaths among individuals 55 years and older, continuing to promote naloxone training and distribution, increasing access to low barrier buprenorphine and gathering data on xylazine and other emerging drug trends. The final mandated report will be submitted in July 2024.

Local Efforts – Overdose Prevention Teams (OPTS)

Overdose Prevention Teams (*formerly known as Opioid Intervention Teams*) are multi-agency coordinating bodies within each jurisdiction that coordinate the local response to the opioid and overdose crisis. Each OPT develops a local strategic plan that addresses the needs of their jurisdiction with regards to opioid and

[19] Maryland Department of Health. *Data-Informed Overdose Risk Mitigation (DORM) 2022 Annual Report.* August 2023. https://beforeitstoolate.maryland.gov/wp-content/uploads/sites/34/2023/08/8-15-2023-2022-DORM-Annual-Report-Final.pdf

substance use disorder and works to identify and fill programmatic gaps and through collaboration and the use of OOCC block grant funds.[20]

HB116 Grant and Coordinator

The Opioid Use Disorder Examination and Treatment Act of 2019 (House Bill 116) requires all local detention centers, by January 2023, to screen individuals for mental health and substance use disorders, make all three forms of FDA-approved medications to treat opioid use disorder available, and to provide on-site peer recovery support, in addition to other services. In 2022, the OOCC created the Examination and Treatment Act grant program and released a notice of funding opportunity for $8 million to support local detention centers in meeting the requirements of the bill. Funding was awarded to 17 jurisdictions. Grantees are in year two of the two-year grant period and the state is working on determining funding sources moving forward.

Opioid Restitution Fund Advisory Council

The Opioid Restitution Fund (ORF) was established through House Bill 1274, which passed during the 2019 legislative session. The ORF is a special, non-lapsing fund that was created to hold the funds received by Maryland from settlements with the opioid industry.

The ORF Advisory Council was established during the 2022 legislative session, with the passage of House Bill 794. This legislation charges advisory council members with providing specific findings and recommendations on the use of ORF funds that consider the impacts of the overdose crisis on our state, available resources for individuals with substance use disorders, and disparities in access to care and health outcomes. The council met from November 2022 through October 2023 and recently submitted their first set of recommendations to the Governor and Secretary of Health. The council will reconvene in early 2024 to continue their work.

MDPCP Initiatives

MDPCP supports the State's efforts to address substance use in the community, with a focus on opioids. One of the core features of the advanced primary care model within MDPCP is integration of behavioral health services within the primary care setting to respond proactively to patients' behavioral health needs. In addition to supporting the implementation of SBIRT, MDPCP provides practices with a menu of evidence-based methods to include behavioral health integration in their delivery of healthcare.

MDPCP has promoted behavioral health integration as a required element for all practices. The PMO has coordinated with several contractors to facilitate the implementation of the Collaborative Care Model (CoCM) in over 121 MDPCP practices. It continues to promote this model as an efficient evidence-based

[20] OOCC FY 2023 Block Grant Allocations. https://beforeitstoolate.maryland.gov/wp-content/uploads/sites/34/2022/07/FY-2023-OOCC-Block-Grant-Program-Awards.pdf

approach to mental health care at the primary care level. These efforts complement a CoCM pilot led by Maryland Medicaid, implemented in 2020. This pilot transitioned into statewide coverage of CoCM for Medicaid participants in October 2023, aligning Medicare and Medicaid implementation of the model.

In 2022, MDPCP began regularly receiving aggregate statewide data from contractors working in Maryland on the impacts of CoCM on objective scores in standardized depression and anxiety scales with remarkable results.

Moving forward, to support practices in their implementation efforts, the MDPCP will include relevant updates in monthly meetings and leverage expertise from its partners. The MDPCP intends to create and provide toolkits to include a self-guided practice assessment and checklist for Integrating Behavioral Health in the Primary Care setting and CMS Behavioral Health Models Billing Codes.

Medication for Opioid Use Disorder Planning

MDPCP recognizes that many patients in practices may not be ready for SUD treatment or counseling and may continue to use drugs and alcohol while in their care. The primary care provider and their practice staff will play a vital role in providing harm-reduction services for these patients. There is an opportunity to expand primary care's role in the future. MDPCP will work across all their practices to provide education and training on effective harm reduction services, including the provision of naloxone, education on overdose risk reduction, outreach to high-risk patients, especially those just surviving an overdose, response to health-related social needs and education on the safe use of drugs and alcohol to minimize health-related issues, such as infectious disease, skin abscess and infections and other health and safety concerns. Targeted technical assistance will be provided to practices seeing high volumes of high-risk patients to help support the full integration of harm reduction services as part of a whole health model of care.

The MDPCP will connect practices to known vendors for technical assistance, leveraging progress made in practices on implementing SBIRT. Since 2020, in partnership with a vendor, the MDPCP has implemented SBIRT in 373 MDPCP practices and continues adding additional practices yearly. In addition, the vendor has assisted the PMO in establishing an SBIRT data reporting system on the CRISP platform and ongoing training and quality assurance for current SBIRT practices.

SBIRT Implementation and Education for Providers

The current strategy intends to expand the incorporation of SBIRT in MDPCP practices while initiating work to address the shortage of primary care MOUD providers. The initiative will also focus on health equity, ensuring that SBIRT and MOUD are accessible to diverse practices serving Marylanders, including minority and vulnerable populations. Next steps are as follows:

SBIRT Continuation: MDPCP intends to continue to fund its contractor to support SBIRT reporting, assist practices in developing workflow protocols, and identify those requiring quality improvement. The focus areas are as follows:

1. Practices New to MDPCP - the vendor will proactively engage practices new to MDPCP, focusing on counties of greatest need, as indicated by overdose rates. In partnership with the PMO, the vendor will target practices within these jurisdictions through individual outreach, promotional materials, and education on the benefits of SBIRT integration, emphasizing the need to engage providers in SBIRT work.
2. Quality Improvement of Existing SBIRT Protocols in Practices - the vendor will create a snapshot dashboard for each practice that submits its data in CRISP each quarter. This snapshot will allow the vendor to determine if practices qualify for practice improvement. The vendor will engage qualified practices to conduct workflow analysis and understand the barriers to the practice meeting the program goals, then work to remedy any issues to meet their targets. After problems have been addressed, their data will be reviewed for at least 90 days post-re-launch.
3. Data Reporting Support - Practices will submit their SBIRT data in CRISP monthly. The vendor will work with practices to ensure they can access the Unified Landing Page (ULP) reporting center and the SBIRT tab. The vendor will work with them to modify their EMR, extract the appropriate data points, and begin reporting their SBIRT data in CRISP.

SBIRT Reporting Dashboard Enhancements: MDPCP is working with CRISP to enhance reports that practices may use as tools to assist them with the prevention and management of patients with substance use disorder. MDPCP will continue to build on the existing SBIRT reporting platform by adding additional features that include:

1. Color coding as a performance notification in the dashboard based on target goals.
2. Ability to hover over bar graphs to see patient-level data.
3. Ability to hover over percentages that show the numerator and denominator.
4. Adding a customizable date range feature to select a specific period.
5. Add the total number of eligible patients for screening as a data point - practice provided number.
6. Add MOUD data to the monthly dashboard, including the number of sites delivering MOUD and the number of patients receiving MOUD.

Health IT Tools

The PMO is working on several pilots with CRISP to provide point of care tools for addressing SUD. CRISP has launched a new consent tool, which enables SUD providers who have executed an agreement to share data protected by 42 CFR Part 2 through the HIE upon patient consent. This tool aims to improve care coordination between SUD providers and other health care providers including primary care practices.

Piloting the tool with primary care practices will allow CRISP and the PMO to better strengthen continuity of care for patients throughout SUD treatment levels and ease workflow burden when obtaining consent and disclosing information. The PMO has also launched a non-fatal overdose SMART Alert pilot with CRISP. The pilot helps practices identify patients who have had a non-fatal overdose and were either treated by EMS or visited the ED. MDPCP strongly encourages participating practices to monitor non-fatal overdoses within their patient population and provide appropriate comprehensive care in order to reduce overdose deaths.

Medicaid Initiatives

In addition to providing a comprehensive suite of behavioral health services, including OUD treatment and overdose prevention, Maryland Medicaid has expanded benefits and services to further support improvements in opioid overdose mortality.

Medicaid Reimbursement for Services Provided in Institutions for Mental Disease (IMD)

Effective January 2022, Medicaid offers coverage to adults aged 21 to 64 who have a severe mental illness (SMI) diagnosis and are residing in a private IMD, in addition to covering specialty SUD treatment in institutions of mental diseases (IMDs). SUD treatment in IMDs was introduced for Medicaid participants in 2017 and provided over 82,000 services between 2017 and 2021.

Mobile Crisis and Stabilization

Effective July 1 2023, Maryland Medicaid launched coverage Mobile Crisis teams and Stabilization units. The mobile teams respond to crises on-scene and attempt to stabilize the individual. Crisis stabilization units (CSUs) provide up to 23-hour care for people experiencing behavioral health crises in lieu of an emergency room or hospital.

Collaborative Care Model (CoCM) Statewide Implementation

The Maryland Medicaid CoCM pilot program began in July 2020, and was made statewide effective October 1, 2023. The CoCM is a patient-centered, evidence-based approach for integrating physical and behavioral health services in primary care settings. Eligibility is limited to those with a diagnosis of mild to moderate anxiety, depression, or substance use disorder. Services include care coordination and management; regular, systematic monitoring and treatment using a validated clinical rating scale; and regular, systematic psychiatric caseload reviews and consultation for patients who do not show clinical improvement.

In the first two years of the pilot (FY 2021-FY 2022), for patients that have been enrolled for more than 70 days, more than 65 percent have had clinically significant improvement; meaning baseline scores dropped by more than 50 percent, or their score dropped below the level of eligibility for CoCM.

Reimbursement for Certified Peer Recovery Specialists

Effective June 1, 2023, Maryland Medicaid now reimburses opioid treatment programs (OTPs) and community-based substance use disorder (SUD) programs licensed by the Behavioral Health Administration for peer recovery support services rendered by Certified Peer Recovery Specialists (CPRS). Peer recovery support service is the provision of non-clinical activities by individuals in recovery from behavioral health concerns, including substance use disorders or mental health concerns, who use their personal, lived experiences and training to support other individuals with substance use disorders.

Maternal Opioid Misuse (MOM) Model

The MOM Program funds Medicaid MCOs to provide enhanced case management services for pregnant and postpartum individuals with OUD; funding also supports IT investments and building provider capacity to treat this population. Among other required screenings, the model requires screening and referral for anxiety and depression. This program started as a pilot program in St. Mary's County in FY 2022 and was scaled to additional jurisdictions, becoming available statewide effective January 1, 2023. (Additional information on the MOM model can be found in the Supporting Maternal Health section, below.)

The Maryland Quality Innovation Program (M-QIP)

Led by Maryland Medicaid, the Maryland Quality Innovation Program (M-QIP) is a state-directed risk-based payment aimed at three focus areas, one of which is SUD providers offering somatic/medical wrap-around services at the treatment center. This program increases access to medical care for individuals receiving SUD treatment. Participating providers receive risk-based payments based on achievements on quality metrics. This program began in 2020 and runs through 2024.

CY 2024 Priorities

In 2024, the State will continue to prioritize implementing and expanding the initiatives described above, focusing on expanding SBIRT and harm reduction in Maryland hospitals and MDPCP practices, expanding access to behavioral health crisis services through grant programs and Medicaid reimbursement, and supporting locally-driven interventions to address opioid use.

Domain 3c: Total Population Health – Maternal Health

Through the Statewide Integrated Health Improvement Strategy (SIHIS), the Maryland Department of Health (MDH) identified decreasing SMM rates in the State as its maternal health[21] priority, with a focus on decreasing racial and ethnic disparities. According to the Centers for Disease Control and Prevention

[21] A note about language: In this report we utilize the terms "birthing person", "maternal", and "women" to refer to individuals who can or do become pregnant. Where possible, we strive to use the more inclusive term "birthing person". However, in instances where we cite external data or refer to historical terms, we may use gendered terms to reflect the data as it was captured.

(CDC), SMM has increased in the past several years.[22] SMM events encompass 21[23] distinct events that occur during labor and delivery (for example, use of ventilation or diagnosis of sepsis). Addressing the incidence of these events requires a population-health approach and investigating drivers at various levels across the life-course and society.[24]MDH focuses on a life-course approach[25] to improve maternal health (e.g. preconception and interconception, pregnancy, birth period, postpartum) with an emphasis on community-based, wrap-around support services such as home visiting and doula expansion, and increased access to evidence-based clinical models such as CenteringPregnancy.

Below are the goals, measures, milestones, and targets for reduction of SMM rates (Table 21 & Table 22) including updated calculations for the 2018 baseline based on the SIHIS Dashboard.

Table 21. Total Population Health - Maternal Health Goal

Goal: Reduce severe maternal morbidity rate	
Measure	Severe Maternal Morbidity Rate per 10,000 delivery hospitalizations
2018 Baseline	243.1[26] SMM Rate per 10,000 delivery hospitalizations
2021 Year 3 Milestone **(All Met)**	Re-launch the Perinatal Quality Collaborative. Pilot a Severe Maternal Morbidity Review Process with eight Birthing hospitals. Complete Maryland Maternal Strategic Plan. Launch Regional Partnership Catalyst Grant for MCH, if funding is available.
2023 Year 5 Target	9.6% decrease in SMM Rate per 10,000 delivery hospitalizations
2026 Year 8 Final Target	18.7% decrease in SMM Rate per 10,000 delivery hospitalizations

Table 22. Race/Ethnicity Disparities in Maryland SMM Rate 2018 Baseline and SIHIS Targets

[22] Centers for Disease Control and Prevention. Severe Maternal Morbidity in the United States. https://www.cdc.gov/reproductivehealth/maternalinfanthealth/severematernalmorbidity.html Accessed 30 November 2021.
[23] Centers for Disease Control and Prevention. How Does the CDC Identify Severe Maternal Morbidity. https://www.cdc.gov/reproductivehealth/maternalinfanthealth/smm/severe-morbidity-ICD.htm
[24] Carmichael et al. (2021) "WaysForwardinPreventingSevereMaternalMorbidityand MaternalHealthInequities:ConceptualFrameworks, Definitions,andData, from Population Health Perspective". Source: https://www.whijournal.com/action/showPdf?pii=S1049-3867%2821%2900181-X
[25] Lu and Halfon (2003) "Racial and Ethnic Disparities in Birth Outcomes: A Life-Course Perspective https://link.springer.com/article/10.1023/A:1022537516969
[26] Chesapeake Regional Information System for our Patients Inc. (CRISP) analysis of Health Services Cost Review Commission (HSCRC) data, including blood transfusions. Accessed 3 November 2023.

Race	2018[27, 28]	2023 Year 5 Target	2026 Year 8 Target
Total	181.4	7.5% decrease	15% decrease
NH White	334.2	10% decrease	20% decrease
NH Black	242.0	10% decrease	20% decrease
Hispanic	249.0	10% decrease	20% decrease
NH Asian	205.2	10% decrease	20% decrease
Other	243.1	9.6% decrease	18.7% decrease

Measure Definition and Analysis

To generate Maryland's SMM rates, the State uses administrative hospital discharge data and International Classification of Diseases (ICD) diagnosis codes and procedure codes. Federal partners such as the Health Resources and Services Administration (HRSA), Agency for Healthcare Research and Quality (AHRQ), CDC, and other subject matter experts review and update the SMM indicators annually. The updated SMM indicators are published in the Federally Available Data (FAD) Resource Document[29] and on the Alliance for Innovation on Maternal Health (AIM) Data Resources[30] webpage. In its initial SIHIS proposal, the State indicated its approach to using updated formulas to align with national SMM calculations, which included blood transfusion. However, in 2021, SMM indicators were updated by HRSA to exclude blood transfusions due to its lack of specificity.[31] Consequently, in early 2023, MDH's Prevention and Health Promotion Administration's (PHPA's) Maternal and Child Health Bureau (MCHB) assessed the impact of removing blood transfusions from the SMM indicators to align with the HRSA definition. A preliminary analysis conducted by the MCHB Epidemiology team, in collaboration with CRISP, revealed that blood transfusions contributed to approximately 65 percent of the SMM events in Maryland. While the SIHIS SMM goals still include blood transfusions, MDH has partnered with CRISP to illustrate SMM rates both with and without blood transfusion in the CRISP SIHIS Dashboard. The updated SIHIS Dashboard will be available in early 2024. For the purposes of this report, SMM rates include blood transfusion indicators, except when otherwise noted. MDH will work in collaboration with the HSCRC to address the likely missed 2023 milestone and prepare a mitigation plan for submission to HSCRC in Spring 2024.

[27] There is a slight variation from what was presented in 2021, because the SMM analysis was analyzed by CRISP with an updated CASE mix file and with code/analysis that is updated by AIM/HRSA and the CDC.
[28] Centers for Disease Control and Prevention. How Does the CDC Identify Severe Maternal Morbidity. https://www.cdc.gov/reproductivehealth/maternalinfanthealth/smm/severe-morbidity-ICD.htm

[29] Federally Available Data (FAD) Resource Document https://mchb.tvisdata.hrsa.gov/Admin/FileUpload/DownloadContent?fileName=FadResourceDocument.pdf&isForDownload=False
[30] Alliance for Innovation on Maternal Health (AIM) Data Resources.https://saferbirth.org/aim-resources/
[31] See 16

Quantitative Performance

SMM rates are on the rise across the United States, including in Maryland (see Figure 9),[32] although additional analysis is required to understand the proportionality in changes between the US and Maryland SMM rates. Based on data through August 2023, Maryland had 322.8 SMM-related hospitalizations per 10,000 delivery discharges over the prior 12 months (Table 23). This is 80 hospitalizations per 10,000 higher (32.8 percent higher) than the 2018 baseline (243.1), and 103 hospitalizations per 10,000 higher (46.9 percent higher) than the 2023 target of 219.8.

Figure 9. SMM Hospitalizations for Rolling 12-Months, 2018 – August 2023

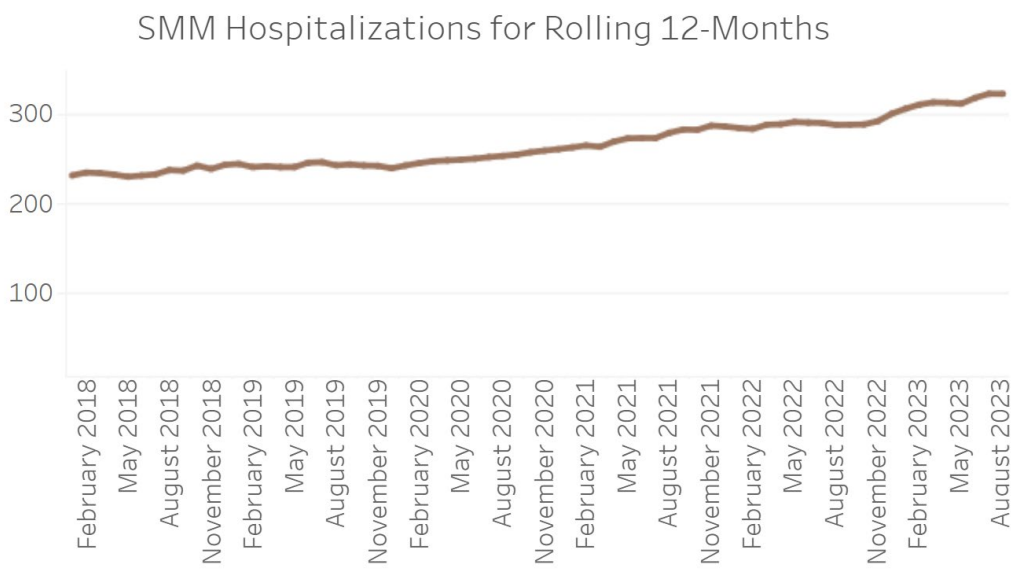


Table 23. SMM Hospitalizations Compared to 2023 Targets, 2018 – August 2023

	2018 Baseline[33]	Most Recenter 12 Months	2023 Target[34]	Difference – Most Recent 12 Months to Target
Rates per 10K	243.1	322.8	219.8	103.0
SMM Events	1,585	1,978		

[32] Fink DA, Kilday D, Cao Z, et al. Trends in Maternal Mortality and Severe Maternal Morbidity During Delivery-Related Hospitalizations in the United States, 2008 to 2021. *JAMA Network Open*. 2023;6(6):e2317641. doi:10.1001/jamanetworkopen.2023.17641
[33] Chesapeake Regional Information System for our Patients Inc. (CRISP) analysis of Health Services Cost Review Commission (HSCRC) data, including blood transfusions. Accessed 3 November 2023.
[34] 2023 Target calculated based on updated 2018 baselines and percentage decreases from original SIHIS application, depicted in Table 2.

