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Annual Governor's Report

Fiscal Year 2021 Activities and
Calendar Year 2021 Total Cost of Care Model Performance

June 2022

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Introduction

The 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 through hospital global budgets and innovative efforts to transform the delivery system. The State of Maryland is leading a transformative effort to improve the quality of care and health outcomes, including population health and health equity, while also lowering healthcare spending growth under the unique Maryland Health Model.

The Maryland Health Model—

- Incentivizes better health outcomes through pay-for-performance programs, linking quality and payment;
- Guarantees equitable funding for uncompensated care, ensuring that low-income individuals have access to care at all hospitals;
- Creates a stable and predictable revenue system for hospitals, a benefit of the Model that has been particularly important in the pandemic;
- Uses savings generated from reduced hospital utilization to fund investments in community health, health disparities, social determinates of health and population health; and
- Provides support for state healthcare infrastructure and subject matter expertise on health care financing and reform.

Achieving the goals of the Model 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.

The Maryland Health Model has two major components, the Total Cost of Care (TCOC) Model Agreement with the federal government and Maryland's long standing all-payer hospital rate setting system. The TCOC Model, which began in January 2019, aims to enhance the quality of health care and patient experience, improve population health and health outcomes, and reduce the total cost of care for Marylanders. The Health Services Cost Review Commission (HSCRC) helps direct the State's innovative efforts to transform the delivery system and achieve goals under the TCOC Model.

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 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.

Response to COVID-19

Maryland's hospitals are at the center of the State's efforts to respond to the COVID-19 pandemic. The Maryland Health Model provides essential protections to Maryland hospitals that are not available in states with fee-for-service reimbursement systems. HSCRC acted throughout Calendar Year (CY) 2020 and 2021 to ensure hospitals have the funding and support needed to care for patients, including patients with COVID-19. HSCRC's actions in response to the public health emergency include-

1. **Aligning with federal partners.** HSCRC staff worked closely with Congress and the Centers for Medicare and Medicaid Services (CMS) to ensure that Maryland's unique hospital payment model did not limit the amount of federal relief aid available to Maryland hospitals and to ensure that the use of federal aid dollars did not impact CMS's evaluation of Maryland's compliance with the TCOC Contract.
2. **Addressing regulatory and policy barriers**. HSCRC staff modified and, for periods of time, suspended pre-pandemic policies and established new policies to remove regulatory barriers for hospitals as they provided care for patients affected by COVID-19.
3. **Ensuring hospital financial stability**. Maryland's population-based global-budget revenue system provides hospitals with financial stability, as the system provides guaranteed revenue even if patient volumes change within a year. This system has been particularly helpful as hospital faced fluctuating volumes of patients due to COVID-19. Building on this foundation, HSCRC modified rate setting methodologies to further support hospitals. In addition, hospitals received federal funds during the pandemic. HSCRC has considered the amount of federal funding received by hospitals when adjusting rates, to ensure that consumer prices remain reasonable.
4. **Communicating broadly.** HSCRC staff issued frequent communications to hospitals to address immediate COVID-19 policy questions. Additionally, staff regularly share information with other stakeholders, including State legislators, about HSCRC's actions to address COVID-19.

The Maryland Health Model provided Maryland hospitals with a unique advantage in responding to this emergency. More information on HSCRC policy actions to respond to COVID-19 can be found on the HSCRC website: https://hscrc.maryland.gov/Pages/COVID-19.aspx.

Section I: Overview of TCOC Model and Key Requirements

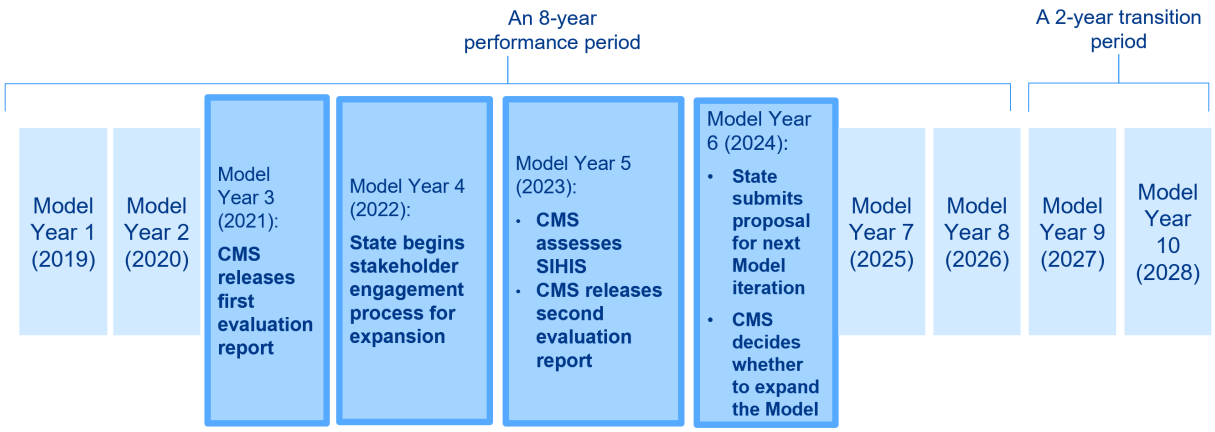
The State of Maryland entered into an agreement with the Centers for Medicare and Medicaid Services (CMS) to run a demonstration program called the TCOC Model. The TCOC Model began in 2019 and is expected to run through 2028. The TCOC Model aims to coordinate care, implement broad healthcare delivery 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 four components: hospital population-based revenue, Care Redesign and Transformation Programs, the Maryland Primary Care Program, and Population Health.

- **Hospital Population-Based Revenue:** The Model allows the State to set hospital payments for Medicare. Under the Total Cost of Care Model agreement, hospitals are subject to global budgets on revenue (GBRs), 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.
- **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**: MDPCP enhances chronic care and health management for Medicare enrollees. This program is discussed in Section V
- **Population Health:** The TCOC model encourages programs and provides financial credit for improvement in state-wide diabestes, opioid use, and maternal and child health goals. These initiatives are discussed in Section IV.

Model Timeline

Figure 1. TCOC Model Timeline



The TCOC Model Agreement with CMS is a ten-year agreement that began in 2019. The TCOC Model builds in the success of the All-Payer Model, which ran from 20214 through 2018.

In 2021, CMS released its first evaluation of the TCOC model in 2021. This evaluation was generally positive, finding that hospital global budgets provided financial stability for hospitals during the pandemic and provide a strong incentive to transform care. The CMS evaluation also praised the State for its' focus on population health and for leveraging the Model's incentives to reform care beyond the hospital, including primary care and collaboration with community organizations. The evaluation also noted that Maryland can work to lower Medicare hospital prices and Medicare total cost of care, improve on population health goals, and continue to improve performance on quality measures. The next major milestone in the Model is the negotiation of the Medicare savings targets that apply for 2024-2028. This negotiation is ongoing in 2022.

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**: By 2023, Maryland must achieve $300 million in annual savings.

- **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% 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 measure.
- **Hospital Revenue under Population-Based Payment Methodology:** Maryland must have at least 95% of hospital revenue under a population-based payment methodology (i.e., global budget revenue) over the course of the Model.

In 2019 and 2020, Maryland met or exceeded these performance requirements. Preliminary results for 2021 are presented below but are not yet certified by CMMI.

Section II: Total Cost of Care Financial Performance (Calendar Year 2021)

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. In 2021, the State continued its favorable performance under the All-Payer Model (APM), which ran from 2014 to 2018. The State now has an average of 2.36% since 2013, 1.22 points below the limit. While 2020 to 2021 growth was high, this was a consequence of very low trends in 2020 during the early stages of the COVID crisis as discussed in last year's report, which drove a bounce back in 2021. Average per capita revenue growth of 3.08% from 2019 to 2021 is well below the 3.58% limit under the TCOC Model performance targets.

Medicare Savings and Total Cost of Care Performance

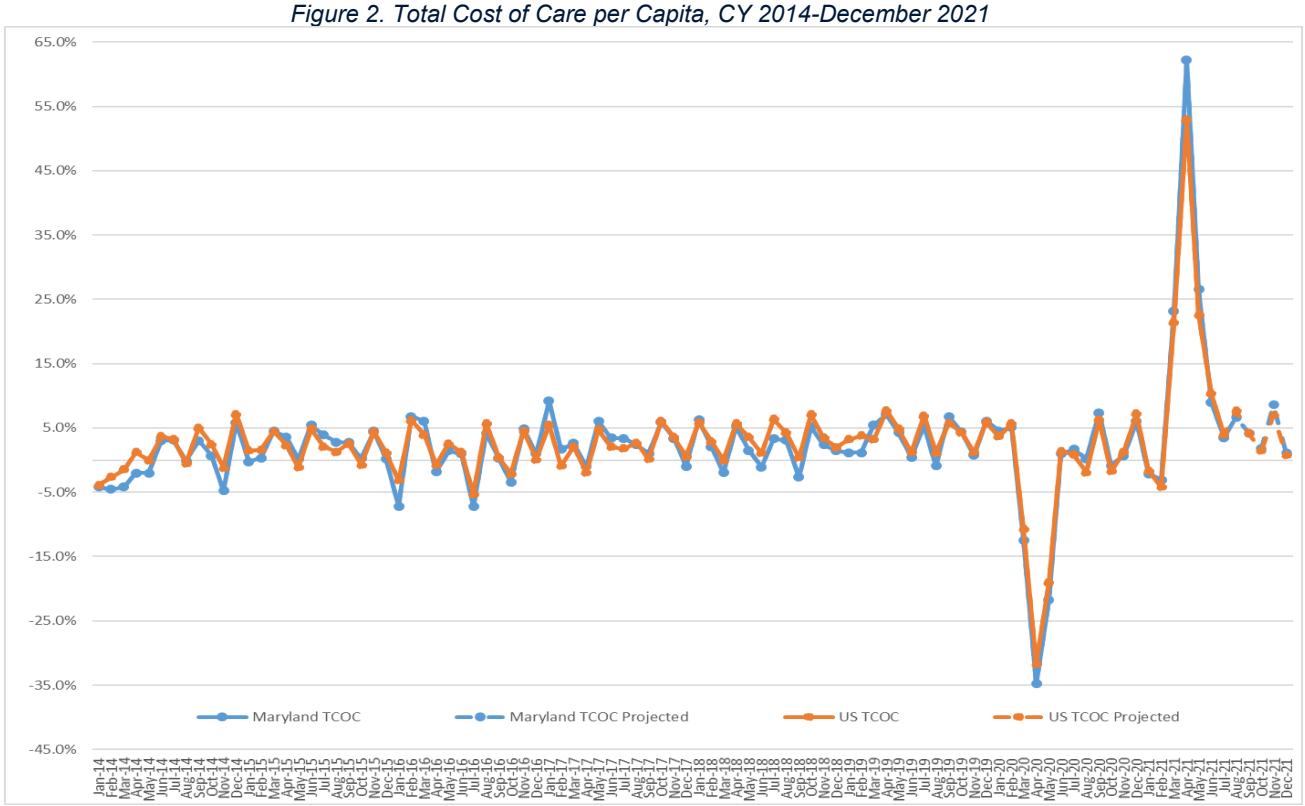
Under the TCOC Model, the total cost of care growth for Maryland Medicare beneficiaries may not exceed the national growth rate by more than one percent in any given year and may not exceed the national

growth for two consecutive years. Additionally, Maryland must build to an annual $300 million in TCOC savings by the fifth year of the Model (CY 2023).

In CY 2021, Hospital spending per capita ended favorably when compared with the nation. Non-hospital spending per capita was unfavorable compared to the nation during CY 2021. These trends continue to be impacted by changes in utilization during the ongoing COVID-19 pandemic. These trends continue to be monitored on a monthly basis. Data through December of 2021 shows Maryland achieved annual TCOC savings of approximately $338 million. This estimate is preliminary and not final until certified by CMS.

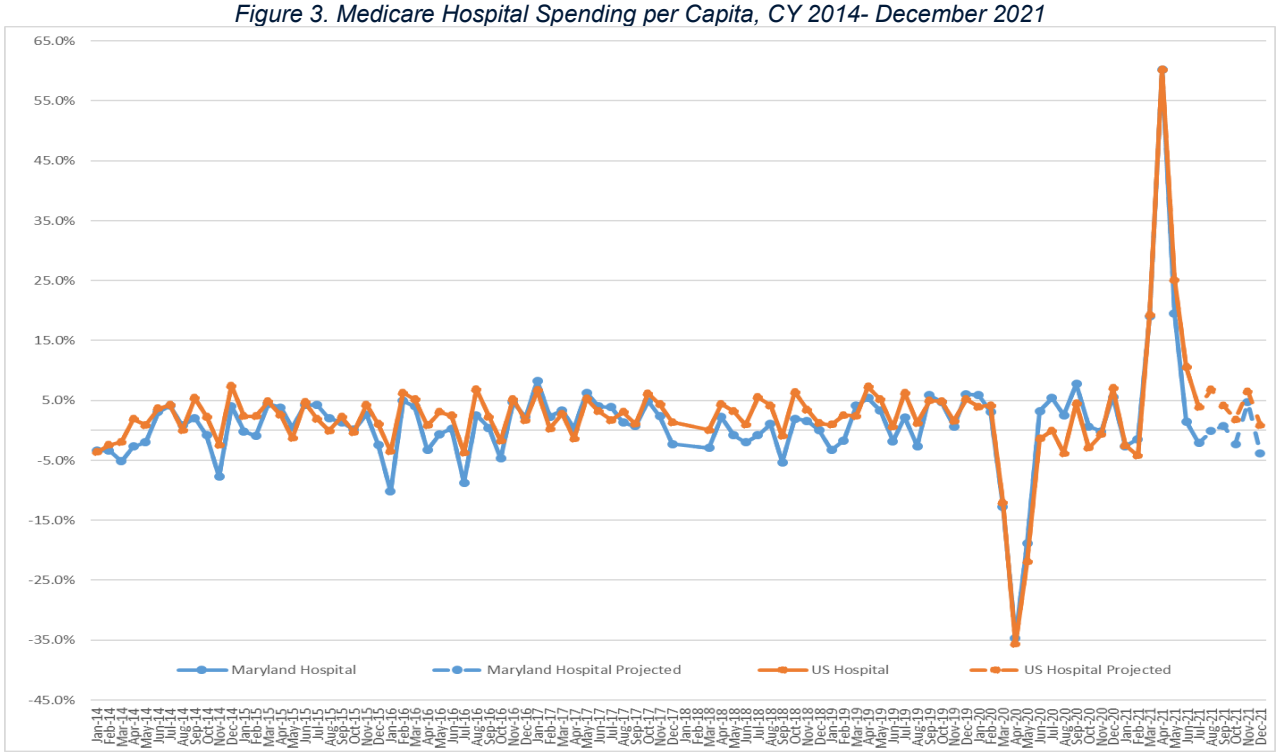
The following figures represent actual growth trends from CY 2014 through CY 2021. The trend measures growth for the current calendar year month versus the prior calendar year month.