Eligible Deliveries	65,199	61,279	

Performance by Race & Ethnicity

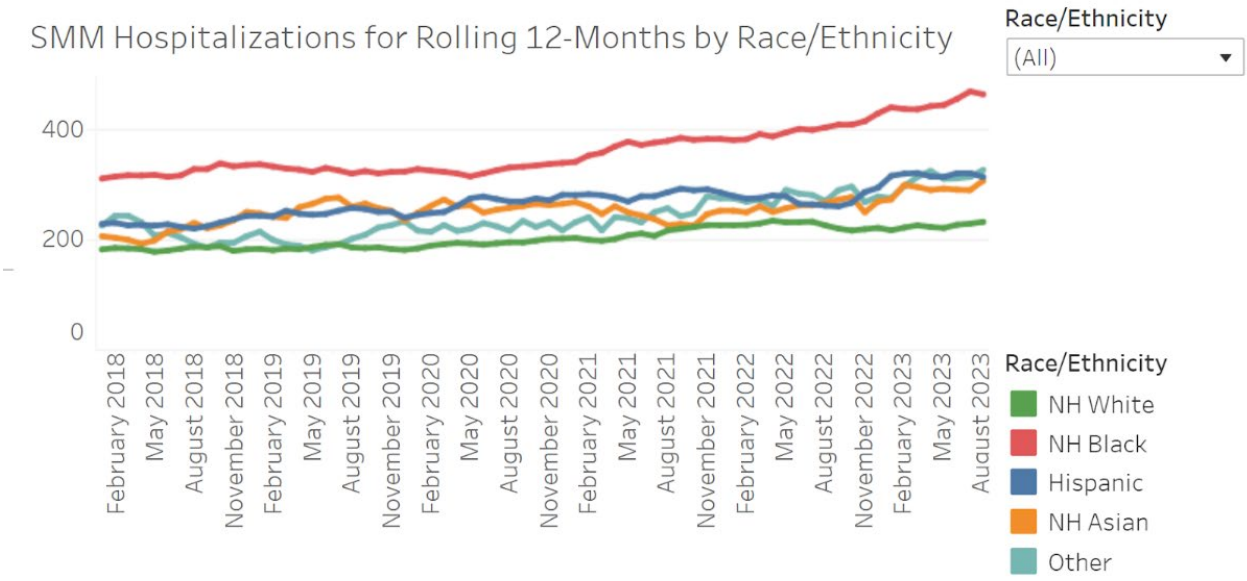
There continue to be health inequities in SMM rates across all Race and Ethnicity groups (Table 24 and Figure 10).[15] Non-Hispanic (NH) Black individuals in Maryland continue to be the most impacted; the rate of SMM for NH Black birthing people is twice the rate for NH White birthing people (Table 24). The rate of SMM for Hispanic birthing people is 1.4 times the rate for NH White birthing people. For NH Asian people, the SMM is 1.3 times the rate for NH White birthing people. Table 24 below includes 2018 baseline values, performance through October 2023, and a Disparity Index, where a value over 1 indicates **inequities** on the measure when compared to NH White SMM rates.

Table 24. SMM Hospitalizations Rates by Race/Ethnicity, 2018 – August 2023

Race/Ethnicity	2018 Baseline[35]	Most Recent 12 Months	2023 Target[36]	Difference – Most Recent 12 Months to Target	Disparity Index
NH White	181.4	231.2	167.8	63.4	1.0 (baseline)
NH Black	334.2	462.2	300.8	161.4	2.0
Hispanic	242.0	312.2	217.8	94.4	1.4
NH Asian	249.0	305.8	224.1	81.7	1.3
Other	205.2	325.3	184.7	140.6	1.4
Statewide Total	243.1	322.8	219.8	103.0	1.4

Figure 10. SMM Hospitalizations for Rolling 12-Months by Race/Ethnicity, 2018 – August 2023

[35] Chesapeake Regional Information System for our Patients Inc. (CRISP) analysis of Health Services Cost Review Commission (HSCRC) data, including blood transfusions. Accessed 3 November 2023.
[36] There is a slight variation from what was presented in 2021, because the SMM analysis was analyzed by CRISP with an updated CASE mix file and with code/analysis that is updated by AIM/HRSA and the CDC.



Potential Drivers of Sustained Increase in Maryland SMM Rates

The persistent increases in Maryland SMM rates echo national trends, although more analysis is needed regarding the proportionality of the two statistics.[37] MDH also conducted a literature review in 2023 to investigate any changes nationally in contributing factors to SMM since development of the initial SIHIS proposal.

Blood Transfusions

As noted above, MDH investigated the impact of blood transfusions on SMM rates following removal of blood transfusions from national SMM definitions. Preliminary analyses suggest that the increases in SMM rates from 2018 to current have persisted with the exclusion of blood transfusion indicators. However, some differences by race and ethnicity are noted, such as fewer disparities between Hispanic and NH Asian groups when compared to NH White and a decrease in SMM rate excluding blood transfusions among NH Asian individuals. While additional analyses are underway to confirm these findings, the preliminary results further emphasize the need to prioritize efforts to reduce SMM among NH Black birthing individuals, where inequities in SMM rates persist both including and excluding blood transfusions.

[37] Fink et al. (2023) "Trends in Maternal Mortality and Severe Maternal Morbidity During Delivery-Related Hospitalizations in the United States, 2008 to 2021" https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2806478

Significant contributors of elevated SMM rates from literature include: COVID-19, comorbidities, hypertension, mental health, racial disparities, and clinical level and patient factors.[38,39,40,41,42,43] Further findings are provided below.

COVID-19

Previous internal analysis from 2021 Maryland data demonstrated that there was an increase in respiratory conditions contributing to SMM, particularly in cases requiring ventilation. An analysis by Matsuo et al. (2023) that studied a population of 2,578,095 hospital deliveries across 2,691 centers between April and December 2020 found that pregnant patients with COVID-19 infection at delivery were more likely to experience a SMM event when compared to those without.[44] The same study indicated that COVID-19 infection was associated with the following specific outcomes: increased risk of tracheostomy, respiratory distress syndrome, ventilation, acute myocardial infarction, sepsis, shock, cardiac arrest, and coagulopathy. Additionally, the COVID-19 pandemic has had a long-lasting negative impact on health care services, increased maternal stress, potential delay in prenatal care, and an impact on social determinants of health.[45,46]

Comorbidities, Hypertension, Mental Health and Racial Disparities

Nationally, reported incidence of SMM is two- to threefold higher among NH Black women compared with NH White women; although the difference is less pronounced, the incidence of SMM is also higher among Hispanic, Asian and Pacific Islander, and Native American women.[47] Having a pre-existing medical condition was strongly associated with the risk for SMM. Maryland experiences similar disparities in SMM rates by race/ethnicity (Table 24). Having a pre-existing medical condition was strongly associated with the risk for SMM. Wolfson et al. (2022) revealed that 75 percent of pregnant women in their study who faced SMM had comorbidities including obesity, asthma, a mental health disorder and hypertension.[48] Additionally, Brown et al. (2020) discussed that NH Black women had a higher prevalence

[38] Matsuo K, Green JM, Herrman SA, Mandelbaum RS, Ouzounian JG. Severe Maternal Morbidity and Mortality of Pregnant Patients With COVID-19 Infection During the Early Pandemic Period in the US. JAMA Network Open. 2023;6(4):e237149. doi:10.1001/jamanetworkopen.2023.7149
[39] Guglielminotti J, Wong CA, Friedman, AM, Li G. Racial Ethnic Disparities in Death Associated with Severe Maternal Morbidity in the United States© 2021 by the American College of Obstetricians and Gynecologists. Published By Wolters Kluwer Health, Inc. All rights reserved. ISSN: 0029-7844/21
[40] Wolfson C, Qian J, Chin P, et al. Findings From Severe Maternal Morbidity Surveillance and Review in Maryland. JAMA Network Open. 2022;5(11):e2244077. doi:10.1001/jamanetworkopen.2022.44077
[41] Brown CC, Adams CE, George KE, Moore JE. Associations Between Comorbidities and Severe Maternal Morbidity. Obstet Gynecol. 2020 Nov;136(5):892-901. doi: 10.1097/AOG.0000000000004057. PMID: 33030867; PMCID: PMC8006182.
[42] Braveman PA, Arkin E, Proctor D, Kauh T, Holm N. Systemic And Structural Racism: Definitions, Examples, Health Damages, And Approaches To Dismantling. Health Affairs 2022;41(2):171-178. doi: 10.1377/hlthaff.2021.01394
[43] Joia Crear-Perry, Rosaly Correa-de-Araujo, Tamara Lewis Johnson, Monica R. McLemore, Elizabeth Neilson, and Maeve Wallace. Social and Structural Determinants of Health Inequities in Maternal Health. Journal of Women's Health.Feb 2021.230-235.http://doi.org/10.1089/jwh.2020.8882
[44] Matsuo K, Green JM, Herrman SA, Mandelbaum RS, Ouzounian JG. Severe Maternal Morbidity and Mortality of Pregnant Patients With COVID-19 Infection During the Early Pandemic Period in the US. JAMA Network Open. 2023;6(4):e237149. doi:10.1001/jamanetworkopen.2023.7149
[45] Kotlar, B., Gerson, E.M., Petrillo, S. *et al.* The impact of the COVID-19 pandemic on maternal and perinatal health: a scoping review. *Reprod Health* **18**, 10 (2021).https://doi.org/10.1186/s12978-021-01070-6
[46] https://aspe.hhs.gov/sites/default/files/documents/9cc72124abd9ea25d58a22c7692dccb6/aspe-covid-workforce-report.pdf
[47] 2023 Target calculated based on updated 2018 baselines and percentage decreases from original SIHIS application, depicted in Table 2.
[48] Fink et al. (2023) "Trends in Maternal Mortality and Severe Maternal Morbidity During Delivery-Related Hospitalizations in the United States, 2008 to 2021" https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2806478

of medical comorbidities than any other racial or ethnic group.[49] The higher prevalence of medical comorbidities may be one reason why Black women experience higher rates of SMM. Systemic biases and structural racism may also contribute to these health inequities that increase a person's risk of an SMM event.[50] Crear-Perry et. al. (2021) described how larger structural policies and determinants stemming from these systemic biases and racism impact factors like housing, education, income, and the built environment–which are commonly known as the "social determinants of health." Collectively, these factors continue to drive disparate health outcomes of Black birthing women.[51]

Clinical Level Factors

Many SMM events are preventable, and recent analysis of Maryland SMM events found that approximately one third could have been averted by "changes to clinician-, system-, and/or patient-level factors".[52, 53] Clinician-level factors include the opportunity to assess patients at the point of entry for future care, diagnose patients or recognize those who are at high-risk of pregnancy complications, refer to treatment specialists in a timely manner, and have policies and procedures in place for certain processes, and particularly for discharge from hospitals.[54] Problems arising post-hospital discharge often originate from medically improper discharge, lack of patient counseling, and lapses in follow-up.[55] The Maryland Perinatal Quality Collaborative is working to address equitable care provision in Maryland's birthing hospitals; those efforts are described later in this report.

Programs and Interventions Supporting Maternal Health

Progress on the 2023 milestones and additional activities to address SMM are detailed below across the primary life stage impacted: 1) preconception and interconception period, 2) pregnancy, 3) birth/delivery period, and 4) postpartum. We also highlight several cross-cutting initiatives and external collaborations in the "Programs Using Data to Drive Action" and "Collaborations" sections. Specific programs funded by the Maternal and Child Health SIHIS funds are described in the below CenteringPregnancy Expansion and Home Visiting Expansion subsections. While Maryland met all 2021 milestones for the maternal health priority area, it is unlikely that the 2023 Year 5 Target will be met. MDH's mitigation strategy is presented in the "CY2024 Priorities" section.

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[49] Matsuo K, Green JM, Herrman SA, Mandelbaum RS, Ouzounian JG. Severe Maternal Morbidity and Mortality of Pregnant Patients With COVID-19 Infection During the Early Pandemic Period in the US. JAMA Network Open. 2023;6(4):e237149. doi:10.1001/jamanetworkopen.2023.7149
[50] Guglielminotti J, Wong CA, Friedman, AM, Li G. Racial Ethnic Disparities in Death Associated with Severe Maternal Morbidity in the United States© 2021 by the American College of Obstetricians and Gynecologists. Published By Wolters Kluwer Health, Inc. All rights reserved. ISSN: 0029-7844/21
[51] Wolfson C, Qian J, Chin P, et al. Findings From Severe Maternal Morbidity Surveillance and Review in Maryland. JAMA Network Open. 2022;5(11):e2244077. doi:10.1001/jamanetworkopen.2022.44077
[52] Fink et al. (2023) "Trends in Maternal Mortality and Severe Maternal Morbidity During Delivery-Related Hospitalizations in the United States, 2008 to 2021" https://jamanetwork.com/journals/jamanetworkopen/article-abstract/2806478
[53] The article and its supporting documents did not define "patient-level factors". However, other mortality prevention frameworks define patient/individual-level factors as those that "affect individuals before, during or after pregnancy and their family, internal or external to the household, with influence on the individual. This includes influences like chronic disease, cultural/religion, knowledge, mental health conditions etc. Source: https://reviewtoaction.org/sites/default/files/2022-12/Committee%20Decisions%20Form-fillable_v22_dec15.pdf
[54] Geller SE, Cox SM, Kilpatrick SJ. A descriptive model of preventability in maternal morbidity and mortality. J Perinatol. 2006 Feb;26(2):79-84. doi: 10.1038/sj.jp.7211432. PMID: 16407964.
[55] See 42.

Maternal and Child Health Improvement Fund

In May 2021, the HSCRC approved $40 million in cumulative funding to support MCH interventions. The funding initiative will direct $10 million annually (FY 2022-2025) to Medicaid and the Public Health Services under MDH to support statewide expansions of evidence-based and promising practices to promote MCH. Funding is split between Medicaid and Public Health Services (PHS) under which $8 million is issued to Medicaid and $2 million is issued to PHS annually.

Programs for the Preconception and Interception Period

Reproductive Health

The mission of the Maryland Family Planning Program (MFPP) within MDH is to reduce unintended pregnancies and to improve pregnancy outcomes by ensuring access to quality, comprehensive family planning services, with priority provided for those individuals with incomes below 250 percent of the Federal Poverty Level. Services include: a broad range of family planning methods, breast and cervical cancer screening, prevention and treatment of sexually transmitted infections, HIV testing and prevention education, infertility and preconception services, health education/counseling, and referrals to community resources. The mission of the program is supported through 22 subrecipients who provide service delivery at 63 family planning service sites. In FY 2023, MFPP provided reproductive health care to 46,405 clients by way of 66,131 health care visits within its network.

During FY 2023, MFPP focused on strategies to advance Maryland toward health equity and improve access to high-quality, comprehensive reproductive health care services and related preventive health services for communities most in need. In achieving this goal, MFPP initiated a comprehensive Needs Assessment to evaluate and develop a strategy for program improvement. This project remains ongoing, with plans for completion in FY 2024. MFPP anticipates implementing recommendations from this assessment to promote program improvement to support Marylanders in their reproductive health care needs in FY 2025.

MFPP also implemented a telehealth expansion project in FY 2023. Through federal funding support, the program increased the capacity of nine local health departments (LHDs) and three non-profit clinic systems to provide family planning services utilizing telehealth. These services are expected to provide more equitable access to services for individuals who experience barriers to in-person care, and to enable clinics to prioritize appointments for more complex services.

Programs During Pregnancy

CenteringPregnancy

The CenteringPregnancy group prenatal care model follows the traditional recommended schedule of ten prenatal visits, but with the difference that each visit is 90 to 120 minutes long. This model gives pregnant patients ten times the length of interaction with providers when compared with the average amount of interaction time in traditional prenatal visits. Moreover, the model allows for the patient to take their own weight and blood pressure and to record their own health data during the visit. This interactive approach empowers patients and fosters a sense of efficacy in managing their health. After the health assessment is completed, eight to 10 pregnant patients gather with a provider to be part of interactive activities designed to address important and timely health topics.[56] CenteringPregnancy is shown to be effective in reducing birth outcome disparities among NH Black pregnant people, who disproportionately experience adverse maternal health outcomes.[57,58] In response to the disproportionate SMM rates that affect particularly the Black birthing Marylanders, MDH has devoted funds to implement CenteringPregnancy in priority jurisdictions with high SMM rates. MDH is currently supporting the expansion of five sites through public health start-up funds. In F 20Y24, PHPA/MCHB combined additional public health funding from the Babies Born Healthy Program to provide support for three additional sites, for a total of eight new sites supported over the duration of SIHIS.

Effective January 1, 2023, Maryland Medicaid began reimbursing CenteringPregnancy providers at accredited or pending accreditation practices an enhanced payment for perinatal care. The enhanced payment is covered by the MCH Population Health Improvement Fund which supports the overall operations and sustainability of CenteringPregnancy practices. Medicaid created the infrastructure required to support the enhanced payment, including identification of a billing code and updates to the provider enrollment system (ePREP). This code is billed alongside a typical perinatal visit code. As of August 2023, there were 17 Medicaid-enrolled CenteringPregnancy providers.

Perinatal Care Coordination

Care coordination is a vital service to connect birthing people with the care they need. Improving system coordination and ensuring warm handoffs has consistently been cited by the Maternal Mortality Review Program as a necessary action to prevent future maternal deaths. Maryland pursues care coordination within its 24 jurisdictions through a combination of programs detailed below.

[56] Centering Healthcare Institute. https://centeringhealthcare.org/what-we-do/centering-pregnancy. Accessed 19 October, 2022
[57] Crockett, A. H., Chen, L., Heberlein, E. C., Britt, J. L., Covington-Kolb, M. S., Witrick, M. B., Doherty, M. E., Zhang, L., Borders, A., Keenan-Devlin, L., Smart, M. B., & Heo, M. (2022). Group versus traditional prenatal care for improving racial equity in preterm birth and low birthweight: the Cradle randomizedclinical trial study. American Journal of Obstetrics and Gynecology.
[58] CHI. CenteringPregnancy and CenteringParenting Annotated Bibliography. December 2022. https://www.centeringhealthcare.org/uploads/files/Centering-Healthcare-Institute-Annotated-Bibliography.docx-16.pdf

Thrive By Three Prenatal Care Access and Care Coordination

During the 2021 Maryland legislative session, SB 777/HB 1349 passed, increasing the scope and funding of the Maryland Thrive by Three program. The legislation dictates the implementation of programs that increase access to prenatal care, including behavioral and oral health, to those who would otherwise not have access. Importantly, this access includes pregnant people who cannot otherwise access care due to their citizenship status. In Fall 2021, MDH hosted a town hall with LHDs, FQHCs, birthing hospitals, and other MCHB partners, to learn about challenges and needs of Maryland communities in regard to prenatal care access. Stakeholders shared the unique challenges that various different pregnant populations in their respective communities faced when attempting to access prenatal care, but all stakeholders agreed that both the uninsured and undocumented pregnant populations face the most significant barriers to consistently accessing prenatal care.