Figure 2. Total Cost of Care per Capita, CY 2014-December 2021



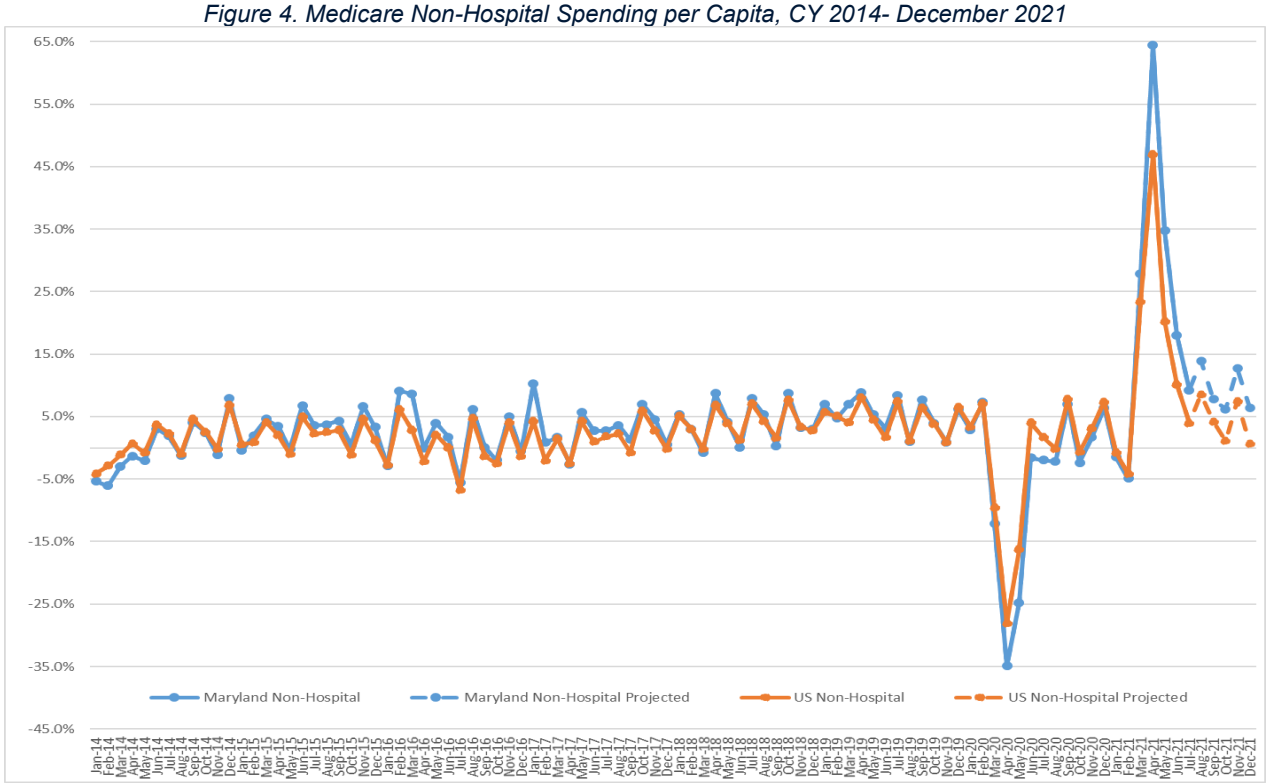
Source: CMMI Monthly Data Reports to HSCRC

Figure 3. Medicare Hospital Spending per Capita, CY 2014- December 2021



Source: CMMI Monthly Data Reports to HSCRC

Figure 4. Medicare Non-Hospital Spending per Capita, CY 2014- December 2021



Source: CMMI Monthly Data Reports to HSCRC

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. Payment adjustments began in July 2019 (Rate Year 2020). The MPA policy attribution will change from the traditional primary care-based algorithm to a geographic approach, with an additional attribution layer for Academic Medical Centers, for CY 2022. The new approached was approved by Commissioners in December 2021. With the exception of the attribution algorithm, the majority of the MPA policy, as finalized by the Commission in December of 2020, will be maintained.

Update Factor

The Update Factor policy is an annual, system-wide update to hospital Global Budget Revenue (GBR) that incorporates quality, volume, and other adjustments that determine the reasonableness of hospital prices. HSCRC staff seek to balance the following conditions when considering the update: meeting the requirements of the TCOC Model agreement; providing hospitals with the necessary resources to keep pace with changes in inflation and demographics; ensuring that hospitals have adequate resources to invest in the care coordination and population health strategies necessary for long-term success under the TCOC Model; and incorporating quality performance programs (discussed in Section III). The FY 2022 Update Factor was implemented on July 1, 2021, and included the following policy recommendations:

- Provide an overall increase of 2.44 percent for revenue (inclusive of an uncompensated care increase and deficit assessment reduction), resulting in a 2.43 percent per capita revenue increase for hospitals under Global Budgets.
    - Provide all hospitals a base inflation increase of 2.34 percent and allocate 0.23 percent of the total inflation allowance based on each hospital's proportion of drug cost to the total cost to more equitably adjust hospitals' revenue budgets for increases in drug prices and high-cost drugs
- Provide an overall increase of 2.57 percent to the rates of hospitals not under Global Budgets (freestanding psychiatric hospitals and Mt. Washington Pediatric Hospital).
- Adjust rates effective July 1, 2021, over a 6-month window, to implement the reconciliation of CARES Provider Relief Funds (PRF) and HSCRC support for Rate Year 2020.

HSCRC staff is currently developing the FY 2023 Update Factor, which HSCRC Commissioners will vote on in June 2022 for a July 1, 2022, 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.

Total Cost of Care Benchmarking

In August 2020 the HSCRC released its first total cost of care benchmarking dataset. The dataset compares Maryland's per capita total cost of care, components of that cost (e.g., inpatient costs) and key quality benchmarks for each county and hospital service area in Maryland to a national benchmark. The national benchmark was built by selecting a set of national geographies that are most similar to each individual Maryland areas based on a statistical comparison of the population demographics. The dataset includes Medicare Fee-for-service and Commercial benchmarks as these are the payer cohorts where national data is available. The benchmarks will be updated annually although the HSCRC does not intend to use 2020 data due to the distortions resulting from COVID-19.

The benchmarks are the best available data on what costs would be in Maryland absent the TCOC Model. The HSCRC uses them to:

- Inform discussions with CMS about the future of the TCOC model;
- Adjust hospital payment models so that hospitals are incented to manage total cost and quality and not just hospital-based services; and
- Identify areas where Maryland is under-performing the nation in terms of cost efficiency and quality to target future policies to areas of opportunity.

Section III: Hospital Quality Programs & Performance

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 1).

Table 1. QBR Measure Domain Weights for FY 2020-FY 2023

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 FY 2023 NEW measure: patient Follow Up after Acute Exacerbation of Chronic Conditions).	0.50

In the FY 2023 policy update, the HSCRC added a new measure of Medicare patients that receive Timely Follow up after Acute Exacerbation of Chronic Conditions to the Patient and Community Engagement domain in order to support better care coordination outside the hospital following discharge[1], and added the AHRQ PSI 90 Composite measure [2] to the Safety Domain; HSCRC maintained the measurement domains and weights from the policy approved for FYs 2020-2022 to be as consistent as possible with the CMS Value-Based Purchasing (VBP) Program, while also targeting areas of needed improvement. In FY 2023, the amount of total hospital revenue at-risk for scaling was held to a two percent maximum penalty. Since the scaling of rewards and penalties was expanded, the maximum reward was correspondingly maintained at two percent. Maryland does not include an efficiency measure as part 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' TCOC performance under the MPA.

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

COVID-19 Implications

Like the rest of the United States, Maryland has spent the past two years battling the COVID-19 pandemic. HSCRC recognized this time of disruption and uncertainty by discontinuing the assessment of quality in the RY 2022 performance period across all pay-for-performance programs. To the extent possible, staff also

[1] The chronic conditions and follow-up time frames include: Hypertension (7 days), Asthma (14 days), Heart Failure (14 days), Coronary Artery Disease (CAD) (14 days), COPD (30 days), Diabetes (30 days).
[2] The AHRQ PSI 90 Composite measure is discharge weighted average of the observed-to-expected ratios for the following Indicators: PSI 03 Pressure Ulcer Rate, PSI 06 Iatrogenic Pneumothorax Rate,08 In-Hospital Fall With Hip Fracture Rate, PSI 09 Perioperative Hemorrhage or Hematoma Rate, PSI 10 Postoperative Acute Kidney Injury Requiring Dialysis Rate, PSI 11 Postoperative Respiratory Failure Rate, PSI 12 Perioperative Pulmonary Embolism (PE) or Deep Vein Thrombosis (DVT) Rate, PSI 13 Postoperative Sepsis Rate,PSI 14 Postoperative Wound Dehiscence Rate, PSI 15 Abdominopelvic Accidental Puncture or Laceration Rate. Source: https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2020/TechSpecs/PSI%2090%20Patient%20Safety%20and%20Adverse%20Events%20Composite.pdf.

acknowledges the ongoing effects of the COVID-19 pandemic when considering changes to the QBR policy. However, further analysis of data or unforeseen complications related to COVID-19 may affect Maryland's ability to assess quality performance as outlined in the RY 2023 policy. Given the expected persistence of COVID-19, Maryland might decide that more adjustments are needed to further account for the effects of the pandemic.

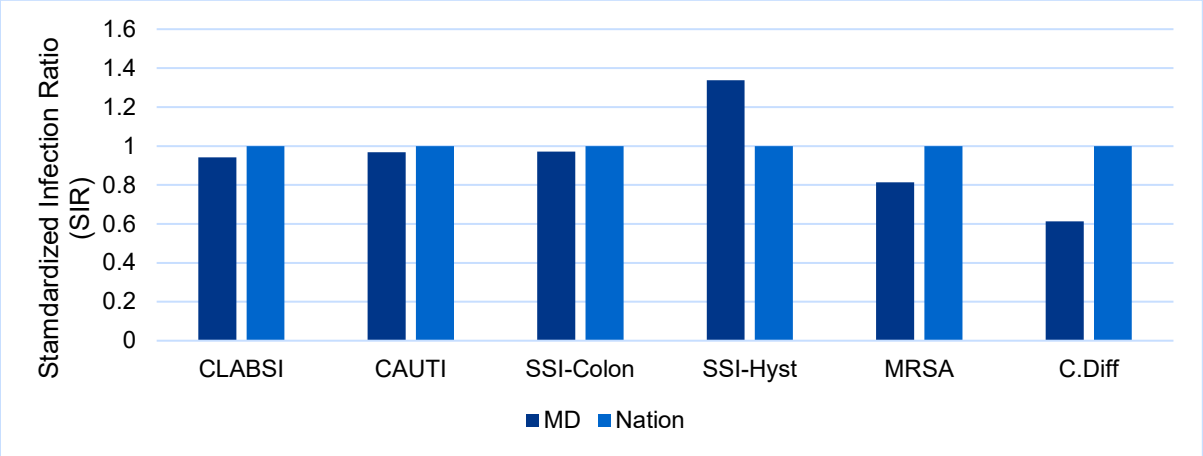
Updated Data Trends

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 5 below, Maryland is performing better (lower rate is better) than the national Standardized Infection Ratios (SIR) of 1 established for the nation in 2015 for all measures except Surgical Site Infection (SSI) after hysterectomy surgery. Staff notes that performance for both Maryland and the Nation has worsened compared to the timeframe prior to the COVID 19 pandemic.

Figure 5. Maryland Performance VS Nation on Healthcare Associated Infections, CY2019 Q4, CY2020 Q3-Q4, CY 2021 Q1[3]

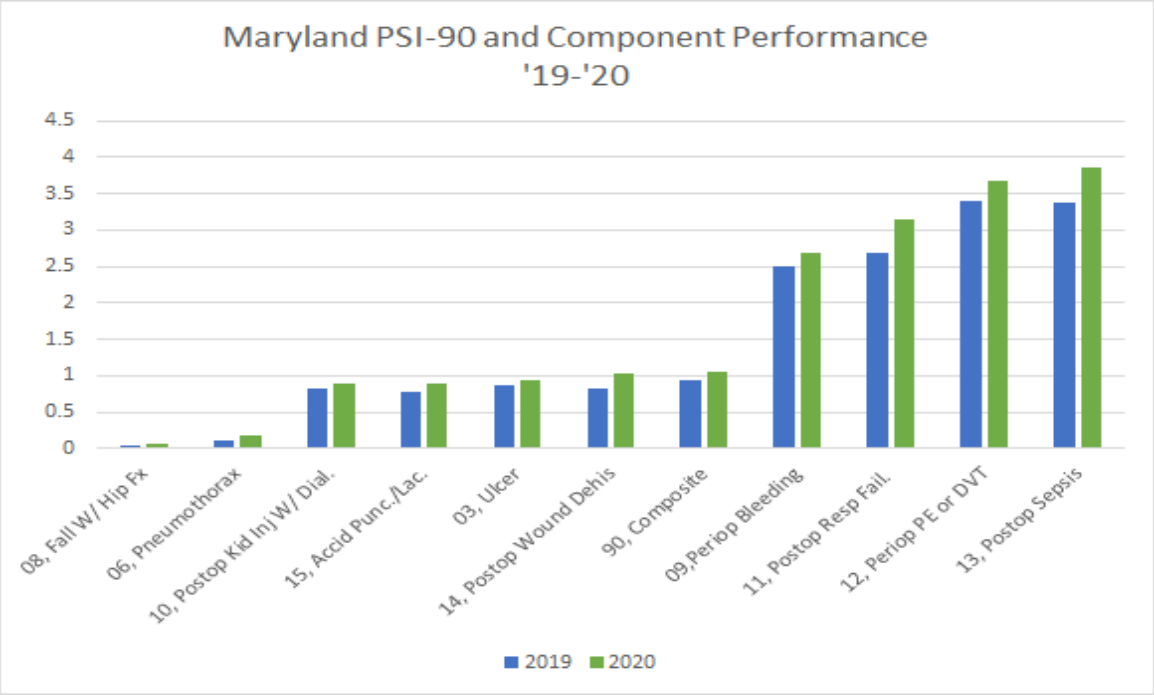


Source: CMS Care Compare Data.

[3] Healthcare Associated Infections Acronyms: Central line bloodstream infection (CLABSI), catheter-associated urinary tract infection (CAUTI), Surgical Site Infection (SSI), methicillin-resistant Staphylococcus aureus (MRSA), clostridioides difficile (C. Diff).

- On the all-payer PSI-90 composite measure and the component indicators, Maryland statewide performance has declined for 2020 compared to 2019 as illustrated in Figure 6 below. Staff notes this is not unanticipated, as hospital stakeholders across the country have noted worsening performance in other complication measures, such as infections related to the COVID-19 pandemic.

Figure 6. Maryland All-Payer, AHRQ PSI 90 Composite Measure Performance CY 2019 vs. CY 2020

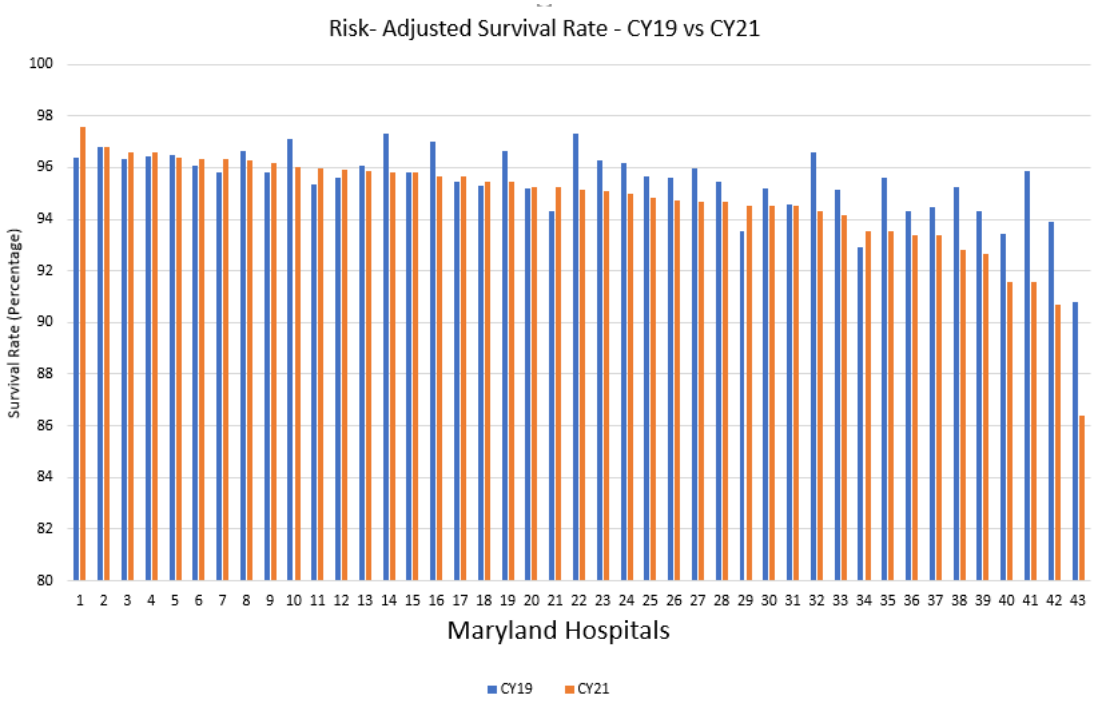


Source: HSCRC Case-mix Data

Clinical Care Domain

The Clinical Care domain is comprised of inpatient mortality and the Medicare hip and knee complication measure. On inpatient survival, 29 of 43 hospitals have worsened slightly in CY 2021 when compared to CY 2019 with the statewide survival rate is 94.72 percent (i.e., mortality rate is 5.28 percent) (Figure 7). The worsening in performance in CY 2021 is not unexpected as the CY 2019 base period is prior to the COVID 19 pandemic.