As of September 2023, three LHDs (Harford, St. Mary's, and Wicomico counties) and three Federally Qualified Health Centers (CCI, Inc., Greater Baden Medical Services, and Mary's Center) received funding to implement programs that increase access to prenatal care and care coordination, specifically for underserved populations. An additional three yet-undetermined programs will be funded in FY24.

Strengthening Referrals to Perinatal Care Coordination

Improving mechanisms to provide linkages to care for birthing people and their families is key to ensuring that they receive necessary care and services in the prenatal period. The **Maryland Prenatal Risk Assessment and Maternal Referral** (PRA) helps to identify Medicaid patients who may have medical and psychosocial predictors of poor birth outcomes, and the information gathered is used by local health departments to link patients to resources. Medicaid is leading efforts to better educate the provider community on the PRA through a website and educational materials. Additionally, MDH employs LHD Nurse Consultants to provide technical assistance to Administrative Care Coordination Units (ACCUs) on reaching out to providers.

The **Maryland Postpartum Infant and Maternal Referral (PIMR)** form is intended for use by Maryland birthing hospitals to refer high-risk infants and birthing people at hospital discharge to their LHD to be connected with community-based services and care. To increase the utilization of the PIMR form and linkages to care, MDH has partnered with CRISP to make the form available electronically. In 2022, a pilot was conducted in partnership with Talbot County Health Department and UM Shore Medical Easton to test the new electronic PIMR workflow. During FY23, MDH continued to explore the statewide rollout of the electronic PIMR form in partnership with CRISP. In FY24, MDH received federal funding to support expansion of the PIMR form to rural and suburban communities on the Eastern Shore and in Prince George's County, respectively. LHDs will also receive funding to conduct relationship building activities with birthing hospitals to identify opportunities to enhance linkages to care and increase utilization of the PIMR.

Supporting Birthing People with Opioid Use Disorder through the MOM Program

The MOM program addresses fragmentation in the care of pregnant and postpartum Medicaid participants diagnosed with opioid use disorder (OUD) through enhanced case management services. With over 21,000 individuals of childbearing age diagnosed with an OUD in Maryland, substance use is a leading cause of maternal death and has a significant impact on the approximately 1,500 infants born to Medicaid beneficiaries with OUD in Maryland per year. Utilizing HealthChoice MCOs as care delivery partners, the MOM program focuses on improving clinical resources and enhancing care coordination to Medicaid beneficiaries with OUD during and after their pregnancies. Under the MOM program, HealthChoice MCOs receive a per member, per month (PMPM) payment to provide a set of enhanced case management services, standardized social determinants of health screenings and care coordination, as well as to encourage appropriate somatic and behavioral health care utilization, such as prenatal care and behavioral health counseling. While initially covered by CMMI funds, in FY 2022 these PMPM payments transitioned to the MCH Population Health Improvement Fund, with federal matching dollars authorized under the §1115 HealthChoice demonstration. Program services started on July 1, 2021 as a pilot in St. Mary's County, continuing for one year. Starting in FY 2023, after the culmination of the pilot, the model expanded into Baltimore City, Anne Arundel, Baltimore, Cecil, Garrett, and Harford counties. Starting January 1, 2023, the MOM program was expanded to be completely statewide, with availability to all eligible HealthChoice members. As of November 2023, the MOM program enrolled a total of 49 participants from across the State, 36 of whom remain active.

Programs during the Birth/Delivery Period

Maryland has a long history of collaboration in prenatal care and has made significant investments to enhance care during and after childbirth. MDH is further strengthening its efforts by taking a health equity approach in quality improvement implementation, and supporting sustainable doula reimbursements via Maryland Medicaid.

The Maryland Perinatal Quality Collaborative (MDPQC)

Perinatal Quality Collaboratives are state networks of teams working to improve the quality of care for parents and babies. The mission of the Maryland Perinatal-Neonatal Quality Collaborative (MDPQC) is to make Maryland a safer and more equitable place to give birth across all levels of care. The MDPQC brings delivery hospitals from across Maryland together to focus on implementing evidence-based safety or best practices bundles from the Alliance for Innovation in Maternal Health (AIM), which is a national, data-driven, maternal safety and quality improvement initiative. These safety bundles may include developing a standard protocol for recognizing early maternal warning signs, training(s) for providers, and education for patients. Additionally, unit practice drills are conducted to address high blood pressure during the birthing period.

All 32 Maryland birthing hospitals participated in an initiative focused on maternal hypertension from January 2021 through June 2023.The hospitals implemented a bundle of interventions that included best practices for preventing, identifying, and responding to a birthing person experiencing high blood pressure. The combined efforts led to a 59.1 percent improvement across all hospitals in the timely treatment of elevated blood pressures, defined as administration of the appropriate treatment within 60 minutes of identification of the elevated blood pressure. This included a 79.3 percent improvement in the timely treatment of elevated blood pressures for NH Black birthing people.

At this time, the majority of birthing hospitals identified that they were prepared to advance to the next initiative while transitioning their work focused on maternal hypertension to sustaining the improvements in care that were made. The MDPQC Steering Committee, which consists of perinatal care providers and public health professionals, worked with birthing hospitals to select obstetric hemorrhage as the next area of focus beginning July 1, 2023. Obstetric hemorrhage is one of the leading causes of maternal mortality and severe maternal morbidity in Maryland. This initiative capitalizes on another AIM Patient Safety Bundle with a focus on prevention, early identification, and rapid response to obstetric hemorrhage. Bundle components also focus on how hospitals can support a birthing person who has experienced an obstetric hemorrhage and their family after the event.

Doula Reimbursement

Doulas are trained to provide continuous physical, emotional, and informational support to a pregnant person before, during, and shortly after childbirth. Key to a doula's function are the provision of emotional support and a constant presence during labor; encouraging laboring individuals and their families; and communicating between birthing individuals and medical professionals. Potential benefits of working with a doula include reductions in C-sections, instrumental vaginal births, and the need for oxytocin augmentation, in addition to shortened durations of labor. Doula care has demonstrated a stronger impact for individuals who are socially-disadvantaged, low-income, unmarried, persons pregnant for the first time, giving birth in a hospital without a companion, or experiencing language or cultural barriers.

Effective February 21, 2022, doula coverage became a covered benefit, provided by the MCH Population Health Improvement Fund, and available to all pregnant and postpartum Medicaid participants, both those covered by fee-for-service (FFS) and those enrolled in MCOs. Medicaid has met the key milestones required for new benefit, including:

1. Promulgation of regulations for doula coverage which describe certification standards and the proposed reimbursement model, among other coverage details;
2. Creation of a new doula provider type in the MMIS system;

3. Holding two provider enrollment training webinars for both individual doulas and doula groups;
4. Providing consistent updates to stakeholders, including MCOs, doulas, and hospitals, through meetings, office hours, email updates, and written guides; and
5. The State Plan Amendment (SPA) was accepted by CMS with an effective date of January 1, 2022.

As of August 2023, eight individual doulas and four doula groups have enrolled in the state's ePREP to become Medicaid providers. In an effort to increase the number of enrolled doula providers statewide, the State has allowed MCOs to enter into single case agreements (SCAs), while waiting for more doulas to complete the ePREP enrollment process. The State is also working to expand the regulations to include additional training organizations, increasing the number of eligible doulas.

Programs in the Postpartum Period

The early postpartum period is sometimes referred to as the "fourth trimester", highlighting the importance this time plays in not only newborn development and parent-child bonding, but also the emotional, physical, and mental recovery and growth that a recently pregnant person experiences. Home visiting, early childhood development, and expanded postpartum coverage are three strategies that MDH utilizes to provide comprehensive support to birthing people in this time period.

Maternal, Infant, and Early Childhood Home Visiting

Evidence-based home visiting programs offer a proven track record in addressing disparities in healthcare quality and health outcomes by coordinating care and providing education programs; continuing findings suggest how home visiting can be a mechanism to improve maternal health and reduce maternal morbidity.[59] The Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program is funded by HRSA. MIECHV's goals are to:

1. Improve maternal and child health;
2. Prevent child abuse and neglect;
3. Reduce crime and domestic violence;
4. Increase family education level and learning potential; and
5. Promote children's development and readiness to participate in school.

In FY 2023, this funding supported the implementation of three evidence-based home visiting models in ten jurisdictions in Maryland. Among the models included are: Family Connects, Healthy Families America (HFA), and Nurse-Family Partnership. Participation in the program is voluntary and home visitors meet virtually or in person to support families by providing information on various health topics including healthy

[59] Jennifer A. Callaghan-Koru et. al. Maternal Warning Signs Education During Home Visiting From a Formative Evaluation in Maryland. Mary Ann Liebert, Inc. https://www.liebertpub.com/doi/full/10.1089/whr.2022.0027

pregnancy practices, encouraging early language development and early learning at home, teaching positive parenting skills, working with caregivers to set family goals, and connecting families to other services and resources in their community.

Home Visiting Expansion

Through additional funding from HSCRC (the Maternal and Child Health Population Health Improvement Fund, or the Fund), a competitive procurement was pursued to expand evidence-based and promising practice models of home visiting and/or perinatal care coordination. Promising practice models of home visiting are interventions that show potential to be effective in improving outcomes, but have not yet received sufficient study to be considered evidence-based. Promising practice programs offer innovative solutions and allow for flexibility and adaptation based on data, as they are not bound by the same sort of strict protocols of evidence-based programs. In August 2022, four home visiting or perinatal care coordination programs were selected to provide services. The recipients of this funding opportunity included: Montgomery and Washington Counties' Health Departments, Baltimore Healthy Start, and Baltimore City-based The Family Tree. In the first year of funding (FY 2023), the sites concentrated on implementing the expansion of their programs.

Medicaid Reimbursement Of Home Visits

Effective January 13, 2022, Medicaid home visiting services (HVS) coverage became a statewide benefit. Medicaid met all key milestones and stakeholder engagement to create this coverage pathway including the creation of regulations for HVS coverage and the establishment of a new HVS provider type in ePREP. Additionally, Medicaid provided stakeholder outreach including hosting multiple provider enrollment training webinars and stakeholder meetings and maintaining a regularly updated FAQ document. The State also meets regularly with MCOs at the Monthly MCO MCH Office Hours to discuss the programs and benefits covered by the MCH Population Health Improvement Fund, providing an opportunity for an open dialogue and time for questions.

Utilization of Medicaid HVS increased in CY 2023. As of August 2023, 130 unique participants received a total of 1064 Medicaid HVS. In CY 2023, participants received an average of 8.2 visits each, an increase of 6.4 visits in CY 2022.

HealthySteps

HealthySteps, a program of the ZERO TO THREE organization, is a pediatric primary care model that promotes positive parenting and healthy development for babies and toddlers. Under the model, all children up to age four and their families are screened and placed into a tiered model of services of risk- stratified supports, including care coordination and on-site intervention. The HealthySteps Specialist, a child

development expert, joins the pediatric primary care team to ensure universal screening, provide successful interventions, referrals, and follow-up to the whole family.

Effective January 1, 2023, MDH began reimbursing an enhanced payment for evaluation and management services rendered by providers at an accredited or pending accreditation HealthySteps practice. Similar to CenteringPregnancy, the enhanced payment is covered by the Fund which supports the overall operations of HealthySteps practices, including the salary of the HealthySteps Specialist. Medicaid created the infrastructure required to support the enhanced payment, including identification of a billing code and updates to the provider Medicaid enrollment system (ePREP).

As of August 2023, there were 66 Medicaid-enrolled HealthySteps providers. Maryland's implementation of the HealthySteps program, including the enhanced Medicaid payment, was recently recognized by the Prenatal-to-3 Policy Impact Center at Vanderbilt University.[60]

Medicaid Coverage Expansions

During the 2021 Maryland Legislative Session, Senate Bill 923 was enacted, expanding the period of time a pregnant person is eligible for Medicaid to 12 months following the end of the pregnancy. Prior to SB 923, Medicaid coverage was available for only two months postpartum to pregnant individuals with a family income between 139 to 264-percent of the Federal Poverty Level. The benefit was effective April 1, 2022. MDH estimates that this extended coverage will benefit approximately 4,000 members annually.

In the following 2022 Maryland Legislative Session, HB 1080–Healthy Babies Equity Act (Ch. 28 of the Acts of 2022) was enacted, expanding Medicaid eligibility to non-citizen pregnant people who would be eligible for the program except for their immigration status, and to their children up to the age of one. Prenatal and four months postpartum medical care, behavioral health, and dental care are now available to this population. The effective date for this expansion was July 1, 2023. Since its launch, over 5,500 individuals have enrolled into the new coverage. MDH estimated this will extend coverage for approximately 6,000 people annually.

Programs Using Data to Drive Action

The Maternal Mortality Review Program

Maternal mortality and maternal morbidity are critical indicators of maternal and community health. Recently the Maryland Maternal Mortality Rate (MMR) has improved relative to the national rate. For the period from 2014 to 2018, the Maryland MMR was 12 percent less than the national rate. Both the U.S. and Maryland rates remain above the Healthy People 2030 Objective MICH-4 target of 15.7 maternal deaths per 100,000

[60] 2023 Maryland Roadmap Summary (2023). Prenatal-to-3 Policy Impact Center at The University of Texas at Austin. https://pn3policy.org/pn-3-state-policy-roadmap-2023/md/.

live births.[61] There is also a large disparity between the MMR rates among Black non-Hispanic and White non-Hispanic women. In Maryland the 2014-2018 Black non-Hispanic MMR was four times the White non-Hispanic MMR. The Maryland Maternal Mortality Review Program (the Program) was established in 2000 by Health-General Article §§ 13-1201 through 13-1206, Annotated Code of Maryland. The overall mission of the Program is to review the pregnancy-associated deaths that occur in the State, identify interventions that could have prevented these deaths, and promote change among individuals, health care systems, and communities in order to prevent future maternal deaths, reduce maternal morbidities, and improve population health.[62] The Program drives change by presenting its recommendations annually in a report to the Governor.

Through the support from the CDC Enhancing Reviews and Surveillance to Eliminate Maternal Mortality (ERASE MM) program, Maryland moved towards a multi-disciplinary review team to conduct comprehensive case reviews in line with national best practices. In 2022, the Program put out a call for member applications for the multidisciplinary Maternal Mortality Review Team (MMRT). New and returning members were oriented to the review process in late 2022, and began their first reviews of the 2021 pregnancy-associated deaths in February 2023. Members include individuals with expertise in perinatal mental health community advocacy, public health practice, individuals with lived experiences, Medicaid, specialists in maternal fetal medicine, obstetrics and gynecology, cardiology, substance use, advanced practice nurses, midwives, and violence prevention. As of October 2023, the MMRT has reviewed the majority of 2021's cases, and successfully led a team retreat on November 17, 2023 to support the program's review processes and operations.

The Program is also committed to supporting community-led approaches to reduce maternal mortality. In March 2023, MDH awarded funding to the Maryland Patient Safety Center (MPSC) to coordinate the inaugural Statewide Maternal Mortality Summit. The aim of the summit is to bring together birth workers and other key stakeholders from across the state to learn, collaborate, and innovate towards eliminating preventable maternal mortality and its associated disparities in care, access, and outcomes for birthing people. The summit is scheduled for May 2024. Additionally, MDH has funded three LHDs to pursue activities designed to address drivers of maternal mortality and prevent maternal deaths, as informed by the needs of each jurisdiction. Each LHD is required to work with and fund at least one community-based organization to design and implement their project over the course of FY24. Finally, in August 2023, MDH provided funding to the University of Maryland School of Nursing to conduct training with perinatal providers and birth workers on trauma-informed care. These trainings will support the provision of supportive, holistic care that is sensitive and responsive to the needs of Maryland's birthing people.

[61] https://health.gov/healthypeople/objectives-and-data/browse-objectives/pregnancy-and-childbirth/reduce-maternal-deaths-mich-04
[62] The Program reviews all deaths that occur during pregnancy or within one year of the end of pregnancy. This includes pregnancy-related deaths, where the cause of death is a pregnancy complication or exacerbated by pregnancy; non-pregnancy related deaths, where the cause of death is not associated with pregnancy, and cases where the Program cannot determine pregnancy-relatedness.

Collaborations

Progress under the Maryland Health Strategic Plan

The Maryland Maternal Health Task Force (the Task Force) is a statewide task force that is part of the Maryland Maternal Health Innovation Program (MDMOM). The Task Force, which first met in 2020, brings together a diverse group of key stakeholders, including officials from State health governing bodies, departments, and agencies; professional organizations; maternity health care providers; insurance payers; patient advocacy groups; and local community organizations. The Task Force is primarily responsible for identifying Maryland-specific gaps in maternal health data, disparities, quality of services, and policies to support pregnant and postpartum individuals, as well as providing guidance on activities and programs to improve the health of Maryland's birthing people.

Over 2023, the Task Force has continued its work to better understand the maternal health landscape of service providers who work with pregnant and postpartum individuals. The Task Force envisions creating an interactive map that will quickly identify key resources, services, and partners to birthing service providers and the wider public. The group developed a survey assessing the types and breadth of services providers may offer, and launched it to members and their networks in the spring of 2023. In addition to the information provided through this survey, the Task Force is also working with its Equity Advisor and the larger MDMOM project team to gather information on complementary resources such as local health departments, federally qualified health centers, nutritional services, food security services, lactation support providers, and more. The map is expected to be live in Spring 2024.

The Task Force also continues to prepare updates on the Maryland Maternal Health Strategic Plan (the Plan). The original plan was released in Fall 2021 and outlined five key goals to reduce maternal mortality and support the health and well-being of birthing people in Maryland, focused on promoting equity, addressing health across interconnected life stages, and addressing the public health infrastructure that underpins high quality services. In late 2022, the Task Force raised the need to update the strategic plan to better center reproductive justice and incorporate lessons learned from the pandemic. In Spring 2023, the Task Force created five work groups organized around the strategic plan goals to propose changes and recommendations to objectives, strategies, and tactics using a reproductive justice lens. The Task Force will continue to advance this work through 2023, and identify further ways to make the strategic plan more actionable.

Maryland Maternal Health Innovation Program (MDMOM)

The Maryland Maternal Health Innovation Program (MDMOM 1.0) was a four-year program (2019-2023) to improve maternal health across the State by coordinating innovation in the areas of maternal health data availability and utilization, training of perinatal health providers in birthing hospitals and of home visitors

across home visiting programs, and perinatal telehealth. MDMOM is a collaboration between Johns Hopkins University, MDH, and the MPSC; and funded by Health Resources and Services Administration. MDMOM has accomplished a significant number of items to improve SMM rates across the State during 2023. In March 2023, MDMOM developed and shared with stakeholders a data brief to present data from SMM Surveillance and Review Program implemented in 13 hospitals. At the end of 2023, the SMM Surveillance and Review Program included 20 hospitals representing more than 70 percent of the births in the State.

A series of three trainings were provided to perinatal health providers in birthing hospitals:

1. Breaking Through Implicit Bias in Maternal Healthcare developed by the March of Dimes (~3,000 trainees across all 32 birthing hospitals);
2. Learnings from Adverse Maternal Events in Maryland developed by MDMOM with expert consultants (~700 trainees across 32 hospitals); and
3. Managing Bias in the Care of Patients with Substance Use Disorders developed by MDMOM with expert consultants (~800 trainees across 32 hospitals).

Additionally, a one-hour training on maternal warning signs developed by MDMOM in collaboration with the Baltimore Healthy Start has been offered to staff in 33 home visiting programs (~290 staff trained; 1,139 pregnant and 1,888 postpartum clients received warning signs education); and program staff meet monthly to share experiences and learning through a community of practice model.