Figure 7. RY 2021 QBR Risk-Adjusted Survival Rate

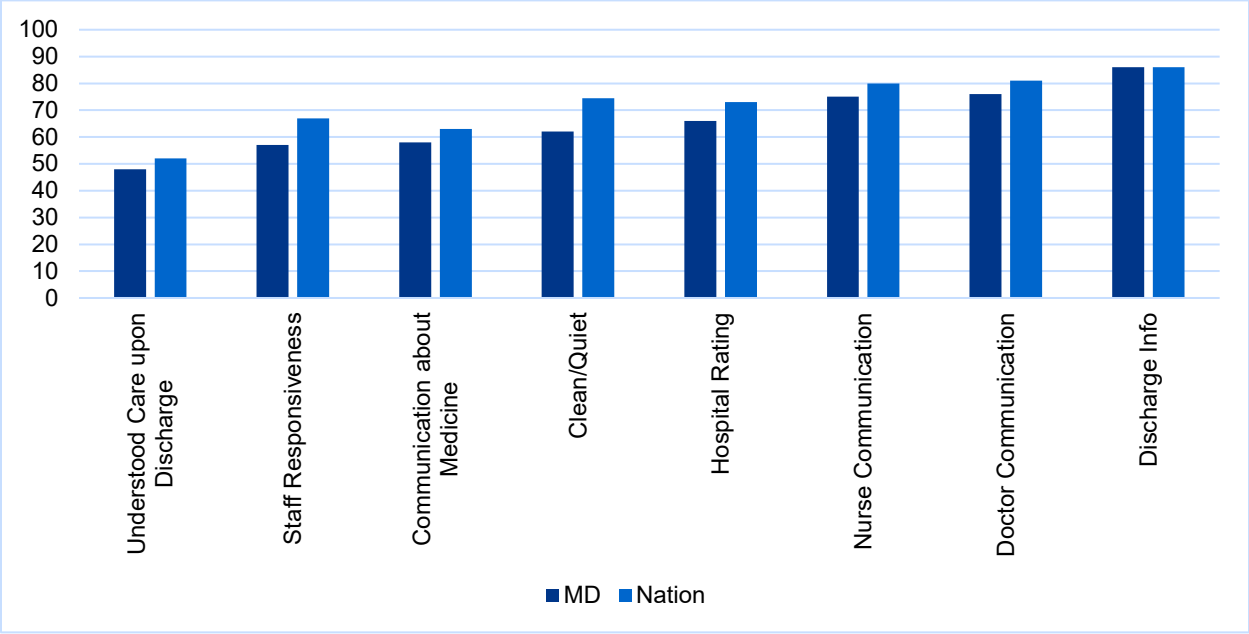


Source: HSCRC Case-mix Data

Patient and Community Engagement Domain

Maryland continues to lag behind the nation in performance on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient experience measures (Figure 8). 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 in order to incentivize improvement in patient satisfaction and has kept this domain weighting through the subsequent QBR policy annual updates. HSCRC has conducted a literature review on effective HCAHPS improvement efforts and is also exploring additional strategies to work with Maryland hospitals to improve in this critical area of patient experience.

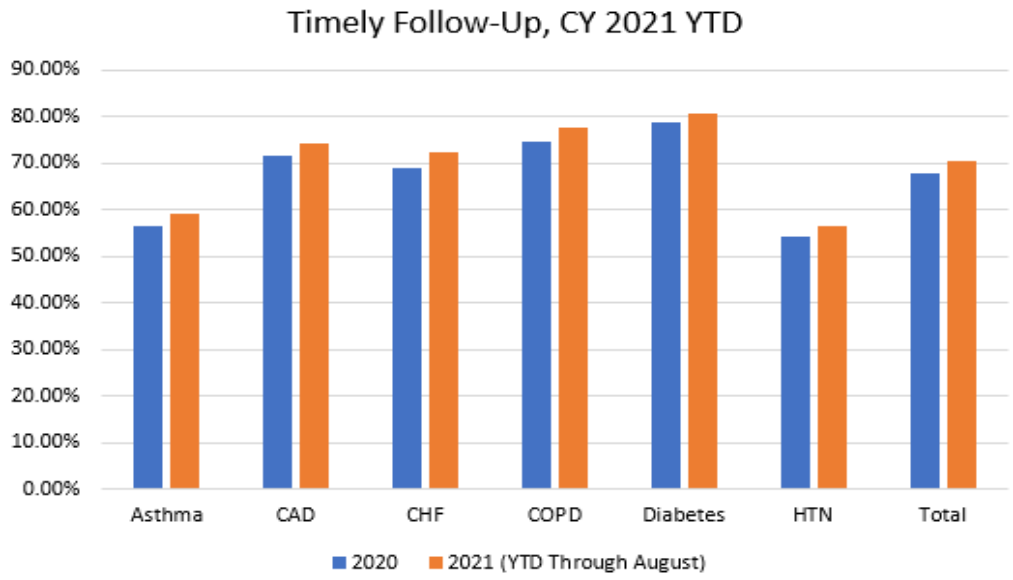
Figure 8. HCAHPS – Maryland HCAHPS Scores Compared to the Nation, July 2020-March 2021



Source: CMS Care Compare Data

On the timely follow up measure, Maryland performance is slightly improved on follow up for all chronic conditions through August CY 2021 Year to Date compared to CY 2020 performance (Figure 9).

Figure 9. Timely Follow-Up Following Acute Exacerbation for Patients with Chronic Conditions[4]



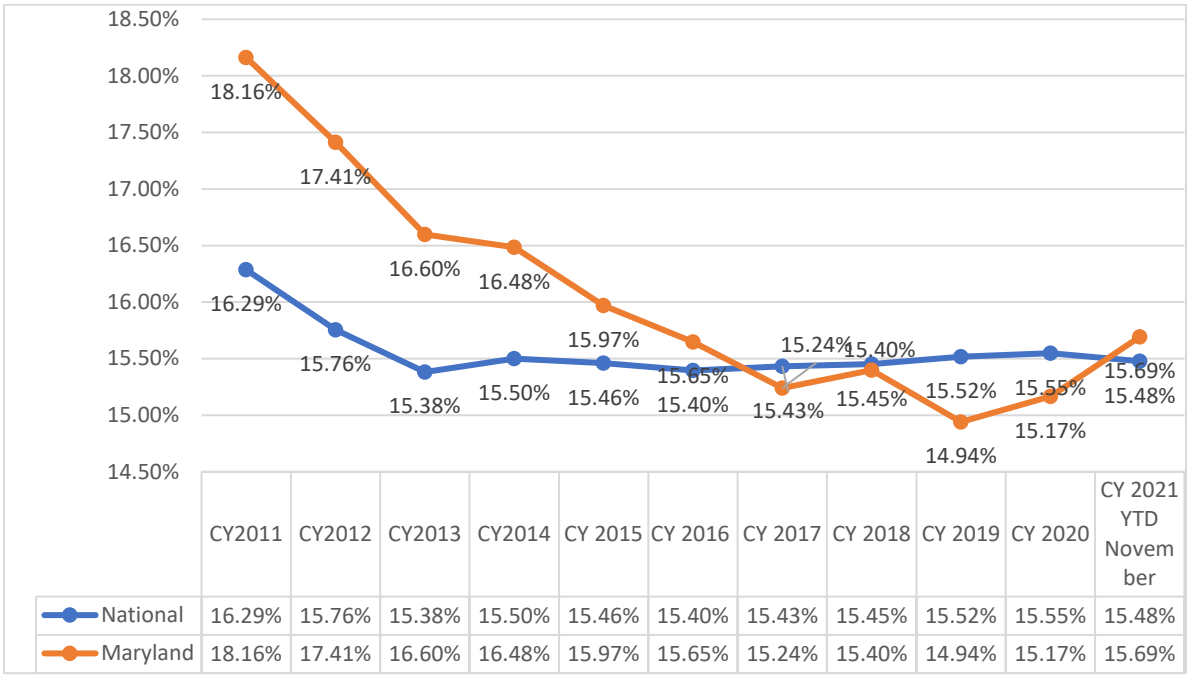
[4] Chronic Condition Acronyms: Coronary artery disease (CAD), congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), hypertension (HTN)

Source: CMS Claims and Claims Line Feed Data

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. Data for CY 2021 year-to-date through November showed that Maryland's rate had worsened and was slightly above the Nation, with Maryland readmissions at 15.69 percent compared to the national rate of 15.48 percent (Figure 10). HSCRC staff notes that the rate is unadjusted and therefore does not account for the mix of patients in Maryland versus Nation, including patients with COVID-19 during spikes of the pandemic, and that Maryland restricted elective hospital volume for longer than some other States in the nation.

Figure 10. Medicare Readmissions - Rolling 12 Months Trend, CY 2011 – Nov 2021



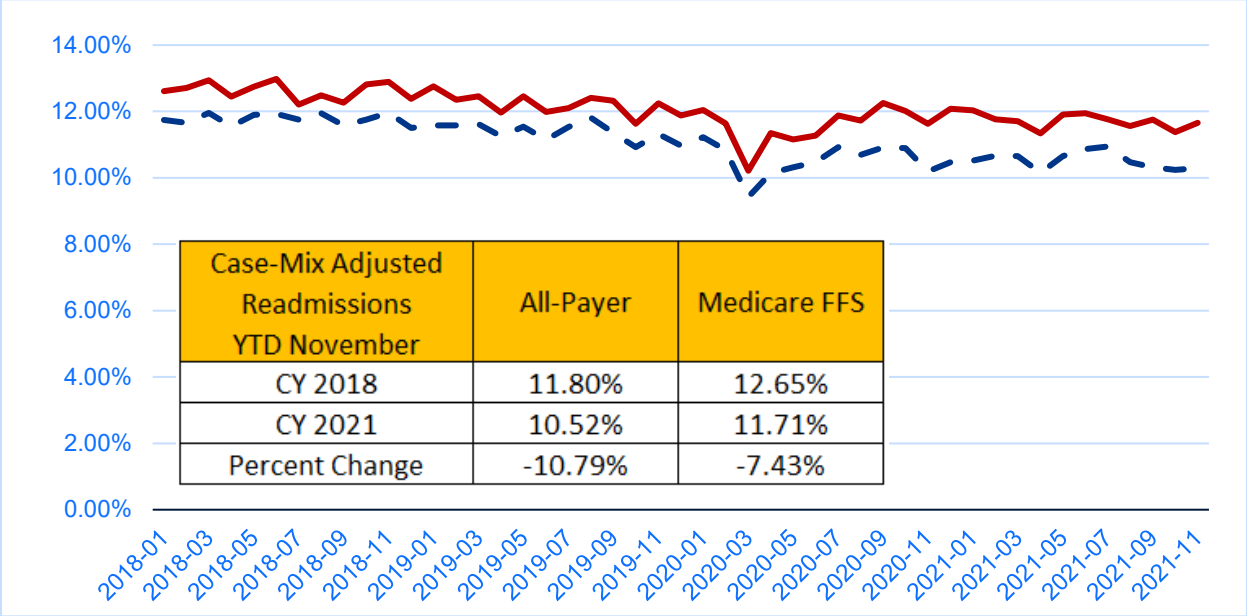
	CY2011	CY2012	CY2013	CY2014	CY 2015	CY 2016	CY 2017	CY 2018	CY 2019	CY 2020	CY 2021 YTD November
National	16.29%	15.76%	15.38%	15.50%	15.46%	15.40%	15.43%	15.45%	15.52%	15.55%	15.48%
Maryland	18.16%	17.41%	16.60%	16.48%	15.97%	15.65%	15.24%	15.40%	14.94%	15.17%	15.69%

Source: CMS Monthly Data File

Additionally, HSCRC's hospital data show that the monthly case-mix adjusted readmission rate through December 2021 continued to improve when compared to CY 2018 (Figure 11). This analysis includes all Maryland inpatient stays, including Medicare FFS. Based on these HSCRC data, the all-payer, case-mix adjusted readmission rate in CY 2021 was 10.52 percent, compared to 11.80 percent in CY 2018--a 10.79

percent reduction. The corresponding readmission reduction for Medicare FFS beneficiaries was 7.43 percent. These reductions are notable given the difficulty and time involved in reducing readmissions, which requires sustained effort, investment, and coordination across providers.

Figure 11. Case-Mix Adjusted Readmissions in Maryland, CY 2018- CY2021



Case-Mix Adjusted Readmissions YTD November	All-Payer	Medicare FFS
CY 2018	11.80%	12.65%
CY 2021	10.52%	11.71%
Percent Change	-10.79%	-7.43%

Source: HSCRC Case-Mix Data

In the Rate Year (RY) 2022 and 2023 policies, hospital performance on readmissions continues to be measured based on improvement and attainment. To help readmission reduction efforts, the HSCRC continues to improve its readmission reporting capability by leveraging resources available in the State-designated Health Information Exchange (HIE) and providing timely, monthly, and patient-specific data to hospitals.

The RY 2023 readmissions policy continues a component developed for RY 2022 that incentivizes hospitals to reduce socioeconomic disparities in readmission rates. The incentives are calculated in three steps: 1) Measure patient socioeconomic exposure[5]; 2) For each hospital, assess the change in readmission rates across socioeconomic exposure, or "gap" measure; 3) Reward hospitals up to 0.5 percent of inpatient

[5] We assess patient socioeconomic exposure with the Patient Adversity Index (PAI), a measure developed by the HSCRC. The PAI is calculated for each discharge record. It relies on the patient's Medicaid status, race, and Area Deprivation Index score as reported on the claim. Each of the three items is given a weight that reflects the strength of its association with readmission. The weight for each item is multiplied against the value reported on the claim, and those products are summed together.

revenue for achieving reductions in the gap measure. While the disparity gap was approved as part of the RY 2022 RRIP policy and HSCRC staff continue to measure and report on the disparity data, the improvement reward on the disparity incentive was suspended due to the COVID-19 public health emergency.

Maryland Hospital Acquired Conditions (MHAC) Program

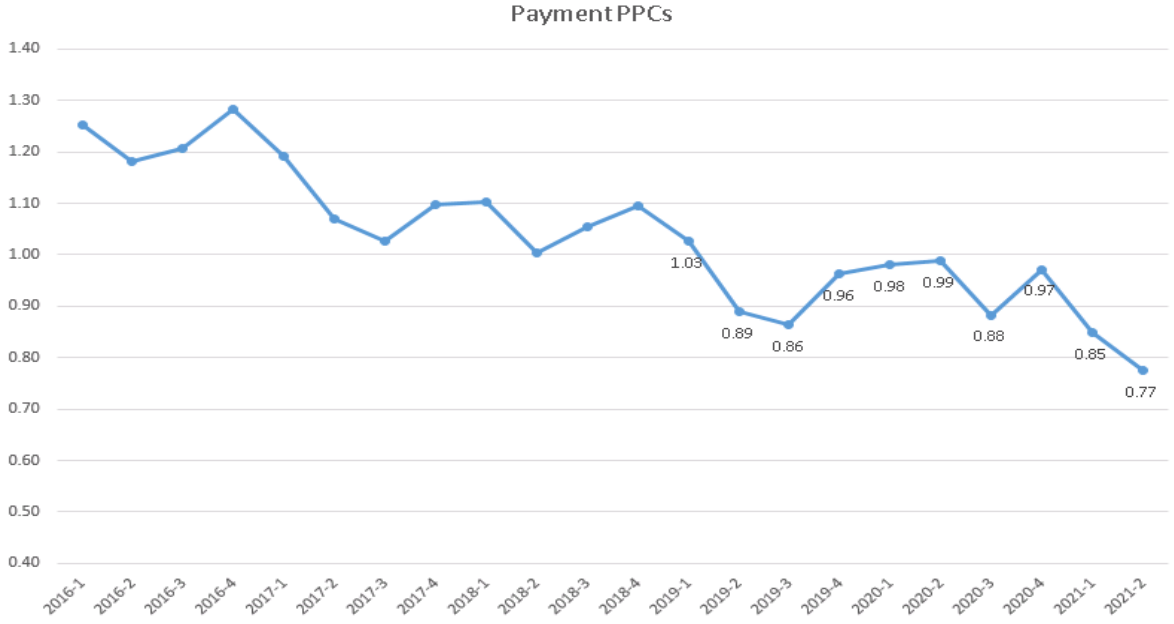
Maryland measures Hospital Acquired Conditions (HACs) using a list of potentially preventable complications (PPCs) developed by 3M Health Information Systems (HIS). PPCs are defined as post-admission harmful events (e.g., accidental laceration during a procedure) or negative outcomes (e.g., hospital-acquired 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, Maryland 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 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 when PPC rates are worse than the attainment standards. 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 2023 and 2024 policies are unchanged from the RY 2022 policy

Based on CY 2021 YTD data through June, there has been an improvement in the PPC measure, with fewer PPCs compared to the 2018 base year.[6] Staff will continue to monitor the impacts of the revised MHAC policy as more data becomes available.

[6] There has been a 26% decrease in the ratio based on the most recent data available (CY 2018 O/E ratio = 1.06 and CY 2021 YTD through June O/E ratio = 0.78). A ratio lower than one means that fewer PPCs than expected were experienced.

Figure 12. Observed-to-Expected Ratios in Maryland, CY 2016 – CY 2021 YTD as of June



Source: HSCRC Case-Mix Data

Potentially Avoidable Utilization (PAU) Savings Program

The HSCRC adopted a final PAU Savings policy for FY 2022 as part of the FY 2022 Update Factor at its June 2021 Commission meeting. 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 2022, the Commission implemented an incremental prospective savings requirement of 0.22 percent of total hospital revenue, which is distributed to hospitals based on a hospital's share of revenue deemed to be potentially avoidable. Staff is currently developing the PAU Savings policy for FY 2023 as part of the FY 2023 Update Factor that will be considered at the June 2022 Commission meeting.

Section IV: Population Health

Statewide Integrated Health Improvement Strategy

The Statewide Integrated Health Improvement Strategy (SIHIS), which was approved by CMS in March 2020, serves to focus State efforts on health care quality and delivery, to further impact on community and population health under the Total Cost of Care (TCOC) Model. The SIHIS aligns statewide efforts across the following three domains:

- Domain 1: Hospital Quality
- Domain 2: Care Transformation Across the System

- Domain 3: Total Population Health

These domains 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. Under the Total Population Health domain, the State identified three population health priority areas: diabetes, opioids use, and maternal and child health.

The State established goals for each domain. The SIHIS includes a process and timeline by which the State would submit proposed goals, measures, milestones, and targets to CMMI. Within each domain, the SIHIS proposal provided a Model Year 3 milestone that will be 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.

Table 2 shows the status of 2021 milestones. The milestones with available data have been met. Other milestones and performance results will be determined when data is available. For these milestones, the State will share performance results with CMMI as data become available in mid-2022 and formally report performance in the December 2022 annual report. More information on the 2021 milestones is included in the SIHIS annual report attached to this report.

Table 2. SIHIS Goals and 2021 Milestone Progress

Domain Area	Goal(s)	Milestones Met
Domain 1 – Hospital Quality	Reduce avoidable admissions and readmissions	2021 Milestone Met Avoidable Admission Performance Results Available in 2022
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	Performance Results Available in Mid/Late 2022
Domain 3 – Total Population Health "Diabetes"	Reduce the mean Body Mass Index (BMI) for adult Maryland residents	2021 Milestones Met
Domain 3 - Total Population Health "Opioids Use Disorder"	Improve overdose mortality	2021 Milestones Met

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	2021 Milestones Met

The State's SIHIS proposal to CMMI, CMMI's approval memo, and the State's annual report on 2021 activities can be found at https://hscrc.maryland.gov/Pages/Statewide-Integrated-Health-Improvement-Strategy-.aspx. As already mentioned, the 2021 annual report is also attached as an appendix to this report.

Outcomes Based Credits

Under TCOC Model, the State is able to 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 credit to offset federal investment in Maryland. This innovative approach support 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 interventions. Nearly 490,000 Maryland adults were estimated to have been diagnosed with diabetes in 2017[7] [8] and Maryland is projected to spend $11.1 billion annually by 2025. [9]

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

[7] 2017 Maryland Behavioral Risk Factor Surveillance System. Maryland Department of Health Dataset Query System. https://ibis.health.maryland.gov/query/selection/brfss/BRFSSSelection.html
[8] 2013-2017 American Community Survey. Department of Planning Maryland State Data Center. https://planning.maryland.gov/MSDC/Pages/american_community_survey/2013-2017ACS.aspx
[9] "Maryland Diabetes Data & Forecasts." *Diabetes 2030.* Institute for Alternative Futures, 2015, http://www.altfutures.org/pubs/diabetes2030/MARYLANDDataSheet.pdf

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. Diabetes performance during 2020 improved in Maryland to a greater extent than in the control group. Maryland experienced a change from baseline of -3.62 incident diabetes cases per 10,000 residents, while the control group experienced a change of -2.26 cases per 10,000. Applying the cost methodology approved by CMMI, this performance equates to a 2020 credit of $5,084,785. CMMI is currently evaluating the State's credit request.

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 and is currently negotiating with a contractor that can provide access to national all-payer opioid-related claims data. The HSCRC anticipates submitting the opioid methodology to CMS in 2023.

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 are in the early phases of work on the performance and cost methodologies. Completion of that work is expected in 2023.

Section V: Care Transformation and Partnerships Across the System

The TCOC Model requires care transformation across the healthcare continuum. Hospitals, physicians, post-acute providers, and other provider types are expected to work together to improve the health of Marylanders and control healthcare spending. Additionally, the Model creates opportunities for healthcare providers to drive innovation in the system and lead transformation efforts. To encourage these efforts, the HSCRC is designing and implementing programs that incentivize providers to achieve savings and quality improvements for the system by implementing best practices.

Care Redesign and Transformation 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.).

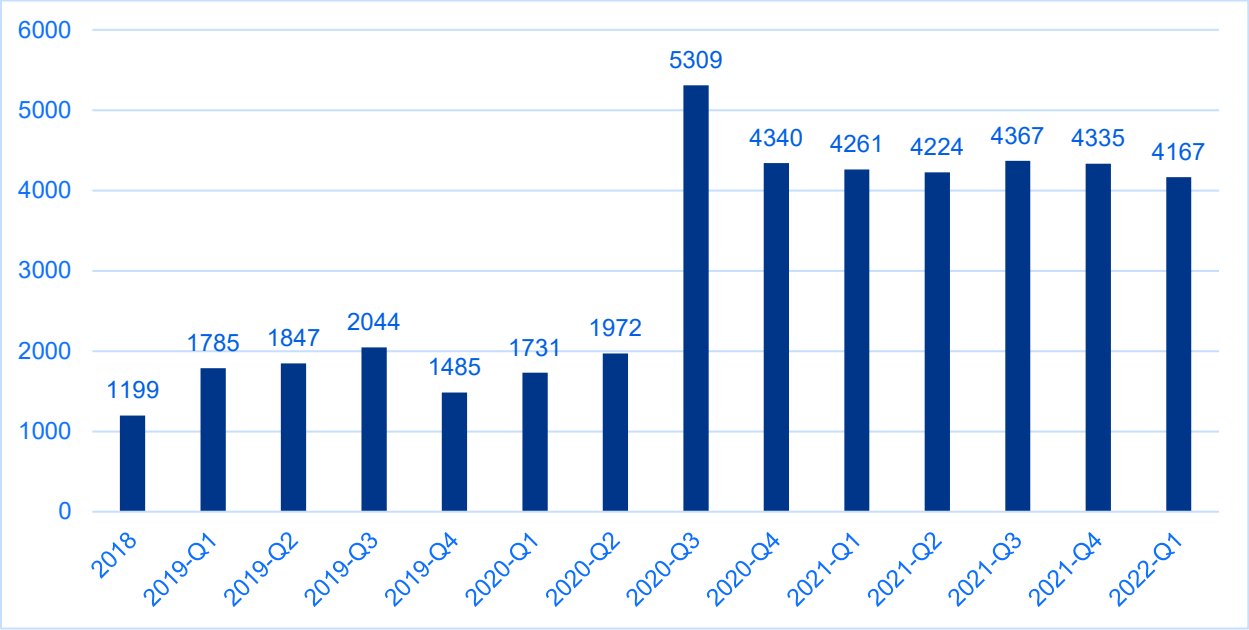
Care Redesign Program (CRP)

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. During 2020, the State operated two care redesign tracks: the Episode Care Improvement Program (ECIP) and the Hospital Care Improvement Program (HCIP). During 2021, specialist physician enrollment began for the third care redesign track: the Episode Quality Improvement Program (EQIP) (see section below). The Chesapeake Regional Information System for our Patients (CRISP) serves as the administrator of CRP.

This program 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. Care Partner engagement has grown significantly since the beginning of the program. As of the first quarter of CY 2022, hospitals engaged 4,167 clinicians and 29 facilities as care partners in CRP. 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 5 percent bonus on all Medicare payments, as authorized by the Medicare Access and CHIP Reauthorization Act (MACRA). More information on the QPP program can be found here: https://qpp.cms.gov/

Figure 13. CRP Care Partner Counts - Clinicians, 2018 - 2022 (Q1)



ECIP allows hospitals to link payments to providers across certain clinical episodes of care. The track is modeled off of CMS' Bundled Payments for Care Improvement Advanced (BPCI-Advanced) program. This episode payment approach aligns incentives across hospitals, physicians, and post-acute care facilities to generate savings and improve quality by enhancing care management during episodes, eliminating unnecessary care, and reducing post-discharge emergency department visits and hospital readmissions. ECIP began in 2019 and hospitals continue to build and expand implementation of ECIP both inside and outside of hospital walls. In 2021, changes to ECIP have been made to bring the programs into alignment with the Care Transformation Initiatives (CTI) program (which will be discussed below), subject to the CTI statewide offset.

Hospitals elected to engage a variety of provider types as care partners in 2021. 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 2021.

Table 3. ECIP Hospital Care Partner Selections, CY 2021

Care Partner Type	# Of Hospitals
Physician	21
Home Health Agency	13
Nurse	18
Physician Assistant	17
Skilled Nursing Facility	11
Physical Therapist	9
In-Patient Rehabilitation Facility	3
Hospice	2

HCIP is designed to facilitate care improvement and efficiency within hospitals. The main goals of the track are to improve inpatient medical and surgical care delivery, incentivize effective transitions of care, reduce potentially avoidable utilization, and encourage efficient management of inpatient resources. HCIP engages physicians, such as hospitalists, as care partners.

During 2021, there were a total of 22 unique hospital participants across HCIP and ECIP, with four hospitals participating in HCIP and twenty-one hospitals participating in ECIP. A new performance period began January 1, 2022, with a total of 24 unique hospital participating in ECIP and one of those hospitals also participating in HCIP.

While the program had its highest participation in 2019 with 42 hospital participants, the drop in participation since 2019 is primarily attributed to the following:

- The CTI program: many hospitals have chosen to redirect their resources to this program. CTIs, which have similar goals to CRP, can be customized to interventions hospitals are already conducting, while ECIP has set episodes and interventions that hospitals must select.
- The HSCRC decided to release detailed patient-level claims data to all Maryland hospitals beginning in CY 2020. This data was previously only available to hospitals participating in CRP. Access to this data had been a key motivator for some hospitals to participate in the CRP program.

Hospitals remaining in HCIP and ECIP are expanding their programs and engaging new care partners to drive quality improvements, increase efficiency of care, and improve the patient experience. 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 HSCRC developed a new CRP track called the Episode Quality Improvement Program (EQIP). Provider enrollment for this track began in 2021, and the first year of the program started on January 1, 2022.This program engages specialist physicians in an episode-based payment program for Medicare beneficiaries. This program is specific to Maryland and customized to meet the needs to 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 have the opportunity to earn incentive payments based on positive performance. 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 engaged stakeholders to develop this program. The Stakeholder Innovation Group (SIG), discussed in Section VI of this report, convened an EQIP subgroup that met throughout 2020 and continued into 2021, to discuss technical details of the program, including policy design. The subgroup is led by MedChi and supported by HSCRC staff. Subgroup membership includes hospitals, specialist physicians, health policy leaders, and industry representatives.

Throughout 2021, the HSCRC engaged in policy and methodology development and physician enrollment to prepare for the EQIP program start date of January 2022. As of January 1, 2022, there are a total of 50 EQIP entities and 1,979 care partners enrolled. EQIP entities may be physician groups or administrative organizations that facilitate physician participation in the program. EQIP has an annual enrollment period (July through September) for care partners to enroll in EQIP.

Table 4. EQIP Entity and Care Partner Enrollment, CY 2022

Clinical Episode Categories	Number of EQIP Entities	Number of Care Partners
Cardiology	20	1,316

Gastro-enterology	17	1,243
Orthopedics	25	1,744

Table 5. EQIP Entity Episode Participation, CY 2022

EQIP Entities participating in 1 episode	**14**
EQIP Entities participating in 2 episodes	17
EQIP Entities participating in more than 2 episodes	19

Care Transformation Initiatives (CTIs)

Under the Care Transformation Initiatives (CTIs) program, HSCRC staff evaluate hospital efforts to address specific patient population needs. The program began July 1, 2021. CTIs allow 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. Hospitals will be rewarded for improving the population health of their population. HSCRC staff regularly feedback from the Care Transformation Steering Committee, who prioritize, develop, and finalize each CTI proposed by hospitals. To date, the Steering Committee has approved five CTIs: (1) Transitions of Care, (2) Palliative Care, (3) Primary Care Transformation, (4) Community-Based Care, and (5) Emergency Care. Initial program results will be available later in 2022.