To address the burden of severe hypertension in pregnancy and in line with work coordinated via the MDPQC, the State designed a statewide Preeclampsia Telehealth Initiative to distribute blood pressure cuffs to patients through 24 of the 32 birthing hospitals. As of November 2023, about six blood pressure cuffs are distributed daily. MDMOM rigorously monitors and evaluates all its activities to inform their potential for use at scale in future years, and published five manuscripts on its findings in peer-reviewed literature. In October 2023, MDMOM was extended through a five-year (2023-2028) HRSA award.

Maryland Hospital Association

In 2023, the Maryland Hospital Association (MHA) continued to advance hospitals' capacity to understand and address the drivers of maternal health within their scope of influence—primarily through the Birth Outcomes Accountability Work Group, BIRTH Equity training co-developed with the MPSC, and as a convener/supporter for MDH outreach activities.

MHA's Board of Trustees prioritizes maternal health improvement and encourages member hospitals to actively participate in collective and individual actions to improve maternal health outcomes and reduce disparities.

MHA's Birth Outcomes Accountability Work Group includes clinical and executive maternal health leaders from all birthing hospitals in the state. The goal of the group is to raise hospitals' ability to evaluate their internal data for drivers of maternal health outcomes and to make the necessary internal connections among clinicians, equity leads, and executive leadership that will facilitate action in the most effective areas. The group met three times in 2023 to review statewide and individual hospital data; share learnings from their data, processes, and internal performance review practices; and to identify gaps. In 2024, the group will focus on strategies to bridge identified gaps in data capabilities and further home in on the drivers of maternal health disparities at each hospital.

Clinicians at 19 additional ambulatory sites and emergency departments completed BIRTH Equity training. BIRTH Equity helps non-obstetric providers and patients recognize and act on early warning signs of maternal harm. Clinicians receive additional training using a team STEPPS model to become aware of and interrupt their biases. The program amplifies implicit bias training and the growing suite of perinatal resources throughout the state.

CY 2024 Priorities

Severe maternal morbidity is an important risk factor for maternal deaths, which is a key indicator for the health and well-being of a society. As detailed in this report, it has become more evident that focusing on reducing SMM rates is crucial to improving the health of Marylanders. Additionally, SMM rates are greater among people of underrepresented racial and ethnic groups, including NH Black and Indigenous populations.[63] In CY 2024, the State remains committed to continue to invest in the outlined projects, with a focus on extended services to underserved populations and those at elevated risk of SMM. The State will continue to facilitate seamless coordination and collaboration among various stakeholders. This will involve fostering peer-to-peer learning calls to offer guidance and support to home visiting sites and community-based asthma programs.

In 2024, the State will continue its partnership with CRISP to update the SIHIS Dashboard to show SMM rates both with blood transfusion and without blood transfusions. Moreover, the State will also collaborate with HSCRC in regard to the likely missed 2023 milestones and will develop a mitigation plan to submit to HSCRC in spring 2024.

Domain 3d: Total Population Health – Child Health

Asthma has significant impacts on the health and well-being of all children, and also has one of the largest disparities of any chronic disease in the general population. Overall, rates of emergency department (ED)

[63] Rivara FP, Fihn SD. Severe Maternal Morbidity and Mortality: JAMA Network Open Call for Papers. JAMA Network Open. 2020;3(1):e200045. doi:10.1001/jamanetworkopen.2020.0045Centering Healthcare Institute. https://centeringhealthcare.org/what-we-do/centering-pregnancy. Accessed 19 October, 2022.

utilization are three to five times higher for Black non-Hispanic children than children overall, and almost five times higher than for non-Hispanic White children.

Pediatric asthma contributes to increased healthcare utilization and spending, missed school days, and sub-optimal overall health and well-being in Maryland children. Pediatric asthma also has a significant impact on parental productivity. Childhood asthma was selected as a domain for SIHIS both because of its public health impact, and because Maryland has developed specific strategies to address asthma that provide an opportunity to reduce those impacts. These strategies are discussed in more detail below.

The specific goal, measure, milestones, and targets for this child health priority area are below, as well as 2018 baselines separated by race and ethnicity.

Table 25. Total Population Health - Child Health Goal

Goal: Decrease asthma-related emergency department visit rates for ages 2-17	
Measure	Annual ED visit rate per 1,000 for ages 2-17
2018 Baseline	9.2 ED visit rate per 1,000 for ages 2-17
2021 Year 3 Milestone **(All Milestones Met)**	Obtain Population Projections. Development of Asthma Dashboard. Launch Regional Partnership Catalyst Grant for MCH, if funding available. Asthma-related ED visit is a Title V State Performance Measure and shift some of the Title V funds for Asthma-related interventions.
2023 Year 5 Target	Achieve a rate reduction from 2018 baseline to 7.2 in 2023 for ages 2-17
2026 Year 8 Final Target	Achieve a rate reduction from the 2018 baseline to 5.3 in 2026 for ages 2-17

Table 26. Race/Ethnicity Disparities in Childhood Asthma ED Rate, 2018 Baseline

Race	2018	2023 Year 5 Target	2026 Year 8 Target	Absolute Change	Relative Percentage Change
Total	9.2	7.2	5.3	3.9	42%
NH White	4.1	3.5	3.0	1.1	26%
NH Black	19.1	14.36	9.6	9.6	50%
Hispanic	5.4	4.7	4.0	1.4	25%

NH Asian	2.7	2.6	2.5	0.2	9%
Other	10.6	7.30	5.5	5.1	48%

Quantitative Performance

Based on data through August 2023, Maryland had 7.8 asthma-related emergency department visits per 1,000 children over the prior 12 months. This rate is 0.6 visits per 1,000 children higher than the CY 2023 target. As shown in Figures 11 and 12, while there was a gradual decline in the rates of emergency department visits prior to 2020 for children of all races, COVID-19 caused a large decrease in ED utilization rates across the board through early 2021.

Figure 11. Childhood Asthma-Related ED Visits for Rolling 12-Months, February 2018-August 2023

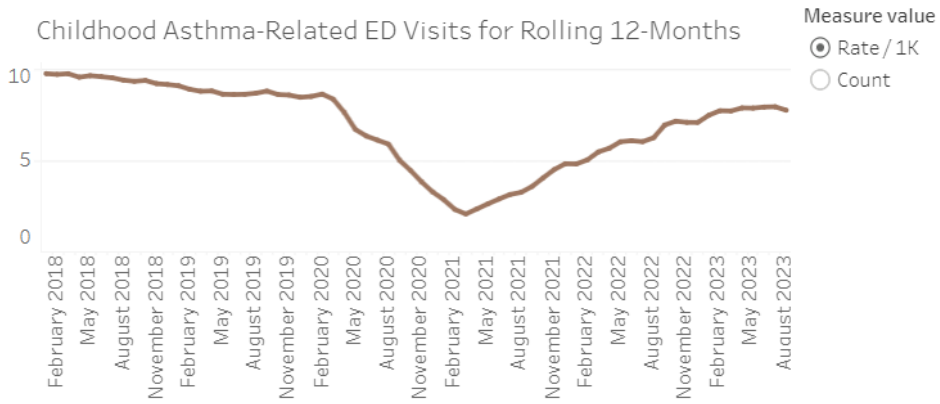


Figure 12. Childhood Asthma-Related ED Visits for Rolling 12-Months by Race/Ethnicity, February 2018-August 2023

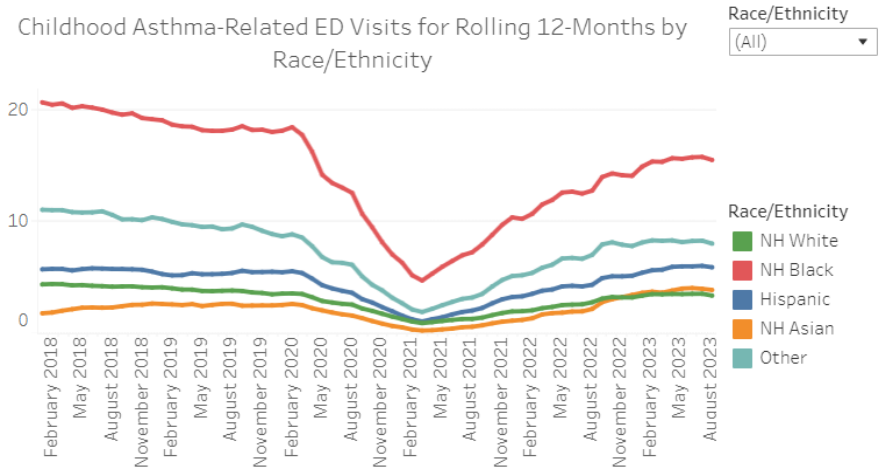


Table 27. Childhood Asthma-Related ED Rates by Race/Ethnicity, February 2018-August 2023

Race/Ethnicity	2018 Baseline	Most Recent 12 Months	2023 Target	Difference	Disparity Index
NH White	4.1	3.3	3.50	-0.2	1.0
NH Black	19.1	15.4	14.36	1.1	4.6
Hispanic	5.5	5.9	4.70	1.2	1.8
NH Asian	2.6	3.8	2.60	1.2	1.2
Other	10.3	8.0	7.30	0.7	2.4
Statewide Total	9.2	7.8	7.20	-0.6	2.3

COVID-19 and Other Influential Factors on Performance

As noted above, Maryland saw sharp declines in ED visits for childhood asthma in 2020 and early 2021 due to COVID-19. While 2022 volumes are trending back to 2018 baselines, MDH believes that the underlying rates of and disparities in asthma, as well as the pre-COVID-19 gradual decline in those rates, are still in place and are likely to resume gradually as COVID-19 becomes part of the background of viral respiratory disease in the population. MDH will continue to monitor asthma ED rates throughout 2023 and 2024 and evaluate the impact of COVID-19 on progress towards the SIHIS goals. In the meantime, MDH continues to expand interventions and identify opportunities under this domain to address and reduce childhood asthma and health disparities, based on the likelihood that these interventions will continue to be important in reducing the severity of childhood asthma and decreasing ED utilization rates due to asthma.

CY 2023 Updates

As reported in last year's annual report on SIHIS activities and shown in Table 25, Maryland met all of its 2021 milestones for the child health priority area. Progress towards the 2023 target and additional activities underway to address childhood asthma are described below.

Priorities Addressed in CY 2023

Development of Asthma Dashboard

Maryland's Environmental Public Health Tracking project run by EHB provides a display of asthma data by relevant geographies across the State. A dashboard for the SIHIS initiative is now included in the Environmental Public Health Tracking public portal, which includes the asthma measures adopted through the SIHIS process and also includes links to LHDs and other partners participating in the asthma interventions. The dashboard was completed in December 2021 and was released publicly in mid-2023. It is available on MDH's website. The dashboard provides an ongoing progress report on the State's efforts to

address the severity and health disparities in asthma, and will also demonstrate the programmatic efforts involved to do so.

Collaboration between Asthma Program, SIHIS, and Title V

Title V is a federal block grant that supports promoting and improving the health and well-being of the nation's mothers; children, including children with special needs; and their families. The Title V Program seeks to strengthen the MCH infrastructure and to ensure the availability, accessibility, and quality of primary and specialty care services for women, infants, children, and adolescents. Through the Title V Maternal and Child Health Services Block Grant, Maryland is able to provide core public health funding to all 24 jurisdictions (23 counties and Baltimore City) in the state to advance vital maternal and child health services and initiatives that are specific to the needs of each community. Funding is used for direct and enabling services for maternal health and children/youth with special health care needs. Additionally, funds are used for population-based services through community education of emerging public health issues, and through the continued development and advancement of public health infrastructure to ensure the health and well-being of Title V eligible populations.

For FY 2022 and FY 2023, LHDs were allowed to use their core public health funding to address asthma. Activities include an asthma home visiting program or school-based asthma programs, providing healthcare education opportunities on asthma management, developing an asthma regional collaborative to coordinate asthma-related activities, and partnering with the health exchange to strengthen linkages to care; more information on these efforts is included below. This opportunity allowed two larger jurisdictions (Baltimore City, Prince George's County) to supplement the activities of the lead/asthma home visiting program funded through the Maternal and Child Health insurance Program (MCHP) State Plan Amendment, and to provide services to some children who may not have been eligible for HVS under MCHP alone. For FY 2023, the Baltimore City, Queen Anne, and St. Mary's Health Departments used Title V funds to support asthma programming including home visiting activities.

Programs and Interventions to Address Childhood Asthma

Childhood Lead Poisoning and Asthma Prevention Environmental Case Management Program Expansion

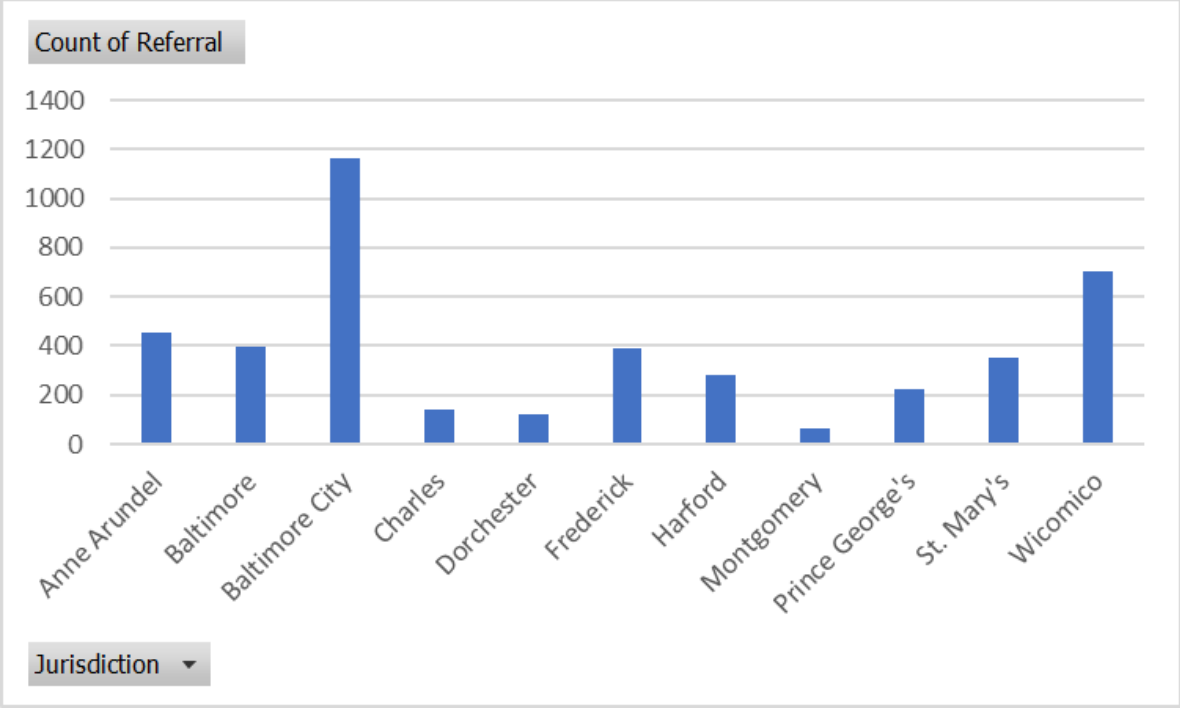
Environmental home visiting programs have been shown to improve asthma outcomes, including adolescent asthma, by addressing asthma triggers in the home and other related environments. Below is a description of the efforts of MDH to improve childhood asthma outcomes.

MDH utilizes funds from Maryland Medicaid's Children's Health Insurance Program Health Services Initiative State Plan Amendment (CHIP HSI SPA) to support the Childhood Lead Poisoning and Asthma

Prevention and Environmental Case Management Program operating in eleven jurisdictions: Anne Arundel, Baltimore, Charles, Dorchester, Frederick, Harford, Montgomery, Prince George's, St. Mary's, and Wicomico Counties, and Baltimore City. The environmental care management program benefits children suffering from moderate to severe asthma with up to six home visits, facilitated by LHD community health workers (CHW) and/or supervising case managers. Generally, families remain in the program up to a year, though in some cases they may take longer.

These visits include an evaluation of environmental triggers, parent education and provision of supplies shown to reduce asthma severity, such as a HEPA vacuum cleaner. The environmental care management program also ensures care coordination amongst providers who interact with the child through the use of asthma action plans. In FY 2023, more than 680 children with asthma received services through this program. In support of the SIHIS and MDH's goal of addressing health disparities, 80.3 percent of the children with asthma served in the program were NH Black or African American.

Figure 13. Referrals For Asthma to Local Health Department Home Visiting Programs (February, 2018 - June, 2023)



Improving Referrals to Local Health Department Asthma Home Visiting Programs

One of the most significant challenges to the environmental care management program has been recruiting families into the program. MDH developed several strategies to improve the referral process, including:

- Care Alerts to health providers through Maryland's health information exchange, Chesapeake Regional Information System for our Patients (CRISP);
- Direct electronic referrals through CRISP to LHDs of children recently discharged from emergency departments or inpatient admissions for asthma exacerbations; and
- Direct referrals from hospitals and managed care organizations to LHD home visiting programs.

Table 28. Referrals to Home Visiting Programs for Asthma by Year

Referral Source	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	Accepted Services[$]
Child Care Provider	0	0	0	3	2	100%
CRISP	0	0	0	4	2,052	27%
Hospital	0	0	0	34	65	55%
Local Health Department	0	2	1	10	47	68%
Managed Care Organization	0	0	0	0	3	67%
MDE	0	0	0	0	7	86%
Medicaid	0	0	0	4	0	25%
Medicaid Finder File	13	12	8	1,034	255	16%
Parent	0	0	0	30	132	81%
Primary Care Provider	0	0	0	3	11	79%
School Based Health Center	0	0	0	2	7	67%
School Nurse	0	0	0	2	24	58%
Other*	0	9	1	54	51	70%
Unknown**	31	155	265	956	8	48%

[$]"Accepted Services" means the family accepted home visiting services or other services for some period of time during the fiscal year.
***Other referral source may include, but is not limited to, asthma call list, outreach event, another LHD, other health care provider, Green & Healthy Homes Initiative (GHHI), family member, other health department employee, or another program participant.**
****The referral source is not recorded**

Taken together, these strategies have significantly increased both the number and diversity of the referrals to the LHD home visiting programs for asthma (Table 28). The first direct electronic referrals of children with recent ED visits or hospitalizations due to asthma were sent from CRISP to LHDs starting September 8, 2022; referrals have continued at the rate of 10 children/LHD/week resulting in most referrals through this mechanism in FY2023.

Difficulties in recruiting families are related in part to the time between the acute health event and the contact by the home visiting program with the family. Since asthma is not a reportable condition, LHDs have had to wait for Medicaid administrative claims data to identify potential recruitment opportunities. Medicaid administrative claims typically have a processing time between six months and a year, leading to

a large gap between health events and the recruitment contact by LHD staff. Additionally, LHD staff have cited difficulties reaching some families, as contact may change in the interim. Finally, many families opt to decline HVS for a variety of reasons, including: (1) the acute event has resolved, and the child is now doing well; (2) the family may not believe the child has asthma, because the diagnosis was made in a hospital but the family has not yet communicated with the primary care provider; or (3) the time between the health event and LHD contact has dampened the urgency of the matter that may subsequently be more controlled.

Community Based and Other Programs Focused on Asthma

In addition to the $1 million from the Fund used to strengthen the LHD home visiting program, MDH issued a $250,000 competitive request for applications for community-based programs to address pediatric asthma. The Green and Healthy Homes Initiative, Inc. (GHHI) received funding for two programs, one in Baltimore City and the other in Prince George's County, with high numbers of children with more severe asthma. With these funds, GHHI is addressing asthma through both educational interventions and home-based interventions and will also expand the number of children and families in Maryland who may be eligible for services.