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 2022, there are 508 participating practices (545 sites) participating in the program with approximately 374,000 attributed Medicare FFS beneficiaries. In 2021, MDPCP welcomed seven Federally Qualified Health Centers (FQHCs) representing 44 sites from across the State. In total, these practices employ over 2,100 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 24 CTOs, with a minimum of seven providing services in each county Statewide. 16 CTOs are hospital-based.

The MDPCP continues to support statewide population health goals through its diabetes- and opioid-related initiatives. All MDPCP practices tracked electronic clinical quality measures (eCQM) related to BMI screening and follow-up (CMS69) and diabetes control (CMS122) in 2021, and these measures will be included in MDPCP's new Track 3 beginning in Performance Year (PY) 2023. Due to national issues with the measure specifications, CMS suppressed the BMI measure for PY 2021, but the PMO is optimistic that the issue will be resolved for PY 2022. The program is also working to increase referrals from primary care practices to Diabetes Prevention Programs (DPP) via the CRISP tool. Additionally, the PMO has been working closely with CareFirst to plan a coordinated strategy to address diabetes in practices participating in both the MDPCP and the CareFirst PCMH programs.

One of the core features of advanced primary care within the MDPCP is integration of behavioral health services within the primary care setting to more proactively respond to patients' behavioral health needs. As of Q3 2021, 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 2021, over 300 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, 90 practices have implemented the Collaborative Care Model.

The PMO provides technical assistance and education infrastructure of the program through activities such as virtual education on key MDPCP concepts through redesigned learning event structures (i.e., round

tables, panels, workshops), peer-to-peer opportunities (e.g., networking), and targeted quality improvement initiatives (e.g., Plan-Do-Study-Act (PDSA) cycles for key quality measures). The PMO continues to collaborate with CMMI on shared events and communications, such as a monthly newsletter, quarterly Office Hours presentations, a work group for the HEART payment, and program guides and resources. Additionally, the PMO provides a team of Practice Transformation Coaches that provide hands-on technical assistance to all MDPCP participants.

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 is 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. More than $8.1 million is being invested in this effort in Q1 of 2022 alone. Outside of this investment, MDPCP is focusing on health equity through a reporting suite with abundant health equity data including outcomes data stratified by socio-demographic variables; an emphasis on social needs screening and referrals at practices and technical assistance to practices to support these workflows; and more.

Special Funding Programs[10]

Critical to the success of the TCOC Model is Maryland's ability to transform its statewide healthcare delivery system. 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 startup 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) 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 TCOC Model and support population health goals in the SIHIS (discussed in Section IV of this report). The

[10] These have previously been referred to as HSCRC Grant Programs.

SIHIS population health domain contains the following focus areas: diabetes, opioids, 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. The HSCRC funding is intended as seed funding, an initial investment in program development and growth. The HSCRC expects Regional Partnership programs to develop sustainable funding streams to support the programs after the HSCRC funding ends on December 31, 2025.

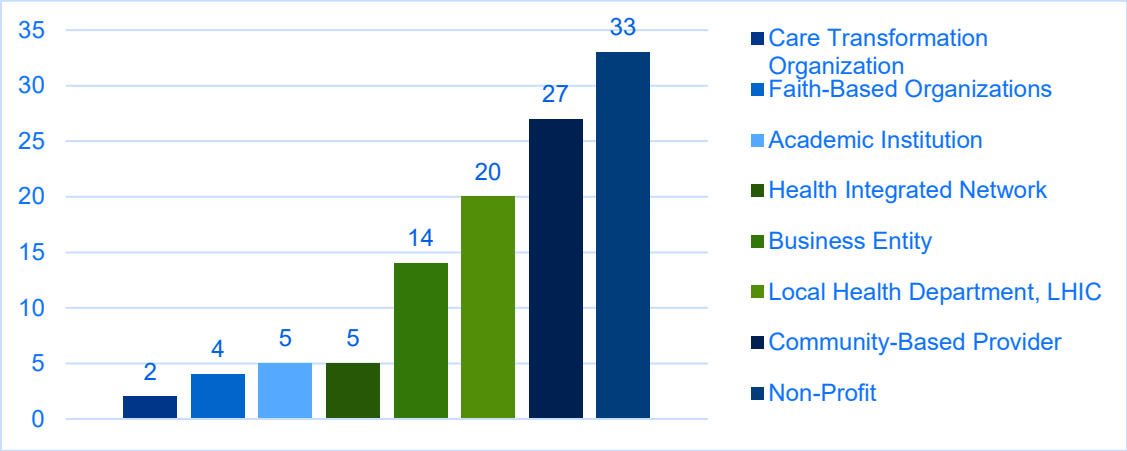
For diabetes, the HSCRC focused the Regional Partnership Catalyst Program on the implementation of the CDC-recognized diabetes prevention program (DPP) and diabetes self-management education training (DSMES). The HSCRC allocated $86.3 million to six Regional Partnerships to provide diabetes prevention 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 funding amounts are listed below.

Table 6. Regional Partnership (Diabetes) Jurisdictions and Funding Amounts

Regional Partnership	**Jurisdiction**	**Total** 5-Year **Funding**
Baltimore Metropolitan Diabetes Regional Partnership	Baltimore City	$43,299,986
Western Regional Partnership	Allegany, Frederick, and Washington Counties	$15,717,413
Nexus Montgomery	Montgomery County	$11,876,430
Totally Linking Care - Maryland	Prince George's, Charles, and St. Mary's Counties	$7,379,620
St. Agnes and LifeBridge Health Diabetes Care Collaborative	Baltimore City/County	$5,962,333
Full Circle Wellness for Diabetes in Charles County	Charles County	$2,124,862

A core goal of the Regional Partnership Catalyst Program is to foster widespread collaboration between hospitals and community partners. Under this program, hospitals are partnering with neighboring hospitals and diverse community organizations including local health departments (LHDs), managed care organizations (MCOs), provider organizations, and non-profits to implement diabetes interventions and expand behavioral health crisis services infrastructure that are intended to aid in improving population health. Regional Partnerships receiving diabetes funding identified a total of 110 community partners to support the implementation of National DPP and DSMES in their communities.

Figure 14. Regional Partnership Diabetes Collaborator Types and Counts



Source: Regional Partnership Proposals

The first year of the program ended December 31, 2021. The diabetes Regional Partnerships recently submitted annual reports which HSCRC staff is currently reviewing. To date, Regional Partnerships have prioritized building relationships with existing DPP and DSMES providers, contracting with existing or establishing new programs, formalizing referral workflows, and developing infrastructure to bill for services to provide a sustainable source of funding for the programs in the future. In CY 2022, Regional Partnerships are expected to begin referring patients to a participating National DPP provider within their service area, as well as begin initiating DSMES services. Many Regional Partnerships began this work in 2021 and will be scaling their operations in CY 2022.

The Regional Partnership Catalyst Program also supports the implementation and expansion of an evidence-based behavioral health crisis management model called "Crisis Now".[11] Funding recipients are implementing and expanding at least one of the three main elements of the Crisis Now 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. In 2020, 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 listed below.

Table 7. Regional Partnership (Behavioral Health) Jurisdictions and Funding Amounts

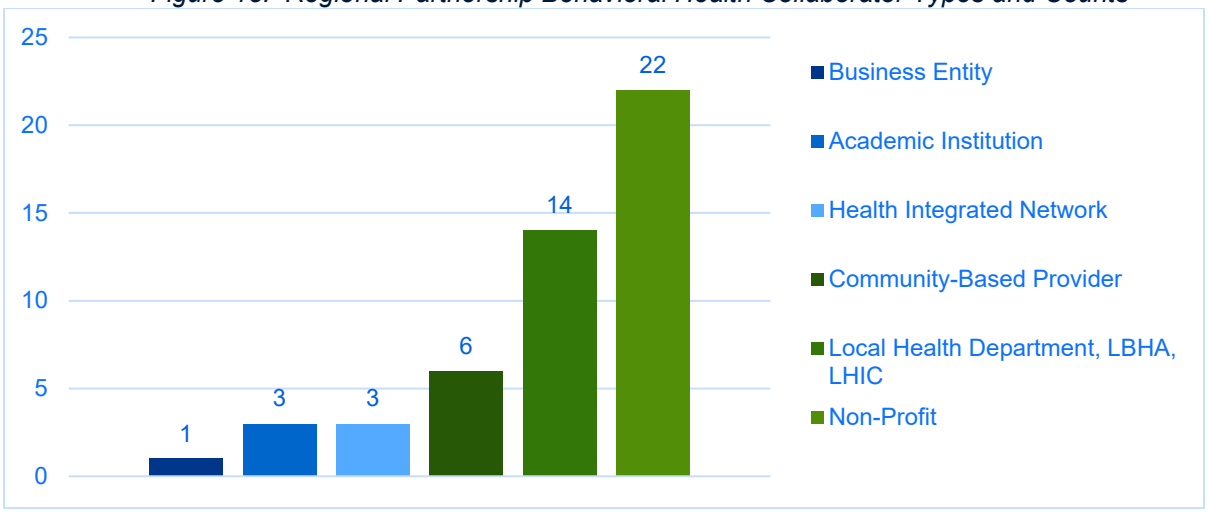
Regional Partnership	Jurisdiction	5 Year Funding Amount

[11] The Crisis Now model is described in "Crisis Now: Transforming Services is Within Our Reach" action plan developed by the National Action Alliance for Suicide Prevention.

Greater Baltimore Regional Integrated Crisis System (GBRICS)	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 identified a total of 49 community partners to support the expansion of behavioral health crisis services in their communities.

Figure 15. Regional Partnership Behavioral Health Collaborator Types and Counts



Source: Behavioral Health Regional Partnership Proposals

As with the diabetes funding stream of the Regional Partnership Catalyst Program, the first year of the behavioral health Regional Partnership program ended December 31, 2021. These Regional Partnerships will submit annual reports on activities and spending in spring 2022. To date, CY 2021 has primarily served as a planning year for each Regional Partnership. In CY 2022, the behavioral health Regional Partnerships prioritized putting business agreements in place, finalizing memorandums of understanding, and procuring contracts necessary for implementing activities. GBRICS and TLC focused efforts on procuring software to implement "air traffic control" systems and expanding mobile crisis teams in their service area in CY 2022. TRIBE opened their satellite behavioral health crisis center at Atlantic General Hospital in February 2022.

TRIBE planned to open their primary behavioral health crisis center at Tidal Health Peninsula Regional on May 1, 2022.

More information on the Regional Partnerships can be found on the HSCRC website: https://hscrc.maryland.gov/Pages/regional-partnerships.aspx

Medicare Advantage Partnership Program

The Medicare Advantage Partnership (MAP) Funding Program is intended to foster collaboration between hospitals and Medicare Advantage Plans, increase access to 4+ Star Rating Medicare Advantage plans in the State, and develop strategies that improve care coordination, quality, and lead to long term health improvement of Medicare Advantage Plan beneficiaries. Under this program, hospitals and their Medicare Advantage Plan partners collaborate to implement and expand strategies that will help improve the quality and sustainability of the Medicare Advantage Plans in Maryland.

The MAP Funding Program was designed to support, promote competition, and enhance access to Medicare Advantage benefits for Medicare beneficiaries in a defined period. This Funding Program helps to ensure access to Medicare Advantage services for populations and will mitigate possible negative impacts to the State's total cost of care financial targets by helping to prevent Medicare Advantage Plans from exiting the market. The MAP Program is narrowly focused to support activities that lead to increased stability, expansion, more robust plan design, and improved quality of Medicare Advantage Plans. The intent of the Medicare Advantage Funding Program is to achieve the following:

- Encourage partnerships and strategies that result in long term health improvement of Medicare Advantage Partnership beneficiaries
- Improve Medicare Advantage penetration and/or improve services to high cost and high-risk populations
- Preserve and/or expand access to the number of 4+ Star Rating Medicare Advantage plans in the State to promote competition and access for seniors
- Develop strategies that improve care coordination and quality of services offered in Medicare Advantage Plans
- Extend healthcare transformation efforts to the Medicare Advantage market.

The MAP Funding Program released a Request for Proposals for two rounds of funding in the spring and fall of 2020. The first round of funding awarded $27.8 million to four recipients. The second round of funding provided $35.7 million to six recipients. Funding recipients have focused efforts on expanding care coordination activities for Medicare beneficiaries, growing membership and market penetration, and

developing new plans to support high-risk Medicaid-Medicare beneficiaries. The program concludes June 30, 2022, and partnerships will submit final reports in fall 2022.

More information on the MAP Program can be found on the HSCRC website: https://hscrc.maryland.gov/Pages/MedicareAdvantagePartnershipGrantProgram.aspx.

Long-Term Care Partnership Program

The COVID-19 Long-Term Care (LTC) Partnership Program was developed to foster collaboration between hospitals and long-term care facilities and other congregate living facilities that serve vulnerable populations during the COVID-19 crisis. Under the LTC Partnership Program, hospitals and their long-term care/congregate living partners collaborated on data sharing, infection prevention and control, resource sharing, and patient management strategies to reduce the spread of COVID-19 in these settings. The intent of the LTC Grant Program was to assist long-term care and other congregate living facilities that serve vulnerable populations with patient management, infection prevention, and infection control strategies during the COVID-19 pandemic. The program ended on December 31, 2021.

The program awarded $8.2 million in funding to 10 hospital partnerships to support activities associated with COVID-19 patient management, infection prevention and infection control. These hospital partnerships collaborated with 121 skilled nursing facilities, rehabilitation centers, and other community-based organizations to serve vulnerable populations during the COVID-19 crisis. Programs funded interventions to support resource sharing, quality improvement and consultation and data analytics.

Hospitals submitted final reports in which they reported on main challenges, best practices, and the impact of the program on relationships with long-term care facilities. challenges mentioned included need for increased education at LTC facilities, staffing challenges and burnout, and initial hesitancy to identify gaps in care. Many of these challenges were solved through building relationships between hospital and facility staff, ongoing meetings, and sharing of data. Hospitals have indicated that the program has resulted in improved relationships with partner LTC facilities. Through the program, many hospitals and their partners identified new solutions to improving quality of care for all patients during the discharge process and will permanently adopt those process improvements. LTC facilities will also continue to implement the best practices and quality improvement recommendations made by hospitals during the program. Some hospitals will continue to use new software and care coordination resources initially procured for managing COVID-19 patients and integrate them into use for all facility patients.

More information on the program can be found on the HSCRC website at: https://hscrc.maryland.gov/Pages/Long-Term-Care-Partnership-Grants.aspx.

COVID-19 Community Vaccination Funding Program

In Spring 2021, the HSCRC launched a special funding program to support COVID-19 community vaccination efforts. This funding program provides hospitals with short-term funding through the all-payer rate setting system to allow for the creation, optimization, and/or expansion of community-based COVID-19 vaccine dissemination strategies. The Program aligns with the state's Vaccine Equity Task Force (VETF) and is intended to support efforts to increase vaccination rates in Maryland ZIP Codes identified as disadvantaged, vulnerable, underserved, and hard-to-reach. The Program is designed to achieve the following:

- Support statewide efforts to provide access to COVID-19 vaccines for all Marylanders in an equitable manner.
- Foster impactful, long-lasting partnerships between hospitals and community-based organizations
- Educate and schedule vaccine appointments for individuals in hard-to-reach areas.
- Address race, age, gender, and ZIP Code-based shortcomings in vaccine administration through multiple strategies suited best for the community, including a "come-to-you" approach.

The HSCRC awarded $12 million to 12 hospital systems in Maryland to expand hospitals' existing mobile and community-based vaccination programs and improve existing programs. Under this program, hospitals have worked with trusted community partners around the state -- including local health departments, non-profits, faith-based organizations, and others-- to increase Marylanders' access to the COVID-19 vaccine, especially in vulnerable and hard-to-reach areas. The funding will enable these hospitals to implement community-based vaccination activities through June 30, 2022.

Through January 2021, hospitals and community partners hosted over 2600 community events where they administered more than 98,000 vaccine doses. Beginning in December 2021, hospitals were also allowed to use funding to provide monoclonal antibody (mAB) treatment and have administered 289 treatments in the first two months of reporting.

Table 4. Vaccination Counts, May 2021-March 2022

Vaccination Category	Count of Doses
1st & 2nd Doses (Moderna, Pfizer, and J&J)	66,193
Booster Doses	30,574

Pediatric Doses (Ages 5-11)	10,296
Total Doses	**107,063**

Hospitals submit monthly reports to the HSCRC and have participated in periodic calls to discuss shared challenges and exchange best practices. Given the evolving nature of the pandemic, hospitals have had to evolve their strategies to increase vaccination rates in their communities. Common challenges reported by hospitals include vaccine hesitancy, a dwindling demand for vaccines in the community, and language barriers. Hospitals have worked to address these challenges through prioritizing one-on-one vaccine education with physicians and trusted community messengers, hosting vaccination events in strategic locations, and prioritizing hiring of bilingual workers.

More information on the program can be found on the HSCRC website at:
https://hscrc.maryland.gov/Pages/COVID-19-Community-Vaccination-Funding-Program-.aspx

Section VI: 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 2021. All workgroups are comprised of a wide range of healthcare industry stakeholders, including hospital, 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. https://hscrc.maryland.gov/Pages/Workgroups-Home.aspx

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.

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 2021 to further refine methodologies related Medicare TCOC policy. Additionally, the TCOC Workgroup discussed the source of cost drivers in Maryland and future benchmarking methodologies.

Performance Measurement Workgroup

The Performance Measurement Workgroup develops recommendations for HSCRC consideration on pay-for-performance measures that are important, reliable, informative, and feasible for assessing a number of important quality and efficiency issues. Throughout the fall of 2021 and into the spring of 2022, the Workgroup reviewed and has updated the MHAC and QBR program RY 2024 policies and will continue to implement the RY 2023 RRIP policy for RY 2024. Because of the serious challenges posed by the COVID-19 public health emergency during CYs 2020 and 2021, the Workgroup also considered alternative options for data used in the quality measurement programs. For the RY 2022 programs, the Workgroup retrospectively recommended using CY 2019 data and revenue adjustments again rather than using CY 2020 data. For RY 2023, the Workgroup is deliberating the use of concurrent performance standards that includes COVID cases because the initial performance standards were defined using a base period where COVID was not present. The Workgroup also prospectively made recommendations for the RY 2024 program policies that entail making retrospective changes as needed because of the ongoing impacts of COVID 19.

Care Transformation Steering Committee

The Care Transformation Steering Committee is tasked with providing feedback on the CTIs program policy and CRP. The committee met monthly through 2021 to prioritize, develop, and finalize proposed CTIs, provide feedback on CRP progress, and supply policy input as necessary. The committee members include healthcare industry representatives.

Consumer Standing Advisory Committee

In addition to having consumers embedded in all standing HSCRC workgroups, the HSCRC convenes a Consumer Standing Advisory Committee (CSAC). This Committee builds on existing consumer engagement and involvement across various HSCRC efforts to bring together a diverse group of consumers, consumer advocates, relevant subject matter experts, and other stakeholders. Throughout 2022, the CSAC will narrow their focus to consider the benefit that Maryland hospitals operating under the TCOC Model create within their communities. This will include the amount of community benefit dollars that

hospitals are spending in their communities. The HSCRC's goal is to ensure that a community and consumer perspective is included in understanding community health needs and assessing the extent to which community benefit spending addresses those community health needs and population health. The Commission will use this expertise to make informed, impactful changes to its community benefits regulations and guidelines in the near future.

Stakeholder Innovation Group

The Stakeholder Innovation Group (SIG), is a broad group of health care industry representatives that includes hospitals, physicians, skilled nursing and long term care facilities, payers, and consumer representatives. The purpose of the SIG is to discuss ongoing health care delivery and payment innovations that may be leveraged or scaled, as well as to identify and develop any additional tools or programs needed to achieve the goals of the TCOC Model. The group is staffed by the Maryland Hospital Association and attended by several State agencies including the HSCRC, the Maryland Health Care Commission (MHCC), and Maryland Department of Health (MDH). The group met in 2021. The staffing of the SIG changed in 2022. MHA will lead the group independently in the future. More information on the SIG can be found here: https://www.mhaonline.org/transforming-health-care/tracking-our-all-payer-experiment/stakeholder-innovation-group.

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. [12]

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 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.

With the advent of COVID-19, the CY 2020 market shift policy was suspended. The commission recognized that hospitals had to suspend certain service lines, most notably elective surgeries, and that the public was reluctant to use hospital services during the pandemic; therefore, assessing market shifts that were not truly indicative of actual, permanent changes in volumes was inappropriate. Staff is currently evaluating the possibility of reinstating the market shift policy for CYs 2021 and 2022, with the exclusion of certain service lines.

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 a HSCRC regulated space to an unregulated space. Service movement can be initiated by payers, the hospital itself, or physician practices. In some

[12] 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.

cases, the deregulation may simply be a function of service discontinuation or cross-border movement to an unregulated hospital setting. If services are shifted to an unregulated setting, global budgets generally must be reduced to prevent excess billing. HSCRC staff has worked with hospitals make necessary adjustments to their global budgets when necessary.

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 five 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 portion of the annual update factor which provides hospitals with the ability 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 2023 Update Factor is still being developed, a portion of that funding has been earmarked to continue funding these high-cost drugs.

Integrated Efficiency Policy

Due to requests from HSCRC Commissioners to evaluate and scale global budgets based on efficiency, staff has developed an Integrated Efficiency Policy. The policy evaluates hospital cost per case and TCOC efficiency and then formulaically penalizes or rewards hospitals based on that performance. Overall, this policy ensures that the limited resources of the GBR system are distributed to cost-efficient hospitals that are advancing the goals of the TCOC Model.

The Integrated Efficiency Policy was approved in 2021 and was subsequently used to scale the FY 2022 Annual Update Factor. In effect, inefficient hospitals received a reduced inflation factor for FY 2022 and this funding was then redistributed to efficient hospitals. Staff also used the Integrated Efficiency policy to assess requests from efficient hospitals that sought additional funding. The hospitals must demonstrate that they have been financially disadvantaged by a Commission methodology or will make population health investments that will further reduce TCOC to make these funding requests. Future iterations of the Integrated Efficiency Policy are contingent on reliable volume data, which currently is not available due to ongoing effects of the Covid 19 Public Health Emergency.

Capital Policy

Over the course of the HSCRC's 40-year history of rate setting, 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.

As such, the Commission has adopted a capital methodology that will utilize various evaluations of capital cost efficiency, hospital cost per case efficiency, TCOC 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, funding is capped at 100 percent of depreciation, 70 percent of interest to ensure that hospitals expend funding from its capital reserves when implementing large scale capital projects, rather than passing the whole cost onto payers through rates.

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 hospitals' 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, and yet still adhere to its 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
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 TCOC performance relative to attainment and growth standards that then modifies a hospital's ICC result.

Complexity and Innovation Policy

The hospital GBR system 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. In order 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 innovation. Complexity and innovation is determined by evaluating all inpatient procedure codes and removing procedures from the GBR system when Johns Hopkins and University of Maryland Medical Center perform a preponderance of these activities (95 percent) and the cases are deemed high acuity (1.5 times the average case mix index). In effect, the two academic medical centers will have a partial cost-based reimbursement system for select higher level acuity cases that are indicative of healthcare complexity and innovation.

Funding for Complexity and Innovation, which is provided prospectively in rates through the Annual Update Factor, is established by the historical average growth rate of these services, which will reflect increases due to emerging technologies and declines due to dissemination of these services 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 2020 healthcare expenditures to CMS in July 2021. The HSCRC submitted a second report on the State's CY 2020 performance on quality measures, inclusive of measures on patient experience of care and population health performance, in January 2022. As mentioned earlier in this report, the State also submitted an annual report to CMMI on 2021 progress under SIHIS. The follow reports are included with this submission.

1. Annual Monitoring Report - Expenditures
2. Annual Monitoring Report - Quality
3. SIHIS Annual Report - 2021

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 were developed over the course of the APM 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 for implementation of the global budgets contain consumer protection clauses. In addition, the HSCRC, in conjunction with the Payment Models Workgroup, has developed 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 (AMCs).

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 TCOC 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 TCOC 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 2021 and on an unaudited basis for FY 2022 through January of 2022.

Note that the HSCRC 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 2020

Data for FY 2021 show an increase in profitability for total operating activities, as well as non-operating activities, compared with the prior year. There was also an increase in profitability for services regulated by the HSCRC over the prior year. The increases in non-operating profitability may be attributed, in large part, to unrealized gains on investments.

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 4.01 percent.
- The total margin, i.e., the combined operating and non-operating margins, was 10.83 percent.
- The operating margin for services regulated by the HSCRC was 9.70 percent.

Despite the tremendous disruption caused by the COVID-19 crisis continuing into FY 2021, Maryland's hospital industry remained profitable, showing slight gains over FY 2020.

Unaudited Financial Data – FY 2021

Based on unaudited year-to-date financial data for FY 2022 operating margins for both services regulated by the HSCRC and services not regulated by the HSCRC decreased over FY 2021. Total profit margins decreased by 9.83 percentage points versus unaudited results for the same period last year. This is, in large part, due to decreases in investment income and continued volume declines due to increased COVID-19 hospitalizations and decline in outpatient volumes in December and January. Hospital total margins are shown below. Please note that final audited data, when available, may result in adjustments to these margins:

- The total combined unaudited regulated and unregulated operating margin was 1.66 percent.
- The total margin, (the combined operating and non-operating margins), was 1.85 percent.
- The operating margin for services regulated by the HSCRC was 5.11 percent.

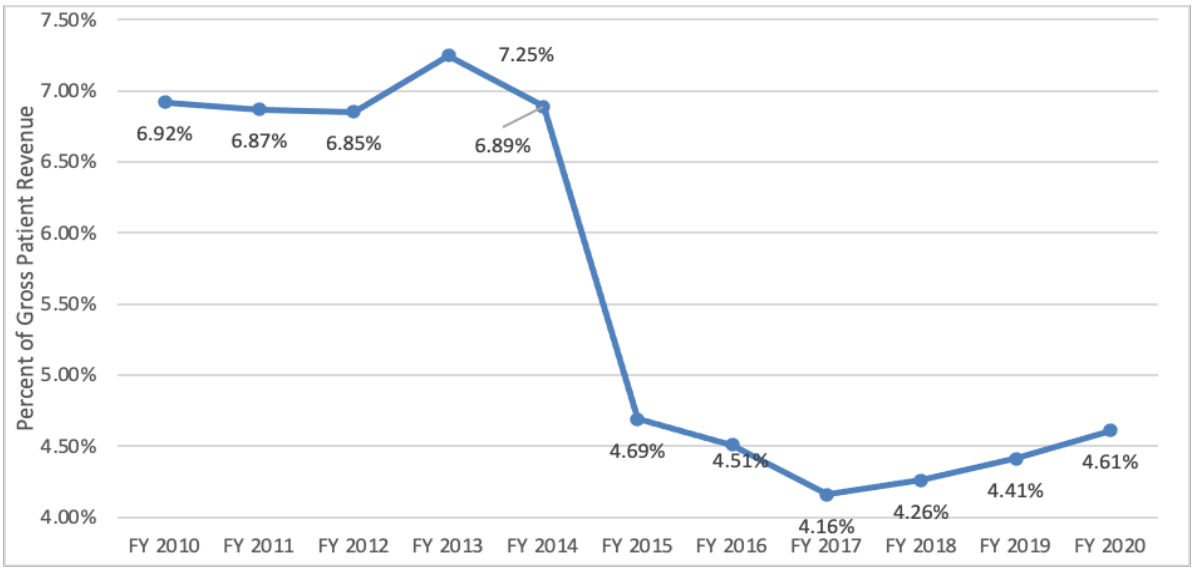
Uncompensated Care

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 cannot readily pay for them. 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 in the State for those patients who cannot readily pay for them 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 uncompensated care provisions were previously 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.

The graph below shows the actual total uncompensated care rate for all regulated Maryland hospitals between FY 2010 and FY 2020. 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 high deductible-, coinsurance-, and copayment-commercial health insurance plans, which leave patients to pay a higher portion of a bill out-of-pocket. This phenomenon is furthered by the fact that 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 uncompensated care 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). As of FY 2018 there is a slight uptick in uncompensated care rates as the effects of the ACA appear to have mitigated.

Figure 16. Uncompensated Care as a Percentage of Gross Patient Revenue, FY 2010-2020



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

The most recently available report from hospitals reflects community benefits for FY 2020. In that year, Maryland hospitals expended just over $1.2 billion in community benefits, or 7.8 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, each nonprofit hospital has been required to conduct a community health needs assessment every three years, which they report to the federal government. The Commission obtains information annually on each hospital's community health needs assessments, related collaborations, how their

community benefit functions are organized, and a summary of the top three or four primary community benefit initiatives. Additionally, the Commission has changed some reporting requirements for hospital community benefits to improve the consistency of reporting across hospitals, enhance the quality of data statewide and better incorporate local community health needs.

Section XI: Statutory and Regulatory Updates

2021 Statutory Updates

The HSCRC completed a number of legislatively required activities resulting from the 2021 session.

2021 JCR Reports

HSCRC completed the following reports, required by the "Report on the Fiscal 2022 State Operating Budget (HB 588) And the State Capital Budget (HB 590) And Related Recommendations".

1. **Evaluation of the Maryland Primary Care Program:** This report evaluates the effectiveness of the Maryland Primary Care Program (MDPCP) in transforming care in the State under the Total Cost of Care Model, with particular focus on cost-savings and reduced unnecessary utilization of health care services for patients participating in MDPCP compared to the cost of provider incentives paid through MDPCP. The report also includes an analysis of the racial diversity of MDPCP. This report was submitted in October 2021.
2. **Analysis of Hospital at Home in Maryland:** This report evaluates the efficacy of the Hospital at Home model, how the model fits into the Maryland Total Cost of Care Model, barriers in existing State law and regulations that currently exist to prevent the broadening of the model, and cost implications to public and private payers. This report was submitted in December 2021.

Medical Debt Protection (HB 565/SB 514 – Chapter 770, 2021)

This law strengthens consumer protections in law related to medical debt collection by hospitals. Staff is working to revise HSCRC regulations to align COMAR with the updates made by Chapter 770 (2021). Staff expect to present proposed regulations to the Commission in May of 2022. The law also requires HSCRC to develop guidelines for hospital income-based payment plan policies. HSCRC staff solicited input from stakeholders to develop draft guidelines, which were presented to Commissioners during the April 2022 Commission meeting. Staff plan to present final guidelines in the May 2022 Commission meeting.

Chapter 770, 2021 also contains a number of reporting requirements. HSCRC completed a required report on the impact on UCC of certain specified hospital actions in late 2021. HSCRC also submitted a report outlining the process of drafting the payment plan guidelines in December 2021. Finally, the law requires hospitals to submit data on debt collection procedures to HSCRC. HSCRC will use this data to compile an

annual report for the legislature, starting in July 1, 2023. HSCRC started working to draft these new reporting requirements in 2021.

2022 Statutory Updates

During the 2022 Legislative Session, the Legislature passed two bills with a direct impact on HSCRC operations.

Health Care Facilities - Health Services Cost Review Commission - User Fee Assessment (HB 510 / SB 917)

This bill changed the methodology for calculating HSCRC's user fee assessment cap from a flat cap of $16 million. The user fee funds HSCRC's operating budget. The new methodology sets the user fee assessment cap for FY 2023, FY 2024, and FY 2025 at the greater of –

- 0.1% of budgeted, regulated gross hospital revenue or
- the largest amount of the cap for a fiscal year in the prior 5 fiscal years.