The GHHI program is using a tiered intervention approach to conduct interventions to reduce exposure to home-based environmental asthma triggers such as dust-borne antigens, mold, and other asthma triggers. All of the families approved to participate in the program receive training in asthma triggers, an environmental assessment, and a set of cleaning and housekeeping supplies that assist the family in reducing or eliminating the triggers in the home. They also receive additional supplies including carbon monoxide detectors and smoke detectors. Children with more severe asthma or homes with more severe environmental trigger issues can receive additional services or supplies, including air purifiers, dehumidifiers, air conditioners, mold remediation, or improved insulation.

GHHI has reported to MDH that they are providing the following services in Prince George's County:

GHHI's goal roadmap: 210 children are to be enrolled in the Program over 42 months (3.5 years). In the initial 6 months, GHHI planned to enroll and serve 30 asthma-diagnosed children and their households. After the initial 6 months conclude, GHHI will enroll and provide services to 60 clients annually thereafter for the next 36 months (3 years). In total, 210 children will receive full services including in-home asthma prevention resident education, case management, asthma trigger environmental assessment, and asthma trigger reduction housing interventions.

Interim Report Update: GHHI received 2,300 referrals of Prince George's County children ages 2 - 17 who are diagnosed with asthma, and whose asthma is deemed to be uncontrolled. GHHI is currently scheduling asthma resident educations and environmental assessments with the: Amerigroup client referrals; and referrals from GHHI marketing and outreach, health care providers, and other partners. GHHI conducted

marketing events and Partner Learning Collaborative Trainings with stakeholders in the healthcare, education, and social services area. GHHI also held community-based events with parents and stakeholders to increase asthma awareness, and decrease hospitalizations and ED visit rates for children ages 2 - 17 during the grant period. GHHI fully expects to meet the performance measures for the first 18 months of the Program by completing all services for 90 asthma resident educations and environmental assessments for asthma triggers, as well as asthma trigger reduction housing interventions for higher level intervention (where applicable) client units.

In Baltimore City, GHHI had some challenges in receiving referrals from its primary source (a large managed care organization). Progress to date includes:

GHHI goal roadmap: 280 children will be enrolled in the Program over 42 months (3.5 years). In the initial 6 months, GHHI planned to enroll and serve 40 asthma diagnosed children and their households. After the initial 6 months conclude, GHHI will enroll and provide services to 80 clients annually thereafter for the next 36 months (3 years). In total, 280 children will receive full services including in-home asthma prevention resident education, case management, asthma trigger environmental assessment, and tiered asthma trigger reduction housing interventions, based on the severity of the child's asthma and the condition of the house.

Interim Report Update: GHHI received 1,900 referrals of Baltimore City children ages 2 - 17 who are diagnosed with asthma and whose asthma is deemed to be uncontrolled. GHHI is scheduling asthma resident educations and environmental assessments with the: client referrals from their partnering managed care organization, and other referrals from GHHI marketing and outreach; healthcare providers, and other partners. GHHI fully expects to meet the performance measures for the first 18 months of the Program to complete all services for 120 asthma resident educations and environmental assessments for asthma triggers as well as asthma trigger reduction housing interventions for higher level intervention (where applicable) client units by June 30, 2023

Asthma Community of Practice And Provider Education

The Asthma Community of Practice (CoP) was created by the PHPA's Environmental Health Bureau (EHB) with the vision that all people and families living with asthma in Maryland receive the best possible care so that asthma does not affect their quality of life, and with the mission of improving communication between different fields through information and resource sharing to enhance asthma management. The purpose of the Asthma CoP is to:

1. Serve as a forum to exchange best practices and information regarding asthma treatment, management and prevention;
2. Improve collaboration among stakeholders involved in asthma care; and

3. Ensure that Marylanders with asthma get the best possible care and access to prevention.

In FY 2023, EHB successfully held two Asthma CoP meetings. The attendees included LHDs and asthma stakeholders across the state, including the Green & Healthy Homes Initiative, Johns Hopkins School of Medicine Department of Pediatrics, local community organizations, and insurers.

University of Maryland Medical System (UMMS)

As a consequence of SIHIS and MDH outreach, various hospitals and hospital systems have been taking advantage of internal systems to improve linkages to care for their patients with LHD home visiting programs. For example, the University of Maryland Medical System (UMMS) contracted MDH to incorporate patient education materials about the home visiting program into the discharge instruction system of the electronic medical record in the Baltimore UMMS hospitals, consisting of a QR code with a link to the home visiting program website.

CY 2024 Priorities

In 2024, the State will continue to operate the expanded asthma home visiting program in eleven jurisdictions in partnership with Medicaid and grow referrals to local programs through CRISP. MDH will also continue to support the two community-based asthma home visiting projects in Baltimore City and Prince George's County. EHB will be looking more closely at how well LHDs and the community-based provider are addressing disparities in implementing their programs. Finally, MDH will continue to prioritize provider education through the Asthma CoP initiative.

Conclusion

The Statewide Integrated Health Improvement Strategy presents Maryland with a unique opportunity to improve hospital quality, foster care transformation, and advance population health. SIHIS has created a unified agenda that is galvanizing both public and private stakeholders to collaborate on and invest in improving health, addressing disparities, and reducing healthcare costs. In addition, SIHIS has presented opportunities to engage new and unlikely partners in addressing public health, creating new avenues to improve the health and lives of Marylanders.

Appendix A: Hospital Quality – MDPCP Potentially Avoidable Admissions Analysis, 2022

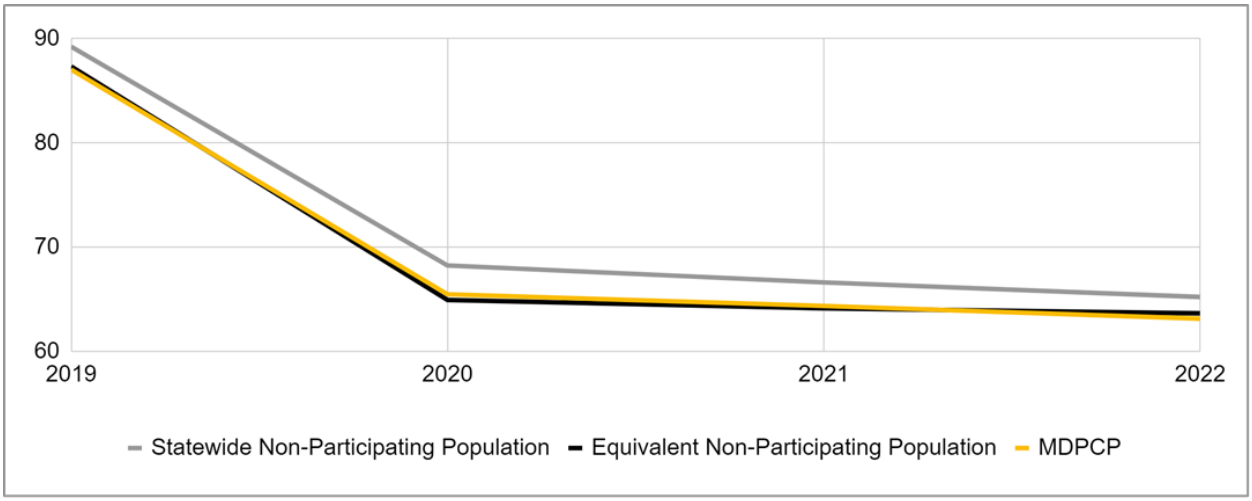
Table 1. Comparison Group Characteristics, 2022.

Population	Beneficiary Count	Description

MDPCP	**369,094**	Represents beneficiaries attributed to MDPCP participating practices.
Statewide FFS (Fee for Service) Population	**736,674**	Represents the entire State's Medicare fee-for-service beneficiary population with both Part A and B coverage. This is comprised of three distinct sub-groups: 1) beneficiaries participating in MDPCP, 2) beneficiaries eligible for MDPCP and attributed to a provider, but not participating in the program, and 3) beneficiaries who are either not eligible for the program or are not able to be attributed to a provider due to the lack of a) available claims or b) a treatment relationship with a provider.
Statewide Non-Participating Population	**267,065**	Represents all Medicare FFS beneficiaries who are eligible for MDPCP, but are not attributed to a primary care provider participating in MDPCP.
Equivalent Non-Participating Population	**91,687**	Represents a subset of a non-participating MDPCP population that meet the eligibility criteria to participate in MDPCP but are attributed to providers not participating in MDPCP. This Statewide Non-Participating Population is then demographically matched to the participating MDPCP population in a selected attribution quarter on the distribution of age band, race, sex, dual eligibility, and county of residence.

In 2022, there was a decrease in PQI-like events (Figure 1) for MDPCP beneficiaries. PQIs are potentially preventable complications which can be reduced through access to high-quality outpatient care. PQIs are identified using hospital discharge data, and PQI-like utilization reflects IP admissions or ED visits that fall into one of eleven PQI classifications based on the AHRQ specification. Utilization trends for beneficiaries attributed to MDPCP practices were evaluated against several comparison groups that had different characteristics (Table 2).

Figure 1. PQI-like Events Performance



In PY4, there were 63.12 PQI-like events per every 1,000 MDPCP-attributed beneficiaries, a decrease of 1.91% compared to the previous year (Table 2). This trend follows the prior three years in which PQI-like events decreased.

Table 2. PQI-like Events per K, HCC Risk Adjusted

Category		Base Year 2019	2020	2021	2022	Cumulative Percent Change
Statewide Non-Participating Population		89.25	68.24	66.61	65.21	-28.03%
	% Change from Prior Year	N/A	-23.54%	-2.39%	-2.10%	
Equivalent Non-Participating Population		87.34	64.92	64.12	63.64	-27.65%
	% Change from Prior Year	N/A	-25.67%	-1.23%	-0.75%	
MDPCP		87.04	65.47	64.35	63.12	-28.40%

	% Change from Prior Year	N/A	-24.78%	-1.71%	-1.91%	

Maternal and Child Health Population Health Improvement Fund

Program Year Two – FY 2023

Annual Report

November 2023

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Background

In 2019, the State of Maryland collaborated with the Center for Medicare and Medicaid Innovation (CMMI) to establish the domains of healthcare quality and delivery that the State could impact under the Total Cost of Care (TCOC) Model. The collaboration also included an agreed upon process and timeline by which the State would submit proposed goals, measures, milestones, and targets to CMMI. In December 2020, the State submitted its proposal for a Statewide Integrated Health Improvement Strategy (SIHIS), which aligns statewide efforts across three domains: hospital quality, care transformation across the system, and total population health. Under the third domain, total population health, the State identified three key health priority areas for improvement: diabetes, opioid use, and maternal and child health. CMMI approved the State's proposal on March 17, 2021.

While the State identified diabetes and opioid use as key population health priority areas in the first year of the TCOC Model, the third priority area—maternal and child health (MCH)—was not selected until fall 2020. Consistent with the State's guiding principle to select goals, measures, and targets that are all- payer in nature, maternal and child health was deliberately considered as a priority area even though it is not primarily Medicare-focused. The selection of maternal and child health as a priority area reflects its importance in the State and acknowledges both the longstanding history of disparities, as well as potential for improvement.

The U.S. faces higher maternal and infant mortality rates[1] compared to other industrialized countries, with large racial/ethnic disparities for each outcome. In the U.S. in 2018, Black non-Hispanic women had a maternal mortality ratio (MMR) 2.5 times greater than White non-Hispanic women, a disparity that has persisted since the 1940s. In Maryland, while the 2014-2018 Black non-Hispanic MMR was 4.0 times the White non-Hispanic MMR.

In addition, pediatric asthma contributes to increased healthcare utilization and spending, missed school days, and sub-optimal overall health and well-being in Maryland children. Pediatric asthma also has a significant impact on parental productivity. In Maryland, approximately 9.7 percent of children have asthma.

As part of the SIHIS proposal, the State identified two areas to improve maternal and child health, as measured by both overall reduction as well as stratified by race and ethnicity:

- Severe maternal morbidity rate; and
- Asthma-related emergency department (ED) visit rates for ages 2-17.

[1] A maternal death is defined by the WHO as "the death of a female from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy." Source: https://www.who.int/data/gho/indicator-metadata-registry/imr-details/4622

Table 1. Race/ Ethnicity Disparities in Maryland SMM Tate 2018 Baseline and SIHIS Targets

Race	2018[2],[3]	2023 Year 5 Target	2026 Year 8 Target
NH White	181.4	7.5% decrease	15% decrease
NH Black	334.2	10% decrease	20% decrease
Hispanic	242.0	10% decrease	20% decrease
NH Asian	249.0	10% decrease	20% decrease
Other	205.2	10% decrease	20% decrease
Total	243.1	9.6% decrease	18.7% decrease

Table 2. Childhood Asthma-ED Visit Rates per 1,000, disaggregated by race and ethnicity

Race	Baseline 2018[2,3]	2023	2026	Absolute change	Relative Percentage Change
NH White	4.1	3.5	3.0	1.1	26% decrease
NH Black	19.1	14.36	9.6	9.6	50% decrease
Hispanic	5.4	4.7	4.0	1.4	25% decrease
NH Asian	2.7	2.6	2.5	0.2	9% decrease
Other	10.6	7.3	5.5	5.1	48% decrease
Total	9.2	7.2	5.3	3.9	42% decrease

In 2021, the Health Services Cost Review Commission (HSCRC) approved cumulative funding of $40 million across four years (FY 2022 – FY 2025) to support MCH investments led by Medicaid and the Prevention and Public Health Administration (PHPA) under the Maryland Department of Health (MDH), in conjunction with the Medicaid HealthChoice managed care organizations (MCOs). This funding has supported the scaling of existing statewide evidence-based programs and promising practices, as well as the expansion of new services for mothers and children. Additionally, using the funding in this manner

[2] There is a slight variation from what was presented in 2021, because the SMM analysis was analyzed by CRISP with an updated CASE mix file and with code/analysis that is updated by AIM/HRSA and the CDC.

[3] Chesapeake Regional Information System for our Patients Inc. (CRISP) analysis of Health Services Cost Review Commission (HSCRC) data, including blood transfusions. Accessed 3 November 2023.

creates an opportunity for the State to receive federal match funding to nearly double the investment, specifically for the Medicaid programs.

Funds are added to hospital annual rates as temporary adjustments through a uniform, broad-based assessment. Hospitals transfer funds to the Maternal and Child Health Population Health Improvement Fund (Fund). The Fund, created through the 2021 Budget Reconciliation and Financing Act (BRFA), will receive funding from hospital rates to invest in maternal and child health initiatives, as approved by Commissioners. The Fund sunsets in 2025.

The Fund committed $8 million in annual funding from fiscal year (FY) 2022 through FY 2025 to support Medicaid initiatives to address severe maternal morbidity, in alignment with the inclusion of MCH as a population health priority area under SIHIS. As noted earlier, these monies are eligible for federal matching dollars, bringing the combined total to $16 million annually. An additional $2 million in annual funding is directed to PHPA to support childhood asthma initiatives and additional interventions to address severe maternal morbidity.

Funding supports the following MCH initiatives within Maryland Medicaid:

- Home Visiting Services pilot expansion;
- Reimbursement for doula services;
- CenteringPregnancy, a clinic-based group prenatal care model;
- HealthySteps, a clinic-based intensive prenatal and postpartum case management framework; and
- MOM Program (formerly the Maternal Opioid Misuse (MOM) Model) expansion/intensive case management for high-risk pregnancies.

Funding to PHPA supports the expansion and/or implementation of mutually reinforcing programs:

- Asthma home visiting program (Medicaid partnership);
- Community-based asthma home visiting initiatives (all-payer); and
- Community-based home-visiting services and CenteringPregnancy implementation (all-payer).

The Memorandum of Agreement (MOA) between the HSCRC and MDH that governs the Fund requires MDH to submit an annual report that will outline progress toward the Fund's goals.

This document serves as the annual report for the second year of funding and details the progress of the five Medicaid programs and the initiatives under Public Health Services; further outcome measures will be incorporated into future reports as data become available. The report culminates with a report on FY 2023 expenditures and spending plans for upcoming years.

Medicaid Programs

This section presents an overview and implementation update for each of the Medicaid programs

supported by the Fund, followed by a synopsis of preliminary data from calendar year (CY) 2022, due to claims run-out.

Home Visiting Services Expansion

Program Overview

In 2017, MDH established a Medicaid Home Visiting Services (HVS) Pilot under the authority of the §1115 HealthChoice demonstration to test a service expansion initiative in Maryland aimed to improve both maternal and child health. This pilot included reimbursement for two evidence-based home visiting models, Healthy Families America (HFA) and Nurse Family Partnership (NFP). Both models employ specific developmental and health screenings, and have an established track record of improving the health and well-being of both the birthing parent and the child. Sites requesting coverage for this service must maintain certification of accreditation or fidelity by the national HFA or NFP organization. Effective January 13, 2022, Maryland promulgated regulations that provided coverage for both models as a new statewide benefit for Medicaid beneficiaries.

Implementation Update-PY2

As of September 2023, there are 12 sites enrolled as Medicaid providers for home visiting services, covering 14 of 24 Maryland counties. MDH continues to serve as a resource for home visiting programs as they enroll as Medicaid providers and implement Medicaid billing mechanisms. Following the benefit's launch in February 2022, 89 Medicaid participants utilized HVS services in CY 2022, for a total of 717 home visits and an average of 8.1 visits per participant.

Doula Reimbursement

Program Overview

Effective February 21, 2022, MDH began Medicaid coverage for doula/birth worker services to Medicaid participants. A doula, or birth worker, is a trained professional who provides continuous physical, emotional and informational support to birthing parents before, during and after birth. Certified doulas serving Medicaid participants provide person-centered, culturally-competent care that supports the racial, ethnic and cultural diversity of members while adhering to evidence-based best practices.

Under Maryland Medicaid's reimbursement model, doulas provide three kinds of services: prenatal visits, attendance at labor and delivery, and postpartum visits. Medicaid provides coverage for up to eight perinatal (*i.e.,* prenatal and postpartum) visits, as well as attendance at labor and delivery, known as the 8:1 model. The 8:1 model allows for any combination of prenatal and postpartum visits that equals eight or fewer visits per birthing parent. Doulas can enroll as individual providers or be affiliated with a doula practice that bills for provided services on their behalf. To recruit more doula providers and in line with other states' rates, Maryland Medicaid increased the reimbursement rate for attendance at labor and delivery in July 2023. All doulas must be trained by one of nine Medicaid-approved doula certifying organizations. MDH is in the process of expanding this list to increase the number of enrolled doulas, as detailed below.

Doula Implementation - PY2 Update

Following the benefit's launch in February 2022, MDH did see individuals utilizing doula services under Medicaid; however, the results do not meet the threshold for CMS cell suppression guidelines. This section details MDH's efforts to increase its Medicaid-enrolled doula provider network as well as facilitate access to services for Medicaid participants.

As of September 2023, there are nine doulas enrolled as Medicaid providers. During the year, MDH monitored doula provider enrollment, and implemented several measures to build out the network. First, MDH permitted MCOs to use single case agreements with doulas until network adequacy requirements are reached. Second, MDH updated its regulations, estimated as effective February 2024, to: 1) facilitate quicker expansion of the number of approved doula certification organizations; and 2) make the doula benefit self-referral until 2025. These two measures, in combination with the request for nominations process to add additional certification programs that started in October 2023, will increase the number of doulas who are eligible to become Medicaid providers. Third, as noted earlier, MDH increased the rate for attendance at labor and delivery from $350 to $800 on July 1, 2023.

Lastly, the Medicaid program worked with colleagues at MDH's Maternal and Child Health Bureau on a Doula Hub request for applications (RFA), released September 2023. The Doula Hub will identify a contractor, who will administer grant money for scholarships and technical assistance for doulas who want to become Medicaid approved.

CenteringPregnancy and HealthySteps

Program Overview

Starting in 2022, MDH utilized the Fund to expand access to innovative approaches to prenatal care and early childhood well-being through CenteringPregnancy and HealthySteps, respectively. Because prenatal care and child health visits are already covered services, the Fund provides an enhanced payment to support practices that have undertaken these programs. MDH combined implementation efforts for these two programs, which included developing infrastructure for Medicaid reimbursement, technical assistance for the MCOs and ongoing communication with the CenteringPregnancy and HealthySteps national organizations and their respective providers in the State.