After FY 2025, the user fee assessment cap will be set at a flat amount that is equal to the average of the amount of the cap between FY 2023 and FY 2025. This change will allow HSCRC to continue to meet the increasing needs for policy development, implementation, research, analysis, and auditing under the Maryland Health Model. HSCRC expects that additional legislation will be needed to adjust the user fee cap after FY 2025.

Hospitals - Financial Assistance - Medical Bill Reimbursement (HB 694 / SB 944)

This bill requires HSCRC to work with the Department of Human Services, the state-designated health information exchange, the Office of the Comptroller, and the Maryland Hospital Association to establish a process that will allow hospitals to reimburse patients who were eligible for free hospital care between 2017 and 2021 and who paid a hospital bill for that care. HSCRC is required to submit reports by January 1st of 2023 and 2024, containing updates on the development and implementation by hospitals of this process. If the process does not require legislative changes, hospitals will need to implement the process before January 1, 2023.

Regulatory Updates

Over the past fiscal year, the Commission proposed and adopted amendments to the following existing regulations:

COMAR 10.37.10.03A(2) Regular Rate Applications

This regulation concerns Regular Rate Applications filed by hospitals with the Commission. The purpose of this amendment was to lengthen the period of time for which a hospital that has obtained permanent rates through the issuance of a Commission rate order following a regular rate application is eligible to file another regular rate application with the Commission from 90 days to 365 days. The amendment was adopted by the Commission on November 10, 2021.

COMAR 10.37.10.07-1 Telehealth

This regulation concerns hospital outpatient services and what determines whether such services are provided "at the hospital" and thereby subject to Commission rate-setting jurisdiction. The purpose of this amendment was to clarify that: 1) a hospital may not bill a separate hospital facility fee when a health care provider who provided telehealth services is authorized to bill independently for the professional services rendered; and 2) the delivery of telehealth services where either the health care provider or the patient is physically present at the hospital constitutes outpatient services provided "at the hospital" and, therefore, subject to the Commissions rate-setting jurisdiction. The amendment was adopted by the Commission on November 10, 2021.

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 5. Current HSCRC Commissioners

Commissioner	Term Start Date	Term End Date
Adam Kane, Chairman	July 1, 2017	June 30, 2025
Joseph Antos, Ph.D.	July 1, 2016	July 30, 2024
Victoria W. Bayless	July 1, 2016	June 30, 2024
Stacia Cohen	July 1, 2019	June 30, 2023
James N. Elliott, M.D.	July 1, 2018	June 30, 2022
Maulik Joshi, Dr. P.H.	July 1, 2021	June 30, 2025
Sam Malhotra	July 1, 2020	June 30, 2026

Staff

The State charges the HSCRC with regulatory authority over the rates and revenues of Maryland's 46 acute care hospitals, four Freestanding Medical Facilities, and three specialty hospitals, an industry with annual revenues in excess of $19 billion. This responsibility is accomplished by a relatively small and highly skilled staff of 44 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. Revenue and Compliance
3. Population Based Methodologies
4. External Affairs and Special Projects
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 2021 was $16.0 million and the fund balance at the end of the fiscal year was $3.6 million

Section XIII: Future Outlook

Maryland's unique Health Model, which began in 2014 and was expanded in 2019, presents the State with an opportunity to improve the health and lives of Marylanders through innovative healthcare reforms. Hospitals and the State are using savings estimates and flexibilities granted by CMS under the Model to invest in social determinants of health (such as housing) and population health (including investments in diabetes prevention, crisis support for behavioral health, and maternal and child health). By focusing the system on upstream investments, the State plans to further limit health care expenditures over time as people live healthier lives and avoid unnecessary acute healthcare.

Global budget revenue systems provide Maryland hospitals with financial stability and an incentive to reduce unnecessary utilization. During the COVID-19 pandemic, this system has been especially valuable to Maryland hospitals that have not experienced revenue declines and instability common among hospitals

nationwide. As the pandemic has subsided, HSCRC is working with Maryland hospitals and other stakeholders to continue to develop and advance innovative delivery system reforms that were put on hold during the pandemic.

Under the Total Cost of Care model, which runs from 2019 through 2028, the State must meet a number of performance targets. The State successfully met all performance targets under the contract in 2019 and 2020. HSCRC staff is closely monitoring performance in 2021 and 2022, including the impact of the COVID-19 pandemic on State performance.

In 2024, CMS will decide whether to expand the model long-term for Maryland, affording the State and stakeholders the stability necessary to make significant investments in reform. In the intervening years, HSCRC is focused on developing and implementing policies that enhance the quality of health care 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 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 1-3. CMMI Annual Monitoring Reports

maryland
health services
cost review commission

Statewide Integrated Health Improvement Strategy

Annual Report

January 2022

P: 410.764.2605 ● 4160 Patterson Avenue | Baltimore, MD 21215 ● hscrc.maryland.gov

maryland
health services
cost review commission

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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 details efforts to achieve statewide population health improvement, make progress against the official 2021 SIHIS milestones, and provides information on broad stakeholder engagement activities to achieve success under SIHIS. Additionally, this report also highlights the State's efforts to achieve health equity and provides baseline values for racial disparities across all population health priority areas. Finally, the report provides information on the impact of COVID-19 on the State's ongoing performance under SIHIS, as well as the recent Maryland Department of Health (MDH) network security incident which has disrupted MDH operations.

The State is pleased to report that all 2021 programmatic milestones have been achieved. Performance results for the Domain 1 and 2 quantitative milestones are not yet available. For these milestones, the State will share performance results with CMMI as data becomes available in mid-2022 and formally report performance in the December 2022 annual report.

Table 1. SIHIS Goals and 2021 Milestone Progress

Domain Area	Goal(s)	Milestones Met
Domain 1 – Hospital Quality	Reduce avoidable admissions and readmissions	2021 Milestone Met Avoidable Admission Performance Results Available in 2022
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	Performance Results Available in 2022

	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	2021 Milestones Met
Domain 3 - Total Population Health "Opioid Use Disorder"	Improve overdose mortality	2021 Milestones Met
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	2021 Milestones Met

Implications of COVID-19 on SIHIS

Maryland is closely monitoring the effects of COVID-19 on SIHIS performance. Given the evolving nature of the pandemic and emergence of new variants, such as delta and omicron, the impact that COVID-19 may have on SIHIS performance in 2022 and beyond is unclear. In cases where there are directional indicators or official monitoring data is available, COVID-19 has had clear deleterious or artificial effects on progress towards some SIHIS goals. As additional data become available, the State anticipates that COVID-19 will have the greatest impact on SIHIS goals associated with hospital-based settings of care, such as hospital avoidable admissions and readmissions, the severe maternal morbidity rate, and childhood-asthma ED rates.

Furthermore, in some SIHIS areas, Maryland has seen 2021 performance begin to trend back towards 2018 baselines. Given this, the State will continue to monitor these trends and communicate with CMMI if negative trends continue, or performance does not recover to pre-COVID levels. Moving forward, the unpredictable nature of the COVID-19 pandemic could have implications on SIHIS performance and could threaten the Maryland's ability to meet 2023 interim targets. Additional context on COVID-19's impact on specific goals is provided further in this report.

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 the 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.

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 will be 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:

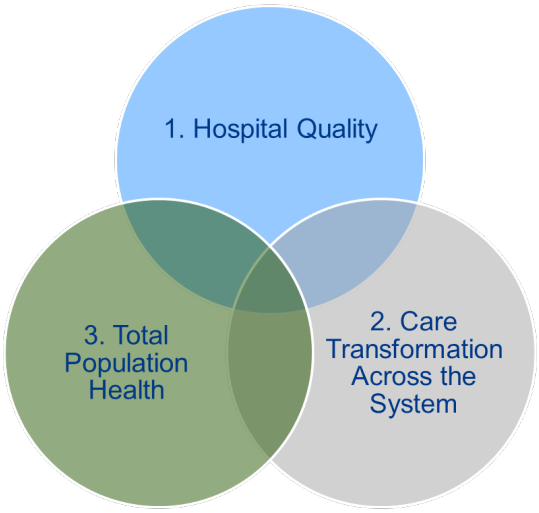
- Maryland's strategy should fully maximize the population health improvement opportunities made possible by the TCOC Model;
- Goals, measures, and targets should be specific to Maryland and established through a collaborative public process;
- Goals, measures, and targets should reflect an all-payer 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

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

- 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 population-based hospital payments 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 will 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.



- *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.

Progress towards 2021 milestones and highlights of ongoing initiatives to improve population health and health equity are detailed below.

State Commitment to Health Equity

The success of SIHIS is integrally linked to achieving health equity and reducing healthcare disparities across all population health priority areas. Addressing health disparities is a core component of SIHIS and Maryland is prioritizing health equity through a variety of pathways. In addition to specific interventions that

target vulnerable individuals, Maryland is focusing on health equity through the establishment of a statewide commission that sets health policy, through funding opportunities designed to address social determinants of health (SDOH), and through provider data collection and reporting strategies.

The Maryland Commission of Health Equity (MCHE) was established under the Shirley Nathan Pulliam Health Equity Act of 2021. The purpose of this multi-agency Commission is to determine ways for state and local governments to work collaboratively to implement policies and laws that reduce health disparities therefore increasing health equity across the state. Using a health equity framework, MCHE will advise on issues of racial, ethnic, cultural, and socioeconomic health disparities; develop a comprehensive health equity plan to address the social determinants of health; and set goals for achieving health equity in alignment with other statewide planning activities. Staff at MDH and MCHE are working collaboratively to ensure alignment between this newly formed health equity commission and SIHIS efforts.

The Maryland Health Equity Resource Act, approved during the 2021 legislative session, provides significant new grant funding and state resources for local communities to reduce health disparities and improve health outcomes. The Maryland Community Health Resource Commission (CHRC) has launched the Pathways to Health Equity grant program, which provides $13 million in cumulative two-year funding for programs that will 1) reduce health disparities, 2) improve health outcomes, 3) improve access to primary care, 4) promote primary and secondary prevention services, and 5) reduce healthcare costs and hospital admissions and readmissions. The Pathways to Health Equity Program will lay the foundation for 5-year Health Equity Resource Communities (HERC) grants which will emphasize long-term interventions that address social determinants of health such as housing, transportation, employment, and food security.

The Maryland Health Services Cost Review Commission (HSCRC) collects and audits data from hospitals, producing one of the most robust hospital data sources in the country in terms of scope and accuracy. This data was determined to be accurate enough to report publicly for the purpose of improving statewide health disparities. Many of the reports provided to hospitals include socio-demographic data which allows for stratification to identify health disparities.

Additionally, the State tracks racial disparities for as part of its ongoing SIHIS monitoring activities. During 2021, MDH, HSCRC, and CRISP staff collaborated to construct the SIHIS Directional Indicators Dashboard to support oversight of progress against the SIHIS Total Population Health goals. In addition to the aggregated performance, each measure is broken down by race to illustrate disparity gaps in outcomes. MDH leadership reviews this dashboard monthly to consider the State's progress and actions needed to work towards 2023 and 2026 SIHIS targets.

Broad Public-Private Sector Engagement Strategy

Consistent with the guiding principles used by the State when developing its SIHIS proposal, the State is employing a strategy that leverages public and private partnerships with shared resources and infrastructure to achieve its goals. Engaging new and unlikely partners, beyond traditional public health stakeholders, will also be key to realizing success under SIHIS. Throughout 2021, the State has led a broad stakeholder engagement approach to achieve the goals of SIHIS and provide oversight of ongoing work.

Secretary's Vision Group and Population Health Management Group

The State has established a governance structure to guide SIHIS implementation and provide accountability through the Secretary's Vision Group (SVG) and the Population Health Management Group (PHMG). The SVG, led by Maryland Department of Health (MDH) Secretary Dennis Schrader, is comprised of "C-suite" public and private sector healthcare industry leaders in Maryland, including representatives from State agencies, hospitals, payers, long-term care providers, and physician practices. The group meets every other month to discuss Maryland's overarching performance on SIHIS, strategies that can improve population health priority areas, and continued opportunities for operational alignment and engagement. In Spring 2021, Secretary Schrader requested that SVG member organizations develop and share the specific activities they would undertake to support the State's goals under SIHIS. Specific highlights of stakeholder activities and pledges are included later in the report.

The Population Health Management Group (PHMG) is a sub-group of the SVG. It is a working group composed of a diverse group of stakeholders across State agencies and includes hospital, physician, and payer representatives. The PHMG serves as the official oversight body for the Total Population Health domain under SIHIS. The PHMG meets every other month to review performance on the population health goals, receive reports on State-led initiatives for each priority area, and to discuss broad strategies to impact SIHIS targets. PHMG members are currently developing a framework to address social determinants of health including risk and protective factors that are shared across the health priority areas and can impact Total Population Health domain goals.

Engaging the Business Community

While hospitals, physicians, payers, and public health advocates have long been engaged in addressing population health, the State also knows there are untapped stakeholders who have an interest in creating healthier communities. During 2021, MDH began discussions with the Department of Commerce (DOC) on strategies to engage the business community and communicate the role SIHIS can play in creating a healthier workforce. Payers, such as CareFirst, are already working with employers to improve employee health and are also supporting this SIHIS initiative to engage the business community. Through

Maryland's Healthiest Business Program, part of the Diabetes Action Plan, MDH is already engaging employers on initiatives to address diabetes in the workplace for high-risk employees. In addition to this work, MDH and DOC plan to form focus groups to develop messaging to best communicate the significance of SIHIS to employers and how they can improve the health of their employees around each of the population health priority areas.

Stakeholder Innovation Group – Innovations for Better Health

While the Stakeholder Innovation Group (SIG) is primarily focused on supporting the development of new payment models for Maryland healthcare providers, the SIG has been collecting an inventory of key interventions supporting the TCOC Model and SIHIS. The Innovations for Better Health website was established to help capture and spread innovations that are happening statewide that align with the goals of Maryland's unique hospital model and updated recently to include innovations aligned with Maryland's Statewide Integrated Health Improvement Strategy (SIHIS). The site showcases the innovations that put Maryland on the leading edge of care delivery transformation and population health improvement. This site, a product of the SIG, demonstrates how health care providers—including hospitals, doctors, skilled nursing facilities, and community organizations are working together to make care more preventive, more personalized, and more productive. To date the site has collected 221 innovative case studies and continues to grow. Some highlights of interventions that support SIHIS include:

Garrett Regional Medical Center – Well Patient Program

Under the Well Patient Program, nurse navigators, social workers, community health workers, pharmacists, dieticians work with high-utilizer patients to deliver care in the most appropriate and cost-effective setting. The program addresses medical, social, psychological, and financial limitations that impact the patient's ability to manage their chronic disease. The program works closely with primary care providers and community partners to assist patients and their caregivers.

CAREAPP

CAREAPP is a community-wide project led by Howard County Health Department that aims to improve access to social support services and resources -- such as health, transportation, food, education, employment, housing, and access to care -- through a web-based platform operated by Healthify. This platform features a live, searchable resource database, a needs assessment screening tool, a two-way referral tracking system and data analytics. The tool allows partner organizations and providers to communicate in real-time and link vulnerable clients to critical resources and support.