MDH updated the Maryland Provider Services Manual to reflect the new CenteringPregnancy and HealthySteps benefits and define the reimbursement guidelines for the enhanced payment of these services. The Provider Services Manual is incorporated by reference into the Code of Maryland Regulations (COMAR). Effective January 1, 2023, MDH reimburses CenteringPregnancy and HealthySteps providers an enhanced payment for services consistent with the models of care provided at an accredited site or a site pending accreditation by their respective parent organizations.

CenteringPregnancy

CenteringPregnancy is an evidence-based group prenatal care model for low-risk pregnancies. The model focuses on three core components: health assessment, interactive learning and community building. Facilitators support a cohort of eight to ten individuals of similar gestational age through a

curriculum of ten 90- to 120-minute interactive group prenatal care visits that largely consist of discussion sessions. Discussion topics include medical and non-medical aspects of pregnancy, such as nutrition, common discomforts, stress management, labor and birth, breastfeeding and infant care. Studies[1] have shown that CenteringPregnancy improves health outcomes, such as decreased risk of preterm birth, as well as improves patient satisfaction.

CenteringPregnancy Implementation - PY2 Update
Following an MCO infrastructure support program in CY 2022, effective January 1, 2023, MDH began paying an enhanced rate to CenteringPregnancy providers. The enhanced payment supports the overall operations of CenteringPregnancy practices and may be billed alongside the typical group prenatal care procedure code for up to 10 perinatal care visits per pregnancy (*i.e.,* the period from conception to 60 days postpartum).

There are seven active CenteringPregnancy practices in Maryland as of September 30, 2023 and 17 Medicaid-enrolled CenteringPregnancy providers. Medicaid anticipates additional providers will work towards the CenteringPregnancy model implementation due to the partnership and grants from MDH's Maternal and Child Health Bureau (additional detail under 'Public Health Programs,' below).

HealthySteps
HealthySteps, a program of the national accrediting body ZERO TO THREE, is a pediatric primary care model that promotes positive parenting and healthy development for babies and toddlers. Under the model, all children ages zero to three and their families are screened and placed into a tiered model of services of risk-stratified supports, including care coordination and on-site intervention at accredited, or pending accreditation HealthySteps sites. The HealthySteps Specialist, a child development expert, joins the pediatric primary care team to ensure universal screening, provide referrals to external services and follow-up to the whole family.

HealthySteps Implementation - PY2 Update
Similar to CenteringPregnancy, MDH began providing an enhanced payment for evaluation and management services provided by providers at an accredited or pending accreditation HealthySteps site on January 1, 2023, following an MCO infrastructure support program. Like CenteringPregnancy, the enhanced payment supports the overall operations of HealthySteps practices, including the salary of the HealthySteps Specialist.

There are two eligible providers in Maryland (University of Maryland Pediatrics Associates) and three in DC (MedStar Georgetown - MedStar Medical Group at Fort Lincoln, Children's National - Children's Health Center at THEARC and Anacostia locations). In addition, Kaiser Permanente is transforming its practices in South Baltimore and Woodlawn into HealthySteps sites, to comply with the new Medicaid requirement. As of August 2023, there were 66 Medicaid-enrolled HealthySteps providers. Maryland's implementation of the HealthySteps program, including the enhanced Medicaid payment, was recently recognized by the Prenatal-to-3 Policy Impact Center at Vanderbilt University.[4]

[4] Prental-to-3 Policy Impact Center. 2023 Maryland Roadmap Summary. https://pn3policy.org/pn-3-state-policy-roadmap-2023/md/

MCO Incentive Program

To support MDH's MCOs in building the infrastructure and successfully implementing CenteringPregnancy and HealthySteps, the Fund established a voluntary milestone-based incentive program for MCOs in 2022. MCOs had the opportunity to earn a total of $50,000 for each program for meeting three milestone categories: work plan, contracting and service implementation.

Eight of the nine Medicaid MCOs participated in the incentive program. Regulations are being promulgated that will require MCOs to contract with at least one HealthySteps provider and one CenteringPregnancy provider and to pay the enhanced rate for rendered services.

MOM Case Management Services (MOM Program)

Program Overview

The MOM program addresses fragmentation in the care of pregnant and postpartum Medicaid participants with opioid use disorder (OUD) through enhanced case management services, with an emphasis on increasing health service utilization, as well as screening and referral for social determinants of health.

Initially funded as part of a CMMI demonstration, the MOM program has supported efforts in increasing provider capacity to treat the maternal OUD population; in addition, in FY 2022, the demonstration funded a per member, per month (PMPM) payment to MCOs for the enhanced case management services. Starting July 1, 2022, the payments transitioned to the Fund, with federal matching dollars authorized under the §1115 HealthChoice demonstration. As of January 1, 2023, Maryland has ceased its participation in the federal CMMI demonstration; implementation of MOM case management services continued seamlessly.

MOM Program Implementation - PY2 Update

MOM program services started on July 1, 2021 as a pilot in St. Mary's County, continuing for one year before expanding to select counties starting FY 2023. Starting January 1, 2023, the MOM program became available statewide, open to all eligible HealthChoice members. Starting FY 2023, the PMPM payments have been built into MCO capitation rates. As of the end of September 2023, there have been 44 participants in the MOM program. Program participants to date have demonstrated an interest in engaging in treatment for their OUD, as well as efforts to change life circumstances, including enrolling in educational courses, learning to drive and securing stable housing. The program experienced a sharp increase in enrollment following the statewide expansion.

With CMMI funds, and subsequently with support from the Fund, the MOM program has partnered with outside organizations, the Maryland Addiction Consultation Service (MACS) and Bowie State University, to augment the model's impact. Through the partnership, MACS launched the MACS for MOMs program to build provider capacity to better treat the maternal OUD population. The program includes teleECHO clinics, a warmline for phone consultations, and a variety of trainings, including those for receiving a DATA 2000 Waiver which allows providers to prescribe buprenorphine. To strengthen the MOM program

by making it more attractive to communities of color, MDH partnered with Historically Black Colleges and Universities (HBCUs), led by Bowie State, to tailor the program to be more culturally responsive to Maryland's Black population.

PY2 Performance

To assess the outcomes of the Maryland Medicaid MCH Initiatives, the Hilltop Institute from the University of Maryland, Baltimore County analyzed the claims data from the program participants, comparing them with several relevant HEDIS measures. For the purposes of the analysis, all program participants were identified based on FFS claims and MCO encounters that include the program-specific procedure codes, provider types, and/or ICD10 diagnosis codes designated by MDH.

To meet the inclusion criteria for the evaluation, HVS, HealthySteps, doula, and CenteringPregnancy participants were required to have at least three visits, and MOM program participants had to be enrolled in the program for at least three months. All enrollees who met the inclusion criteria and were enrolled after their respective programs' start dates were flagged as evaluation-eligible.

All records were deduplicated so that each enrollee had one record that contained their enrollment start date, the number of program visits or number of months enrolled, and the evaluation eligibility flag. Each enrollee was then sorted into a cohort by calendar year according to the enrollment start date. Thereafter, the demographic variables birth data, sex, and region were obtained and merged from Hilltop Medicaid data sets. The 1184 newborn data set was used to merge infants to their mothers and mothers to their infants where possible, keeping the infants' birth weight, sex, and date of birth.

Separately, Hilltop used the diagnoses and the revenue and procedure codes provided by MDH to identify claims and encounters for cesarean section deliveries, severe maternal morbidity, and birth complications. August 31, 2023, was selected as a cutoff date for 2023 claims and encounters; 2023 data is preliminary due to claims lag. Identified claims and encounters were then collapsed so that there was only one record per enrollee with flags indicating if they experienced the above medical conditions. HEDIS software was used to provide the flags indicating whether enrollees had postpartum care, prenatal visits, and well care visits for CY 2021 and CY 2022. Medical and procedure flags were then merged with the cohort data sets to create a data set of mother and infant pairs with enrollee demographics and evaluation and measure flags.

Aggregate Measures

To be able to share as much of the data as possible, MDH has elected to show measures as aggregate results from participants in HVS, doula services, CenteringPregnancy, the MOM program, and HealthySteps, rather than reporting them at a program level. When combined, the sample is sufficient for the data to be reported, something not possible for the programs with lower enrollment. The tables (Appendix A – H) present the results for enrollees who had at least one qualifying visit as well as enrollees who met the minimum evaluation inclusion criteria.[5] Due to the evaluation inclusion criteria, the aggregate sample size is small for certain measures. Therefore, care should be used when interpreting some of the results.

[5] HVS, CenteringPregnancy, Doula services: At least 3 visits. MOM Program: 3 months of enrollment

Although the number of participants in the MCH programs was relatively low during the evaluation period, the data did show some positive trends. Several maternal health outcomes were extremely positive; during the evaluation period, none of the participants had cesarean deliveries nor did any of the participants experience severe maternal morbidity during their pregnancies.

The data showed improvements in other outcomes as well, with a marked decrease in birth complications between CY 2022 and CY 2023; with the latter year not having a single birth complication. The data also showed a clear improvement in infant birth weight when comparing participants with those who met evaluation inclusion criteria in both CY 2022 and CY 2023.

The data identified two areas that would benefit from continued monitoring by MDH: the timely initiation of prenatal care and the completion of a postpartum visit. It should be noted that CY 2023 data is not yet available for these measures; other outcomes showed clear improvements between CY 2022 and CY 2023. It may be premature to draw firm conclusions about either of these measures.

An overview of the results is listed below. Additional information can be found in Appendices A – H.

- Zero pregnancies with cesarean deliveries during the evaluation period
- Zero pregnancies with severe maternal morbidity
- Zero deliveries with birth complications by participants who met evaluation inclusion criteria
- Zero deliveries with birth complications in CY 2023
- A reduction in low birth weight infants between CY 2022 and CY 2023
- A lower rate of low birth weight infants born to pregnant participants who met evaluation inclusion criteria than those who had any participation
- 33.3 percent of deliveries where to a participant who initiated timely prenatal care
- 20.2 percent of deliveries were to a participant who had a postpartum care visit

Public Health Programs

The Public Health Services/Prevention and Health Promotion Administration administers funds to improve maternal and child health. Specifically, for the Fund, the Maternal and Child Health Bureau (MCHB) implements the maternal health initiatives, and the Environmental Health Bureau (EHB) implements initiatives related to asthma.

Maternal Health Initiatives

Home Visiting Expansion

Program Overview

Home visiting programs can impact maternal morbidity in different ways, including: 1) creating human-to-human relationships that enable home visitors to provide tailored support based on the specific needs

of each family; 2) reducing pregnancy induced hypertensive disorders, preterm birth and maternal depression; 3) creating connections between mothers and health practitioners in the community, breaking down barriers to care and strengthening the link between healthcare resources and the families who need them; 4) providing screening in maternal depression both prenatal and postpartum and connecting mothers in need with the appropriate community-based behavioral health care; 5) providing referrals for mothers when certain risk factors, including trauma or domestic violence, are present in the home; and 6) targeting social determinants of health (SDOH) affecting families, such as social support, parental stress, access to health care, income and poverty status and environmental conditions.[62]

The Maternal, Infant and Early Childhood Home Visiting Program (MIECHV) funds 10 jurisdictions and 15 programs that meet federal evidence-based criteria across Maryland. As part of MDH's efforts to improve maternal and population health MDH plans to award a total of $2.26 million over three years (August 15, 2022 through June 30, 2025) to four sites through the Fund.

Implementation Update

In 2021, through a competitive bid process that was developed in partnership with the Maryland Office of Minority Health and Health Disparities (MHHD) and the MIECHV Program to ensure there was alignment with existing home visiting programs as well as to ensure the grantees would reach out to the population in need. In fall 2022, four sites were selected through the competitive procurement process and MDH announced more than $865,000 in grant funding for FY 2023 to the following organizations: Montgomery County Health Department, Washington County Health Department, Baltimore Healthy Start and The Family Tree.

> **Montgomery County Health Department** utilizes funding to expand its Babies Born Healthy (BBH) program, a prenatal care coordination initiative that connects its participants to home visiting services and offers the March of Dimes Becoming Mom (BAM) curriculum for all BBH participants who wish to participate through group classes or individual sessions. This program enhances maternal understanding through a collaborative community-based model of care, offering prenatal education and ensuring access to quality prenatal care. The program focuses on providing services to the following high-risk zip codes in Montgomery County: 20903, 20904, 20906 and 20912. At baseline, the Montgomery County BBH program enrolls approximately 125 families, with the expansion of the program 31 additional families successfully enrolled with support from the Fund. Throughout FY 2023, the program struggled with staff recruitment challenges and internal delays in the release of funding further heightened the program's operational difficulties. However, despite these hurdles, the program initiated the expansion of its home visiting services with the existing staff.
>
> **Washington County Health Department** began the expansion of their existing home visiting

[6] American Academy of Pediatrics. Home visiting to Reduce Maternal Mortality and Morbidity Act. https://www.socialworkers.org/LinkClick.aspx?fileticket=7mhUWCPtNL4%3D&portalid=0

services via the local program affiliate of Healthy Families America (HFA), which is currently funded by MIECHV. The program enrolled a total of 26 new families from both streams of funding (Fund & MIECHV), with 15% (4) of those families being attributed to the home visiting expansion. The program successfully organized and conducted three virtual family groups, with an average monthly attendance of 18 families. The virtual family groups have proven invaluable, facilitating meaningful connections among families, providing essential parenting insights, and creating a platform for the sharing of experiences. Throughout FY 2023, the county encountered obstacles in recruiting staff and with their referral processes. The Prevention and Health Promotion Administration/MCHB met with the program to gain a comprehensive understanding of the challenges with enrollment and requested a strategic plan outlining their initiatives to improve enrollment rates and will collaborate with Washington County to facilitate peer learning video calls. The Washington County Health Department is a Medicaid-enrolled HVS provider, meaning that the expansion will further benefit the Fund's Medicaid investments as well.

Baltimore Healthy Start (BHS) collaborated with Chase Brexton Glen Burnie Health Center and with the Administrative Care Coordination Unit (ACCU) of the Anne Arundel County Department of Health to expand home visiting services to postpartum women in the following zip codes: 20724, 21060, 21061, 21225 and 21226. This initiative utilizes the Great Kids curriculum, designed for home visits to commence from prenatal to when a child reaches 36 months of age. In addition to the home visits, families who are in need of the services are offered the standard BHS case management and care coordination services through the Chase Brexton-based Medication Assisted Treatment for Substance Use Disorder Program. Enrollment of families into the home visiting program commenced in the fourth quarter of FY 2023, successfully enrolling a total of 17 families with support from the Fund.

The Family Tree facilitated the expansion of home visiting services in Baltimore City through the Parents as Teachers (PAT) model. Home visitors conduct regular visits, supporting families from pregnancy through their child's kindergarten year. The PAT curriculum addresses critical areas including mental health, nutrition, maternal depression, substance use and domestic violence. In FY 2023, the program received certification to operate as a PAT-affiliated site from the Parents as Teachers National Center, successfully recruited and onboarded staff to empower the growth of the PAT home visiting initiative. The program's collaborative efforts extended to partnerships with the following organizations: Health Care Access Maryland (HCAM), Urban Strategies and The Parent Helpline. During FY 2023, the program successfully enrolled 26 families into the PAT program for home visiting, marking a significant accomplishment.

Collectively in FY 2023, Fund-supported Home Visiting Expansion Initiatives enrolled over 75 families to home visiting programs in priority jurisdictions. Table 3 indicates the number of those enrolled by race and ethnicity and Table 4. indicates the number of enrolled by insurance provider. As stated above the home visiting sites experienced challenges with recruitment of staff for the expansion of their programs. MDH will continue to provide technical support to its Fund grantees in FY 2024 to enhance the enrollment of all home visiting sites to improve SMM rates in the state.

Table 3: Number of Enrolled in Fund-Supported Home Visiting Expansion by Race/Ethnicity

Race/Ethnicity	Number Enrolled
non-Hispanic White	*
non-Hispanic Black	57
Hispanic	13
Asian	*
Native American/ Alaska Native	*
Multiracial NOT Hispanic	*
Multiracial and Hispanic	*

Table 4: Number of Enrolled in Fund-Supported Home Visiting Expansion by Insurance

Insurance Type	Enrolled
Enrolled in Medicaid	66
Enrolled Private	*
Enrolled Uninsured	*
Enrolled Other	*

Coordination and Collaboration

To enhance alignment among the Fund-supported home visiting sites and birthing hospital representatives, the Maryland Hospital Association (MHA) and the home visiting sites organized an introductory in-person meeting. The primary goal was to boost referrals and cultivate stronger partnerships and collaboration among stakeholders. Subsequently, MDH developed a one-pager to facilitate the exchange of information regarding the expansion of home visiting programs in a hospital setting. Collaboration with MHA will continue in FY 2024, and MDH is actively exploring methods to promote peer learning among sites and enhance connections.

Increasing Access to CenteringPregnancy Sites

Program Overview

The effectiveness of CenteringPregnancy is shown most dramatically among Black birthing persons in

Maryland, who disproportionately experience adverse maternal outcomes. In response to the disproportionate (SMM) severe maternal morbidity rates affecting Black birthing persons in Maryland, MDH has reserved a total of $429,197 for a period of three years (from FY 2022 to FY 2025) to fund the implementation of CenteringPregnancy in seven additional sites across Maryland. In alignment, participating practices may be eligible for Medicaid's CenteringPregnancy enhanced reimbursement benefit, outlined above.

Implementation Update

During FY 2022 to FY 2025, funding was allocated to expand CenteringPregnancy in eight new sites across Maryland. This expansion aimed to enhance maternal healthcare, particularly for at-risk populations.

Mercy Health Foundation received funding in late State FY 2022 and in 2024, launching CenteringPregnancy at one of their OB/GYN practices in downtown Metropolitan Baltimore. In FY 2023, 15 cohorts and 78 centering classes were conducted, benefitting women at risk of severe maternal morbidity. In June 2022, MDH partnered with the **Centering Healthcare Institute (CHI)**, resulting in a successful recruitment drive and provision of start-up funds for implementing the CenteringPregnancy model in four prenatal clinics, strategically located in Baltimore County, Montgomery County, and Prince George's County. The names of the four clinics are:

- Kaiser Gaithersburg in Montgomery County
- Mary's Center Silver Spring in Montgomery County
- University of Maryland St. Joseph's Women's Health Associates in Towson Baltimore County
- Luminis Health Greenbelt in Prince George's County

All four of the sites are in their Centering Implementation Plan (CIP), which incorporates processes and tools to help sites identify and address barriers. The CIP aims to position the site to successfully complete the accreditation process. Over four to six months, CHI collaborates with each site on the following areas:

1. Creating the Steering Committee
2. Engaging Leadership
3. Building a Shared Vision
4. Goal Setting and Evaluation
5. Creating a Centering Schedule
6. Creating your Centering Space
7. Patient Enrollment
8. Provider Productivity
9. Financing and Budgeting
10. Billing and Reimbursement

For FY 2024, PHPA/MCHB braided additional public health funding from the Babies Born Healthy Program that is aimed to decrease infant mortality and disparities to provide funds for an additional three sites for a total of seven sites. In October 2023, CHI will convene a second *Centering Consortium of Maryland* to increase awareness to health organizations about the opportunity of the three public health grants

available to implement CenteringPregnancy model group for prenatal care. Once accredited or pending accreditation, Maryland Medicaid provides enhanced reimbursement to CenteringPregnancy-certified providers and MCOs that are enrolled in the CenteringPregnancy Model, thus allowing for sustainability.

Improving Childhood Asthma Initiatives

Program Overview

Environmental home visiting programs have been shown to improve asthma outcomes, including adolescent asthma, by addressing asthma triggers in the home and other related environments. Below is a description of the efforts of MDH to improve childhood asthma outcomes.

Implementation Update

MDH has utilized funds from Maryland Medicaid's CHIP Health Services Initiative (HSI) to support the Childhood Lead Poisoning & Asthma Prevention and Environmental Case Management Program operating in eleven jurisdictions: Anne Arundel, Baltimore, Charles, Dorchester, Frederick, Harford, Montgomery, Prince George's, St. Mary's and Wicomico Counties, as well as Baltimore City. The Asthma Home Visiting Program benefits children suffering from moderate to severe asthma. Through up to six home visits, facilitated by a Local Health Department (LHD) community health worker (CHW) and/or supervising case manager, critical objectives are reached.

These visits include an evaluation of environmental triggers, parent education and provision of supplies shown to reduce asthma severity, including a high efficiency particulate air (HEPA) vacuum cleaner and other interventions demonstrated to improve outcomes for children with moderate to severe asthma. The program also ensures care coordination amongst providers who interact with the child through the use of asthma action plans. In FY 2023, 680 children with asthma received services through this program. In support of the SIHIS and MDH goal of addressing health disparities, 80.3 percent of the children with asthma served in the program were Black or African American.

Improving Referrals to Local Health Department Asthma Home Visiting Programs

One of the most significant challenges to the Asthma Home Visiting Program has been recruiting families into the program. MDH developed several strategies to improve the referral process, including:

- Care alerts to health care providers through the state's health information exchange, Chesapeake Regional Information System for our Patients (CRISP)
- Direct electronic referrals to LHDs of children recently discharged from emergency departments or inpatient admissions for asthma exacerbations through CRISP
- Direct referrals from hospitals and managed care organizations to LHD home visiting programs

Taken together, these strategies have significantly increased referrals to LHD home visiting programs and improved the recruitment of families into the program. In particular, on September 8, 2022, the first direct electronic referrals of children with recent emergency department visits or hospitalizations

due to asthma were from CRISP to LHDs, and have continued at the rate of 10 children per LHD per week.

Community-Based and Other Programs Focused on Asthma

In addition to the $1 million from the Fund used to strengthen the LHD-operated Asthma Home Visiting Program, MDH released a $250,000 competitive request for applications for community-based programs to address pediatric asthma. The Green and Healthy Homes Initiative, Inc. (GHHI) received funding for two programs, one in Baltimore City, the other in Prince George's County, two jurisdictions with high numbers of children with more severe asthma. With these funds, GHHI is addressing asthma through both educational interventions and home-based interventions and will also expand the number of children and families in the state who may be eligible for services.

The GHHI program is using a tiered intervention approach to conduct interventions to reduce exposures to home-based environmental asthma triggers such as dust-borne antigens, mold and other asthma triggers. All properties approved to participate in the program receive a resident education, an environmental assessment and an asthma trigger reduction prevention supplies kit (cleaning supplies to control dust and other triggers). Based on the home environment and the severity of the child's asthma, additional supplies and services may also be provided, including air purifiers, dehumidifiers, or air conditioners, mold remediation, or as well (as well as Tier I Plus services by GHHI Environmental Health Educators, Environmental Assessors and Hazard Reduction Workers. Those receiving Tier II services will receive Tier I Plus services as well.

Tier I Asthma Trigger Reduction Interventions include:

- HEPA Vacuum
- Simple Green
- Buckets (2)
- Gloves
- Sponges
- Mop
- Mop Refill
- Pillowcases (2)
- Mattress cover
- Smoke Detector
- Carbon Monoxide Detector
- Basic IPM—Integrated Pest Management

Tier II Higher Level Asthma Trigger Reduction Interventions include:

- Air purifying machine installation
- Dehumidifier installation

- Air conditioner installation
- Intermediate to Severe IPM--Integrated Pest Management
- Mold remediation
- Plumbing repair
- CO/smoke detector installation
- Door replacement
- Gutter replacement
- Stabilization of baseboards
- Air filter replacement
- Caulk building corners
- R-9 Fiberglass
- Dryer vent install
- Drain cleaning

The most recent GHHI interim report for Prince George's County summarizes the performance measures and progress to date.

> Objectives: 210 children in total will be enrolled in the Program over 42 months (3.5 years). In the initial six months, GHHI planned to enroll and serve 30 asthma diagnosed children and their households. After the conclusion of the initial six months, GHHI would enroll and provide services to 60 clients annually thereafter for the next 36 months. In total, 210 children would receive full services including in-home asthma prevention resident education and case management, asthma trigger environmental assessment, and Tier I Plus and Tier II asthma trigger reduction housing interventions.
>
> Interim Report Update: GHHI received 2,300 referrals of Prince George's County children ages 2-17 who are diagnosed with asthma and whose asthma is deemed to be uncontrolled. GHHI has commenced the scheduling of asthma resident educations and environmental assessments with client referrals from a large managed care organization, and other referrals from GHHI marketing and outreach and healthcare and other partner referrals. GHHI conducted marketing events and Partner Learning Collaborative Trainings with stakeholders in the healthcare, education, and social services area as well as community-based events with parents and stakeholders to increase asthma awareness and decrease hospitalizations and ED visit rates for children ages 2-17 during the grant period. GHHI fully expects to complete all services for 90 asthma resident educations and environmental assessments for asthma triggers as well as asthma trigger reduction housing interventions for higher level intervention (where applicable) client units by June 30, 2023, in meeting the performance measures for the first 18 months of the Program.

In Baltimore City, GHHI has also had some challenges in receiving referrals from its primary source (a large managed care organization).

Objectives: 280 children in total will be enrolled in the Program over 42 months. In the initial six months, GHHI planned to enroll and serve 40 asthma diagnosed children and their households. After the conclusion of the initial six months, GHHI would enroll and provide services to 80 clients annually thereafter for the next 36 months. In total, 280 children would receive full services including in-home asthma prevention resident education and case management, asthma trigger environmental assessment, and asthma trigger reduction housing interventions.

Interim Report Update: GHHI received 1,900 referrals of Baltimore City children ages 2-17 who are diagnosed with asthma and whose asthma is deemed to be uncontrolled. GHHI has commenced the scheduling of asthma resident educations and environmental assessments with the Wellpoint client referrals and other referrals from GHHI marketing and outreach and healthcare and other partner referrals. GHHI expects to complete all services for 120 asthma resident educations and environmental assessments for asthma triggers as well as asthma trigger reduction housing interventions for higher level intervention (where applicable) client units by June 30, 2023 in meeting the performance measures for the first 18 months of the Program.

Asthma Community of Practice (CoP) and Provider Education

The Asthma Community of Practice (CoP) was created by EHB with the vision that all people and families living with asthma in Maryland receive the best possible care so that asthma does not affect their quality of life, and with the mission of improving practice through information and resource sharing. The purpose of the Asthma CoP is to:

1. Serve as a forum to exchange best practices and information regarding asthma treatment, management and prevention;
2. Improve collaboration among stakeholders involved in asthma care; and
3. Ensure that Marylanders with asthma get the best possible care and access to prevention services.

In FY 2023 the EHB successfully held two Asthma CoP meetings in which attendees included LHDs and asthma stakeholders across the state, representing GHHI, Johns Hopkins School of Medicine Department of Pediatrics, local community organizations and insurers.

The first meeting was held virtually via Google Meets on March 31, 2022. Amber Grabowski, Clinical Manager from Margaret Brent Middle School and Spring Ridge Middle School School-Based Health Centers), presented the services they provide to the St. Mary's community and their efforts to improve the care of children living with asthma. The Asthma CoP met again on August 18, 2023. Emmanuel Asenso, DO, MPH, delivered an overview of the proposed physician detailing project for Baltimore City. The project focuses on providers and those who serve patients with the highest burden of asthma in Baltimore City, and: 1) promotes initiatives to close the gap (*e.g.,* usage of primary care at the forefront, improving treatment plans, and removing environmental triggers); 2) increases knowledge and utilization of the latest asthma guidelines; and 3) promotes community asthma programs and other asthma

resources to educate clients on how to implement action steps to improve asthma. In addition, EHB provided the findings of the Evaluation of Asthma Home Visiting Program, which examines the impact of the program on improving asthma control and reducing asthma severity for the program participants since 2018. The EHB held the final Asthma CoP meeting on November 16, 2023.

Public Health Program Performance

MDH staff closely monitor performance on the SMM and childhood asthma goals as part of their ongoing implementation responsibilities under SIHIS and the Fund. COVID-19 has had an undeniable impact on SMM and childhood asthma goals.

Pandemic lockdowns led to a notable decrease in emergency department (ED) visits for asthma exacerbation. This decline can be attributed to reduced exposure to viral infections, environmental allergens, limited access to primary physicians, and families being hesitant to seek ED Care. At the onset of the pandemic, the CDC categorizes individuals with moderate to severe asthma as a high-risk group vulnerable to severe COVID-19 outcomes.[7] Consequently they advocated for strategies to mitigate asthma exacerbation risks, including avoiding triggers, adhering to prescribed medications, following personalized asthma action plans.

MDH remains committed to closely monitoring childhood asthma rates across pre- pandemic, pandemic, post pandemic periods to ensure optimal improvement in asthma management and child health, while improving overall well-being and reducing asthma related issues.

Severe Maternal Morbidity Performance

Statewide Performance

The State's SMM rate has increased since 2018 and is currently above the State's 2018 baseline. In FY 2023, an SMM literature review was conducted to better understand the continued rise in SMM cases. The literature review suggested that transfusions alone may inflate the prevalence of SMM and in 2021 Federal partners (Health Resources and Services Administration) updated the SMM indicators to exclude blood transfusions alone, due to lack of specificity.[8] Other significant contributors of elevated SMM rates revealed in the literature review included: COVID-19, comorbidities, hypertension, mental health, racial disparities, clinical level and patient factors.

COVID-19

Based on conversations with stakeholders such as medical professionals, clinic providers and hospital

[7] Moore WC, Ledford DK, Carstens DD, Ambrose CS. Impact of the COVID-19 Pandemic on Incidence of Asthma Exacerbations and Hospitalizations in US Subspecialist-Treated Patients with Severe Asthma: Results from the CHRONICLE Study. J Asthma Allergy. 2022 Aug 31;15:1195-1203. doi: 10.2147/JAA.S363217. PMID: 36068863; PMCID: PMC9441176.

[8] Federally Available Data (FAD) Resource Document

administrators, and the literature available we believe that the effects of COVID-19 and other respiratory viral illnesses have contributed to the SMM rate increase. According to an article published by the *Journal of the American Medical Association* (JAMA), researchers found that pregnant patients with COVID-19 infection at delivery were more likely to develop SMM compared with those without.[9] The study examined a population of 2,578,095 hospital deliveries across 2,691 centers between April and December 2020.[10] Among the individual morbidity indicators, COVID-19 infection was associated with the following outcomes: increased risk of tracheostomy, respiratory distress syndrome, ventilation, acute myocardial infarction, sepsis, shock, cardiac arrest, and coagulopathy. Additionally, the COVID-19 pandemic has brought on a long-lasting impact that disrupted health care services, increased maternal stress, potential delay in prenatal care and social determinants of health.

Comorbidities, Hypertension, Mental Health and Racial Disparities

The findings of the literature review indicated that the existence of pre-existing medical conditions was strongly associated with the risk for SMM. One study reported that 75 percent of those in their study that experienced SMM had significant medical history, which included conditions such as obesity, asthma, a mental health disorder and hypertension.[11] There are known racial disparities in SMM and maternal mortality rates between different race and ethnicity groups. Six out of the 14 studies demonstrated a higher rate of SMM in non-Hispanic Black women compared with non-Hispanic White women. Two studies reported an increased risk for Hispanic women, and two studies indicated an increased risk of SMM for Native American women. One article discussed the differences in underlying health conditions that may contribute to different rates of SMM. They demonstrated that Black women had more medical comorbidities than any other racial or ethnic group. The higher prevalence of medical comorbidities may be one reason why Black women experience higher rates of SMM.[12]

Clinical Level and Patient Factors

In conclusion, when examining the factors contributing to SMM, it becomes evident that many SMM events are preventable. According to a recent article published in the *Journal of the American Medical Association* (JAMA), a hospital review committee in Maryland determined that nearly one-third (n= 61,

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[9] Matsuo K, Green JM, Herrman SA, Mandelbaum RS, Ouzounian JG. Severe Maternal Morbidity and Mortality of Pregnant Patients With COVID-19 Infection During the Early Pandemic Period in the US. JAMA Network Open. 2023;6(4):e237149. doi:10.1001/jamanetworkopen.2023.7149

[10] Matsuo K, Green JM, Herrman SA, Mandelbaum RS, Ouzounian JG. Severe Maternal Morbidity and Mortality of Pregnant Patients With COVID-19 Infection During the Early Pandemic Period in the US. JAMA Network Open. 2023;6(4):e237149. doi:10.1001/jamanetworkopen.2023.7149

[11] Wolfson C, Qian J, Chin P, Downey C, Mattingly KJ, Jones-Beatty K, Olaku J, Qureshi S, Rhule J, Silldorff D, Atlas R, Banfield A, Johnson CT, Neale D, Sheffield JS, Silverman D, McLaughlin K, Koru G, Creanga AA. Findings From Severe Maternal Morbidity Surveillance and Review in Maryland. JAMA Network Open. 2022 Nov 1;5(11):e2244077. doi: 10.1001/jamanetworkopen.2022.44077. PMID: 36445707; PMCID: PMC9709651.

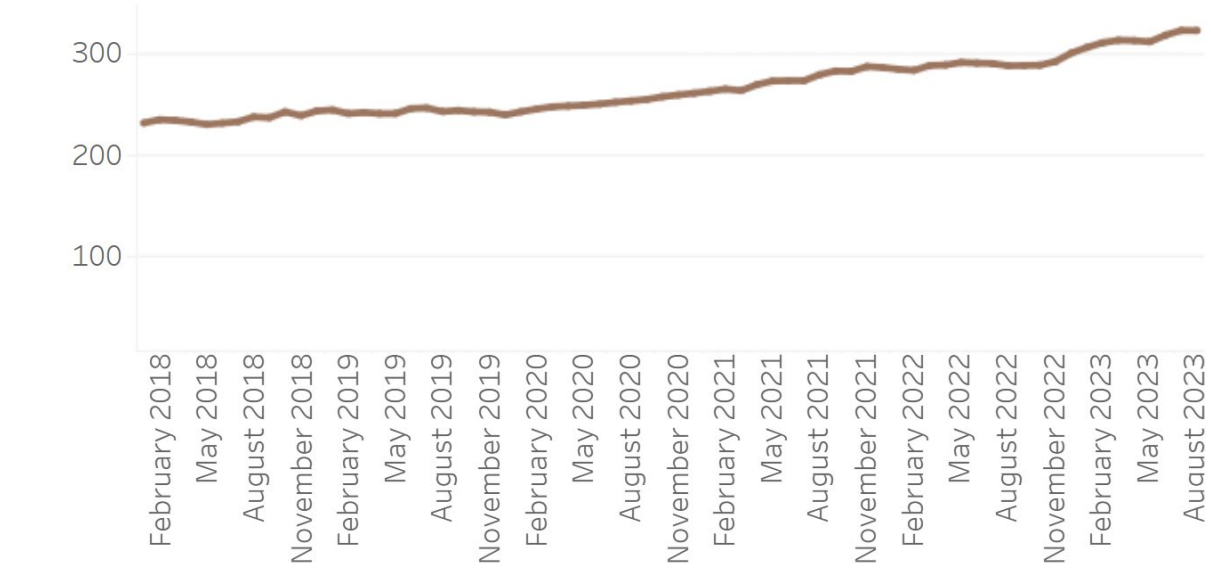
[12] Brown CC, Adams CE, George KE, Moore JE. Associations Between Comorbidities and Severe Maternal Morbidity. Obstet Gynecol. 2020 Nov;136(5):892-901. doi: 10.1097/AOG.0000000000004057. PMID: 33030867; PMCID: PMC8006182.

31.8%) of SMM events were preventable with changes to clinician, system, and/or patient factors (without COVID-19 cases, the preventability rate was similar at 32.8%). The authors stated that, "clinical level factors had the potential to alter the outcome in 60 of the 61 SMM events deemed preventable (31.3% of overall events), system-level factors in 19 events (9.9% overall), and patient-level factors in 24 events (12.5% overall)."[13] Understanding these factors and their interactions is essential in MDH's efforts to reduce SMM rates and improve maternal health outcomes. Fostering collaborations among health care professionals, implementing evidence-based protocols and raising awareness of the different level factors can further enhance preventive measures that would reduce SMM events.

MDH carefully chose to expand Home Visiting and CenteringPregnancy because these initiatives address the significant contributing factors of elevated SMM rates. The initiatives reduce pregnancy induced hypertension disorders, provide screening in maternal depression both prenatal and postpartum and connect mothers to the appropriate resources. MDH is working diligently to expand and implement the funded interventions to improve maternal health and reduce SMM in Maryland. Moving forward, MDH will partner with CRISP to update the SIHIS Dashboard to show SMM Rates with blood transfusion and without blood transfusions. MDH will also collaborate with HSCRC in regard to the likely missed 2023 milestones and will develop a mitigation plan to submit to HSCRC in Spring 2024.

Based on data through June 2023, Maryland had 317.9 SMM-related hospitalizations per 10,000 delivery discharges over the prior 12 months. This rate is 98.6 hospitalizations per 10,000 higher than the 2023 target (219.3) and 75 hospitalizations per 10,000 higher than the 2018 baseline (243.1).

Figure 5. SMM Hospitalizations for Rolling 12- Months, 2018 - August 2023



[13] Wolfson C, Qian J, Chin P, Downey C, Mattingly KJ, Jones-Beatty K, Olaku J, Qureshi S, Rhule J, Silldorff D, Atlas R, Banfield A, Johnson CT, Neale D, Sheffield JS, Silverman D, McLaughlin K, Koru G, Creanga AA. Findings From Severe Maternal Morbidity Surveillance and Review in Maryland. JAMA Network Open. 2022 Nov 1;5(11):e2244077. doi: 10.1001/jamanetworkopen.2022.44077. PMID: 36445707; PMCID: PMC9709651.

Table 6. SMM Hospitalizations Compared to 2023 Target, 2018 - August 2023

	2018 Baseline	Most Recent 12 Months	2023 Target	Difference- Most Recent 12 Months to Target
Rate per 10K	243.1	322.8	219.8	103.0
SMM Events	1,585	1,978		
Eligible Deliverables	65,199	61,279		

Health disparities are also increasing due to challenges discussed earlier in this report, further illustrating the critical need to invest in evidence-based interventions dedicated to addressing maternal health.

Figure 7. SMM Hospitalizations for Rolling 12-Months by Race/Ethnicity, 2018-August 2023

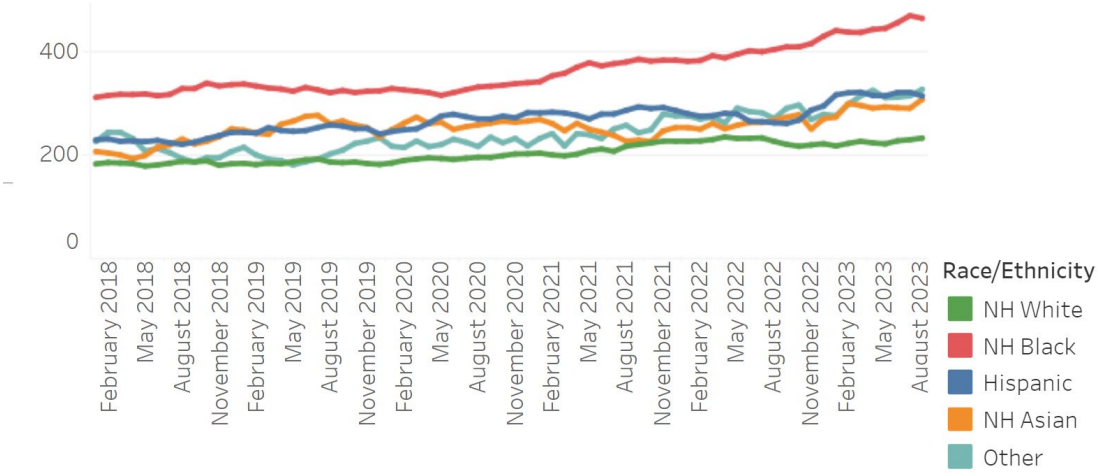


Table 8. SMM Hospitalizations Rates by Race/Ethnicity, 2018-August 2023

Race/Ethnicity	2018 Baseline	Months Recent 12 Months	2023 Target	Difference– Most Recent 12 Months to Target	Disparity Index
NH White	181.4	231.2	167.8	63.4	1.0
NH Black	334.2	462.2	300.8	161.4	2.0
Hispanic	242.0	312.2	217.8	94.4	1.4
NH Asian	249.0	305.3	224.1	81.7	1.3
Other	205.2	325.3	184.7	140.6	1.4
Statewide Total	243.1	322.8	219.8	103.0	1.4

Performance by Payer

Staff is also monitoring SMM performance by payer. Both Medicaid and commercial payers are trending upward, in line with Statewide performance. However, while Medicaid performance has been higher than other payers since 2018, it has grown at a slower pace than commercial (11 percent versus 26 percent). The graph and table below show performance between the 2018 SIHIS baseline and data through September 2022.

Figure 9. SMM Rate by Payer, 2018- September 2022

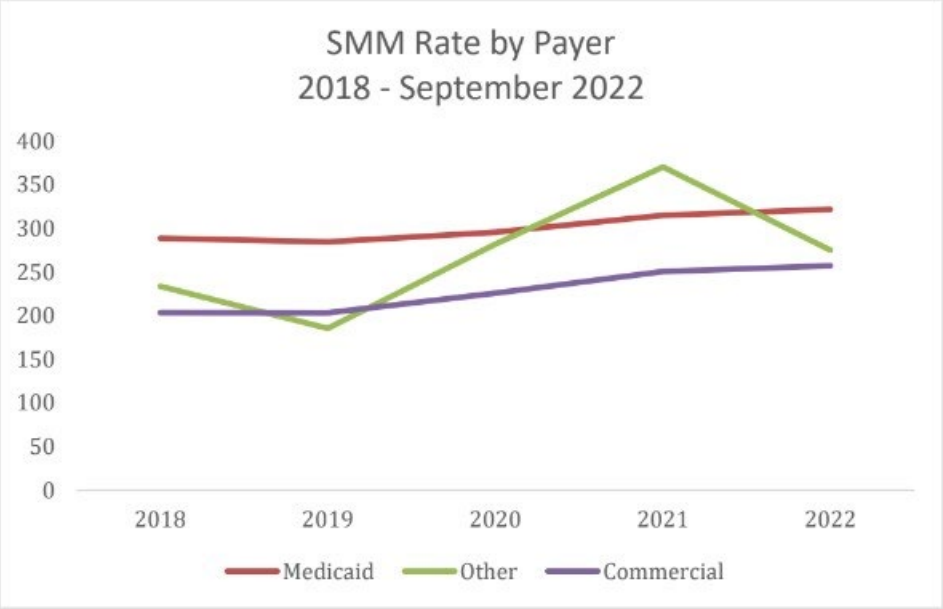


Table 10. SMM Rate by Payer, 2019 – September 2022

Payer	2018	2019	2020	2021	2022 YTD	% Change Since 2018
Medicaid	289	285	296	315	322	11%
Medicare	687	634	842	954	764	11%
Other	234	185	282	370	275	18%
Commercial	203	203	226	251	257	26%

Childhood Asthma Emergency Department (ED) Visit Rate

As is true for hospitals nationally, Maryland hospitals saw sharp declines in ED volumes in 2020 and early 2021 due to COVID-19. Understandably, Maryland's asthma-related ED visit rate for ages 2-17 declined during this period. While 2022 volumes are trending back to 2018 baselines, they are still artificially low. Despite lower ED volumes, staff believes that the underlying dynamics of childhood asthma in Maryland did not change and is working in earnest to implement interventions that will reduce childhood asthma and health disparities.

Statewide Performance

Based on data through August 2022, Maryland had 6.2 asthma-related emergency department visits per 1,000 children over the prior 12 months. This rate is 1.0 visits per 1,000 children lower than the 2023 target.

Figure 11. Childhood Asthma-Related ED Visits for Rolling 12-Months

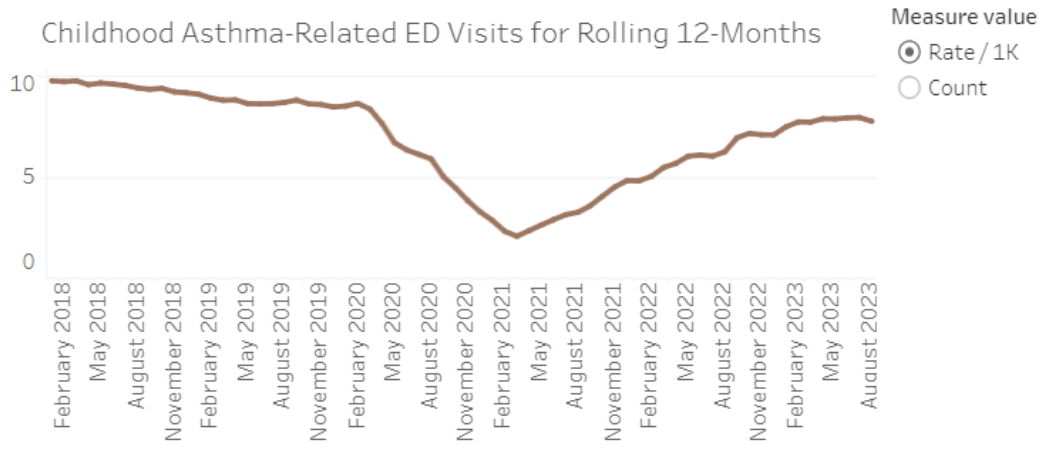


Table 12. Childhood Asthma-Related ED Visits Compared to 2023 Target

	2018 Baseline	Most Recent 12 Months	2023 Target	Different - Most Recent 12 months to Target
Rates per 1K	9.2	7.8	7.2	0.6
Total Count	10,974	9,258		

As with the SMM rate, the impacts of COVID-19 have had a deleterious impact on health disparities, most notably with the non-Hispanic Black population. Continued investment in initiatives and programs to address childhood asthma is critical to eliminating these disparities and putting Maryland back on a path to reach the improvement goals set under SIHIS.

Figure 13. Childhood Asthma-Related ED Visit Rates by Race/Ethnicity, 2018-August 2023

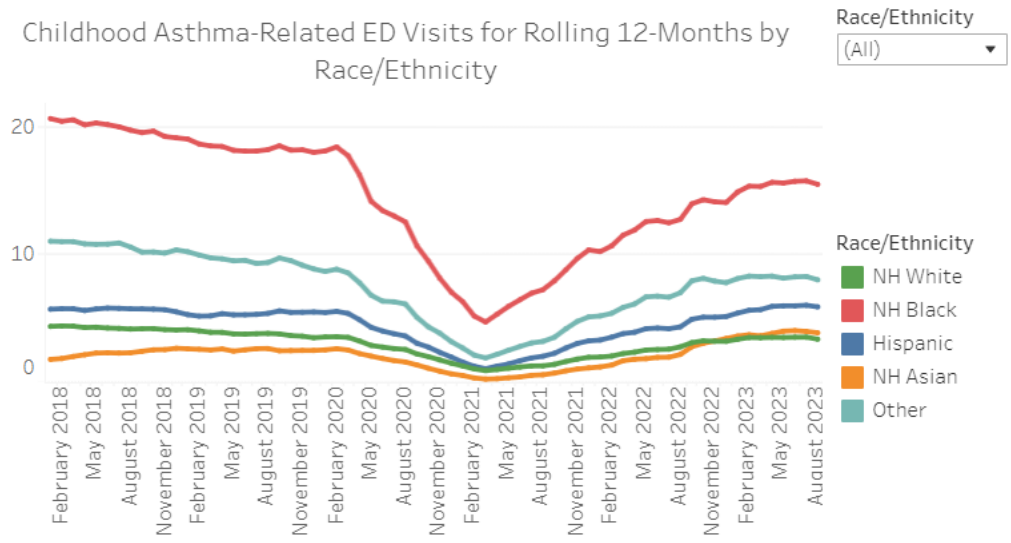


Table 14. Childhood Asthma-Related ED Visit Rates by Race/Ethnicity, 2018-August 2023

Race	2018	2023 Year 5 Target	2026 Year 8 Target	Absolute Change	Relative Percentage Change
Total	9.2	7.2	5.3	3.9	42%
NH White	4.1	3.5	3.0	1.1	26%
NH Black	19.1	14.36	9.6	9.6	50%
Hispanic	5.4	4.7	4.0	1.4	25%

NH Asian	2.7	2.6	2.5	0.2	9%
Other	10.6	7.30	5.5	5.1	48%

Performance by Payer

The State is also monitoring performance by payer. As stated earlier in the report, the State believes these declines in the asthma-related ED visit rate in Maryland mirror both State and national reductions in overall ED visits due to COVID-19. Continued and expanded interventions to address childhood asthma are critical to preventing further growth in health disparities resulting from patients potentially not seeking care during the pandemic.

Figure 15. Childhood Asthma-Related ED Visit Rate per 1K, 2018-September 2022

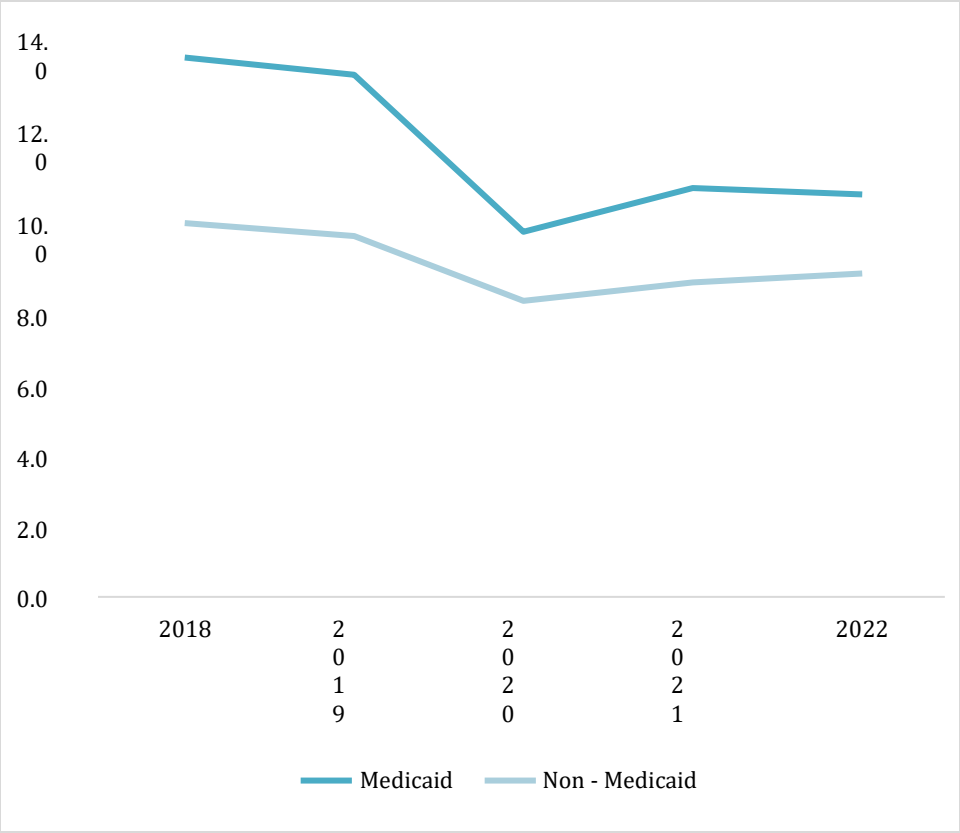


Table 16. Childhood Asthma-Related ED Visit Rate per 1K by Payer, 2018-September 2022

Payer	2018	2019	2020	2021	2022	% Change since 2018
Medicaid	13.3	12.5	5.0	7.1	6.8	-49%
Non - Medicaid	5.4	4.8	1.7	2.6	3.0	-44%

Year Two Spending

The Medicaid program devoted its efforts in FY 2023 to continuing to establish new enhanced benefits in addition to expanding those previously launched with the support of the Fund. As detailed above, implementation efforts spanned benefit design, systems changes for both payment and provider enrollment and development and approval of regulations (state authority) and Medicaid State Plan Amendments (federal authority), in addition to provider enrollment and education. The Medicaid program intends to continue to maximize the Fund's contribution by pulling down federal matching funds, which relies on service implementation.

The Medicaid program is building the full $16 million into its budget for CY 2024 and expects service delivery to increase as provider networks continue to grow and additional participants become aware of the new benefits. Medicaid is considering additional program enhancements that may increase service uptake and spending in FY2024 which may include:

- Standing up a doula training scholarship program, in coordination with MCHB;
- Outreaching providers and relevant stakeholders about the importance of the Maryland Prenatal Risk Assessment (MPRA) in an effort to increase completion of the form; and
- Supporting the conversion of MPRA - a major referral source for MCH programs - from paper to electronic.

PHPA dedicated FY 2023 to providing technical support to grantees beginning implementation of the asthma and maternal health initiatives.

Table 17. PHPA Grant Funds Expenditures - FY 2023

Initiative	FY 2023 Spending
Asthma Home Visiting Program[14]	$640,633.00
Community-Based Asthma Programs	$100,035.00
Maternal Home Visiting	$419,305.57
CenteringPregnancy	$157,114.81
Program Total	$897,782.81

Due to staffing challenges that the home visiting sites experienced and programmatic challenges most sites were unable to spend their full award. However, because the funds can be rolled over, MDH awarded the carryover funds to sites in following years. The rollover of funds have already been incorporated into the budget planning for the home visiting expansion and CenteringPregnancy FY 2024 grant funds.

Conclusion

In FY 2024, the MDH remains committed to strategically invest in the outlined projects, with a specific focus on extended services to underserved populations and those at elevated risk of SMM, as well as moderate to severe asthma. A pivotal aspect of this commitment involves an ongoing dedication to data-driven approaches and programmatic oversight to optimize care. Preliminary data shows positive outcomes for several key measures, in addition to identifying some measures in need of further observation; MDH will actively utilize data to fine-tune interventions and tailor strategies effectively, ensuring that resources reach those who need them most. Additionally, MDH will facilitate seamless coordination and collaboration among various stakeholders. This will involve fostering peer-to-peer learning calls to offer guidance and support to home visiting sites and community-based asthma programs. Moreover, the MDH will encourage collaboration opportunities between home visiting sites, LHDs, and community-based health organizations, focused on maternal and child health, ultimately leading to improved outcomes and better care.

[14] This is an estimate. Final spending will be available in early 2024.

Appendix A: Cesarean Deliveries

Percentage of Cesarean Deliveries among MCH Program Participants, January 2021 – August 2023

	At Least One Qualifying Visit			Meets Eval. Inclusion Criteria		
	CY 2021	CY 2022	CY 2023	CY 2021	CY 2022	CY 2023
MCH Programs	*	0%	0%	*	0%	0%

Appendix B: Severe Maternal Morbidity

Percentage of Pregnancies Associated with Severe Maternal Morbidity among MCH Participants, January 2021 – August 2023

	At Least One Qualifying Visit			Meets Eval. Inclusion Criteria		
	CY 2021	CY 2022	CY 2023	CY 2021	CY 2022	CY 2023
MCH Programs	*	0%	0%	*	0%	0%

Appendix C: Birth Complications

Percentage of Deliveries that had Birth Complications among MCH Participants, January 2021 – August 2023

	At Least One Qualifying Visit			Meets Eval. Inclusion Criteria		
	CY 2021	CY 2022	CY 2023	CY 2021	CY 2022	CY 2023
MCH Programs	*	4.2%	0%	*	0%	0%

Appendix D: Newborn Birth Weight

Percentage of Newborns who are Normal, Low, or Very Low Birth Weight for all Pregnant Participants Enrolled before Delivery, January 2021 – August 2023

	CY 2021			CY 2022			CY 2023		
	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight
MCH Programs	*	*	*	0%	16.7%	83.3%	1.8%	3.6%	94.5%

Percentage of Newborns who are Normal, Low, or Very Low Birth Weight for all Pregnant Participants Enrolled before Delivery and who Meet the Inclusion Criteria, January 2021 – August 2023

	CY 2021			CY 2022			CY 2023		
	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight	Very Low Birth Weight	Low Birth Weight	Normal Birth Weight
MCH Programs	*	*	*	0.0%	8.3%	91.7%	0.0%	2.8%	97.2%

Appendix E: Timeliness of Prenatal Care

Percentage of Deliveries where the Participant had a Prenatal Visit in the First Trimester, on or before the Enrollment Start Date or within 42 Days of Enrollment in the organization, CY 2021 – CY 2022

	At Least One Qualifying Visit		Meets Eval. Inclusion Criteria	
	CY 2021	CY 2022	CY 2021	CY 2022
MCH Programs	*	33.3%	*	16.7%

Appendix F: Postpartum Care

Percentage of deliveries where a participant had a Postpartum Care Visit on or between 7 and 84 days After Delivery

	At Least One Qualifying Visit		Meets Eval. Inclusion Criteria	
	CY 2021	CY 2022	CY 2021	CY 2022
MCH Programs	*	20.8%	*	0.0%

Appendix G: Procedure Codes

Program Start Dates and Procedure Codes to Identify Maternal and Child Health Programs

Program	Procedure Code	Program Start Date
HVS	99600	January 13, 2022
HealthySteps	H0025	January 1, 2023
Doula Services	W3700, W3701, W3702, T1032, T1033,	February 21, 2022
CenteringPregnancy	99078	January 1, 2023
MOM Program	*Medicaid ID supplied by MDH*	July 1, 2021

Appendix H: Program Utilization

Program Utilization among Maternal & Child Health Program Participants, CY 2021-CY 2023

Programs	CY 2021			CY 2022			CY 2023**		
	Unique Number of Participants	Total Number of Visit	Average Visits per Participant	Unique Number of Participants	Total Number of Visit	Average Visits per Participant	Unique Number of Participants	Total Number of Visit	Average Visits per Participant
HVS	-	-	-	119	764	6.4	130	1064	8.2
Doulas	-	-	-	14	46	3.3	14	37	2.6
CenteringPregnancy	-	-	-	-	-	-	43	167	3.9
HealthySteps	-	-	-	-	-	-	773	1298	1.7
MOM*	*	*	7.5	*	*	4.2	-	-	-

*For MOM, months enrolled

**Year to date, data may be incomplete due to data lag. MCOs have six months to bill and FFS claims have 12 months to bill.

Program Utilization among Maternal & Child Health Program Participants who met Evaluation Inclusion Criteria, CY 2021-CY 2023

Programs	CY 2021			CY 2022			CY 2023		
	Unique Number of Participants	Total Number of Visit	Average Visits per Participant	Unique Number of Participants	Total Number of Visit	Average Visits per Participant	Unique Number of Participants	Total Number of Visit	Average Visits per Participant
HVS	-	-	-	89	717	8.1	101	1025	10.1
Doulas	-	-	-	*	*	4.2	*	*	3.9
CenteringPregnancy	-	-	-	-	-	-	25	146	5.8
HealthySteps	-	-	-	-	-	-	132	465	3.5
MOM*	*	*	7.5	*	*	5.5	-	-	-

*For MOM, months enrolled

**Year to date, data may be incomplete due to data lag. MCOs have six months to bill and FFS claims have 12 months to bill.