Leveraging CRISP to Drive Progress

Across each SIHIS domain, the State is leveraging the analytic capabilities and robust clinical tools offered by the statewide health information change, the Chesapeake Regional Information System for our Patients (CRISP), to measure progress and meaningfully enhance patient care to achieve SIHIS goals. To support ongoing SIHIS monitoring efforts, the State has collaborated with CRISP to build a "SIHIS Directional Indicators Dashboard" that includes key indicators to help the State understand its performance. Phase 1 development of the dashboard is focused on the Total Population Health domain and uses either the official SIHIS population health goal measures or proxy measures if the official data source for the measure is heavily lagged. The dashboard also breaks down performance by race and ethnicity to illustrate health disparities present. Phase 2 development of the dashboard will be completed in spring and summer of 2022 and will include progress data for Domains 1 and 2. The dashboard is provided to SVG and PHMG members prior to meetings so that strategies can be discussed to address trends reflected in the data. In addition, the dashboard is accessible to local health departments, hospitals, and practices to promote alignment and accountability across the State and delivery system. The most recent reports from the dashboard and user guide are attached as appendices. Examples of provider tools that directly support the population health goals of SIHIS are referenced later in this report.

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 and population health aims of the TCOC Model. The Hospital Quality domains 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 and population health aims of the TCOC Model, as it requires Maryland hospitals to work 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. Primary care providers, including MDPCP practices, are key partners with hospitals to meet this goal. Due to data lags, HSCRC intends to provide 2021 performance results in mid-2022. While final data is not yet available, the State believes that performance may be negatively

impacted by COVID-19. HSCRC staff will discuss the potential impact of COVID-19 on avoidable admissions with CMMI when performance results are available.

Table 2. Hospital Quality - Goal #1

Goal: Reduce avoidable admissions	
Measure	AHRQ Risk-Adjusted PQIs
2018 Baseline	1335 admits per 100,000[2]
2021 Year 3 Milestone	8 percent improvement
2023 Year 5 Target	15 percent improvement
2026 Year 8 Final Target	25 percent improvement

Goal 2: Improve readmission rates by reducing within-hospital disparities

In March 2020, the Commission approved the nation's first program to provide financial incentives to hospitals that are able to reduce socioeconomic disparities in readmission. The program assesses patient-level socioeconomic exposure using the Patient Adversity Index, a measure that reflects exposure to poverty, structural racism and neighborhood deprivation. Due to the pandemic's impact on hospitals, rewards under the program are currently suspended. The HSCRC suspects the pandemic will impact not only hospital performance under the measure, as resources are diverted from care management and disparity reduction programs to COVID-19 response, but also validity of measurement under the program, as it is challenging to disambiguate the impact of COVID-19 and disparity reduction efforts on readmission disparity over time.

Table 3. Hospital Quality - Goal #2

Goal: Improve Readmission Rates by Reducing Within-Hospital Disparities	
Measure	Readmission disparity gap
2018 Baseline	Hospital-specific risk difference across levels of Patient Adversity Index.
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

[2] This all-payer baseline rate for MD residents was run using HSCRC case-mix data under PQI v2020. The baseline rate will be updated with new PQI versions to ensure that the baseline rate incorporates new codes and changes in clinical logic over time. COVID positive patients (primary or secondary diagnosis) should be removed for comparison to 2018 rates.

2026 Year 8 Final Target	Half of eligible hospitals achieving 50% improvement in disparity

Domain 2 – Care Transformation Across the System

Under the TCOC Model, Maryland has continued to build upon the successes of the All-Payer Model and move away from traditional fee-for-service payment systems and towards value-based care. During the TCOC Model, the State will continue and accelerate the transition towards value-based care and move all payments – regardless of setting of care – to a value-based payment arrangement. While these initiatives have helped the State's to reduce the total cost of care and the unnecessary hospitalization rate, the accountability for managing Medicare beneficiaries remains fragmented across many different providers in different settings of care.

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

The State already has significant delivery system reform efforts beyond the hospitals, including Care Redesign Programs (CRP) and the Maryland Primary Care Program (MDPCP). Throughout 2021, the State worked closely with CMMI to develop the Episode Quality Improvement Program (EQIP) which launched January 1, 2022. The first performance year of EQIP includes a range of initial Clinical Episodes in the specialty areas of cardiology, gastrointestinal, and orthopedics and will engage more than 2400 clinicians in care transformation efforts. The State also launched Care Transformation Initiatives (CTIs) in 2021. 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. Due to data lags, performance results for 2021 will be reported in the December 2022 annual monitoring report.

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 CTI
2018 Baseline	$0	0
2021 Year 3 Milestone	12.5% of Medicare TCOC under a CTI or CRP or successor payment model	7.5% of Medicare Beneficiaries covered under a CTI or CRP or successor payment model
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

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

Maryland healthcare providers are actively working to achieve the 2021 timely follow-up milestone by prioritizing and expanding case management and care transitions for high-risk patients. 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. Due to data lags, 2021 performance results for timely-follow-up will be reported in mid-2022.

Table 5. Care Transformation Across the System - Goal #2

Goal: Improve care coordination for patients with chronic conditions[3]	
Measure	Timely Follow-up After Acute Exacerbations of Chronic Conditions (NQF# 3455)
2018 Baseline	71.36%
2021 Year 3 Milestone	72.26% 1.25 percent improvement
2023 Year 5 Target	73.16% 2.52 percent improvement
2026 Year 8 Final Target	75.00% 5.10 percent improvement or 0.50 percent better than the national rate

Domain 3 – Total Population Health

Domain 3a: Total Population Health – Diabetes

Diabetes was identified in 2019 as a statewide priority by the Maryland State Secretary of Health. Since then, MDH has led statewide efforts to develop and implement Maryland's "Diabetes Action Plan" and galvanize stakeholders to address Maryland's approximately 1.6 million Maryland adults who have pre-diabetes and 500,000 Maryland adults in Maryland who have diabetes.[4] Since elevated BMI is a critical clinical indicator of diabetes risk, improvement in statewide BMI mean could have significant positive implications on the State's diabetes burden. The specific goal, measure, milestones, and targets for the diabetes priority area are below, as well as 2018 baselines broken down by race and ethnicity.

[3] Medicare-only based on Claims and Claims-Line Feed (CCLF) data.
[4] Maryland Department of Health, Diabetes Action Plan. https://phpa.health.maryland.gov/CCDPC/Pages/diabetes-action-plan.aspx

Table 6. Total Population Health - Diabetes Goal

Goal: Reduce the mean BMI for adult Maryland residents[5]	
Measure	Mean BMI in the population of adult Maryland residents
2018 Baseline	28.13 kg/m^2
2021 Year 3 Milestone	Identify the cohort of states that will serve as the control group to measure progress. Enter into Data Use Agreements (DUAs), if necessary. Launch the Diabetes Prevention and Management Program track of the HSCRC Regional Partnership Catalyst Grant Program. Expansion of CRISP Referral Tool to Regional Partnerships to increase patient referrals for Diabetes Prevention Programs. Incorporate 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).
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

Table 7. Race/Ethnicity Disparities in Maryland Adult Mean BMI, 2018

Race	2018 BMI (95% Confidence Interval)
White	27.9 (27.7, 28.1)
Black	29.3 (29, 29.7)
Asian	25 (24.4, 25.5)
American Indian/Alaskan Native	28.6 (27.2, 30)
Hispanic	28.9 (28.1, 29.6)
Other	28 (27.2, 28.9)

Source: 2018 Behavioral Risk Factor Surveillance Survey

Milestone Progress

Maryland is pleased to share that all four 2021 milestones for the diabetes priority area have been met. Descriptions of activities to accomplish this work are below.

[5] Mean BMI will be determined using the results of the Behavioral Risk Factor Surveillance System (BRFSS).

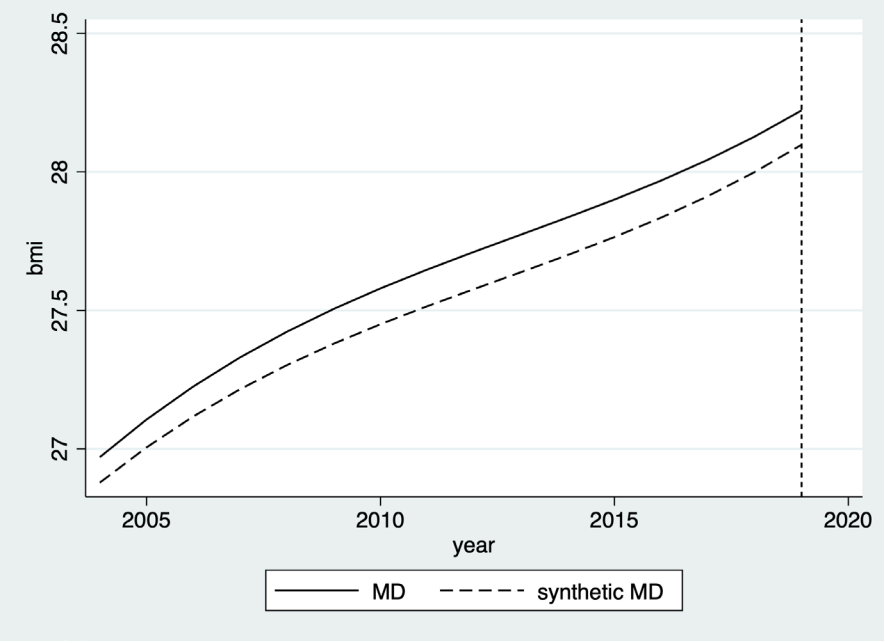
Milestone 1: Identify cohort of states for synthetic control group

HSCRC has selected 3 states and Washington, DC to serve as the synthetic control group: Delaware, Virginia, Mississippi, 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). To address imprecise estimates from survey data, the analytic process included estimation of state by year mean BMI using a random effects model with exponential terms that accounted for non-linear state trends in BMI. This process also employed survey weighting to account for non-random selection of respondents into the survey.

Using these smoothed annual estimates of state mean BMI, the synthetic control process identified a set of weights for each state that, taken together, produce a pre-intervention trend line that closely matches Maryland's, while yielding a control group that resembles Maryland across a selection of demographic variables, including race, education, age, income and gender. The synthetic control weights reflect the proportion of the control group's BMI that is attributable to a particular state. Most states receive a weight of zero, meaning they contribute no data to the synthetic control BMI estimate.

The synthetic control group produced a BMI trend that is acceptably close to Maryland's, as shown by the figure below.

Figure 1. Diabetes Synthetic Control Group - BMI Trend



States included in the control group were assigned weights as follows:

Figure 2. Diabetes Synthetic Control Group Weights

State	Weight

VA	0.362
DE	0.279
DC	0.25
MS	0.108

Milestone 2: Regional Partnership Catalyst Program – Diabetes Track

In November 2020, the Health Service Cost Review Commission (HSCRC) 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 is intended as seed funding, an initial investment in program development and growth. The HSCRC expects Regional Partnership programs will develop sustainable funding streams to support the programs after the HSCRC funding ends on December 31, 2025.

The HSCRC allocated $86.3 million to six Regional Partnerships 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 funding amounts are listed below.

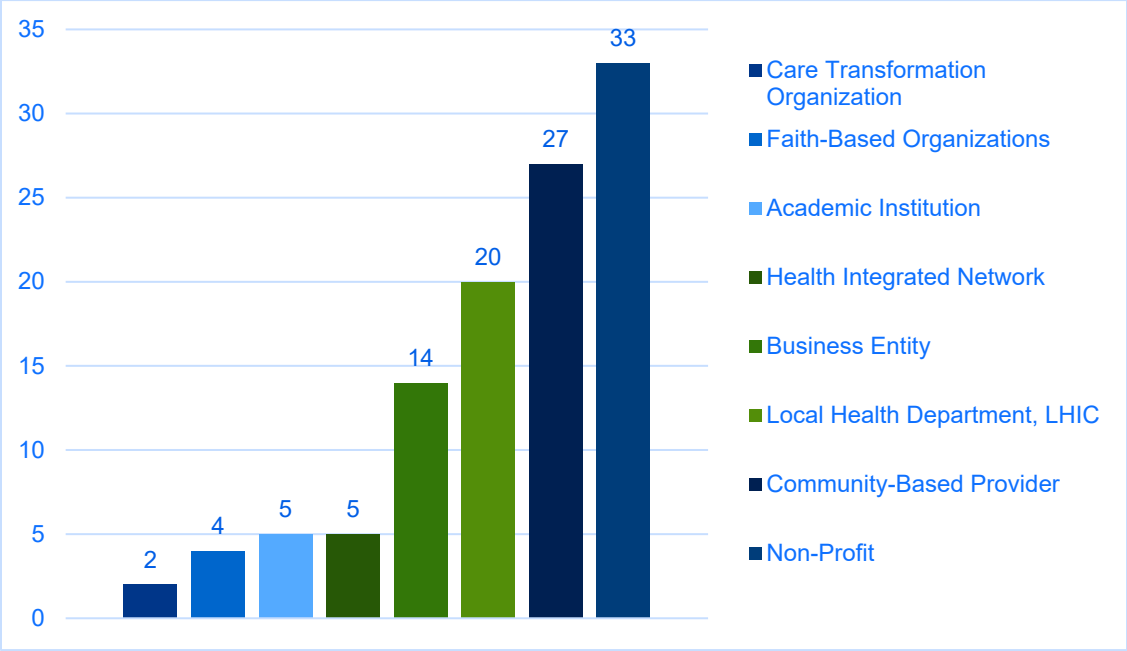
Table 8. Regional Partnership (Diabetes) Jurisdictions and Funding Amounts

Regional Partnership	Jurisdiction	**Total** 5-Year **Funding**
Baltimore Metropolitan Diabetes Regional Partnership	Baltimore City	$43,299,986
Western Regional Partnership	Allegany, Frederick, and Washington Counties	$15,717,413
Nexus Montgomery	Montgomery County	$11,876,430
Totally Linking Care - Maryland	Prince George's, Charles, and St. Mary's Counties	$7,379,620
St. Agnes and LifeBridge Health Diabetes Care Collaborative	Baltimore City/County	$5,962,333

Full Circle Wellness for Diabetes in Charles County	Charles County	$2,124,862

A core goal of the Regional Partnership Catalyst Program is to foster widespread collaboration between hospitals and community partners. Under this program, hospitals are partnering with neighboring hospitals and diverse community organizations including local health departments (LHDs), managed care organizations (MCOs), provider organizations, and non-profits to implement diabetes interventions and expand behavioral health crisis services infrastructure that are intended to aid in improving population health. Regional Partnerships receiving diabetes funding identified a total of 110 community partners to support the implementation of National DPP and DSMES in their communities.

Figure 3. Regional Partnership Diabetes Collaborator Types and Counts



Source: Regional Partnership Proposals

The first year of the program ended December 31, 2021, and Regional Partnerships will submit annual reports to the HSCRC for review in spring 2022. To date, Regional Partnerships have prioritized building relationships with existing DPP and DSMES providers, contracting with existing or establishing new programs, formalizing referral workflows, and developing infrastructure to bill for services to provide a sustainable source of funding for the programs in the future. In CY 2022, Regional Partnerships are expected to begin referring patients to a participating National DPP provider within their service area, as

well as begin initiating DSMES services. Many Regional Partnerships began this work in 2021 and will be scaling their operations in CY 2022 and beyond.

Milestone 3: Expanding Use CRISP DPP Referral Tool to Regional Partnerships

This year, the State prioritized expanding the use of a bi-directional DPP e-referral tool for use by a wide range of providers, including clinicians, HSCRC Regional Partnerships, managed care organizations (MCOs), health plans, and DPP providers. The tool is designed to allow for electronic referrals at the point of care that allows the community organization to accept and send back information on the status of the referral. All six Regional Partnerships that received funding to implement DPP have been onboarded to the tool. While the official 2021 milestone only refers to expanding the tool to Regional Partnerships, CRISP has also onboarded seven of the nine MCOs that offer HealthChoice DPP. The MDPCP Program Management Office PMO has also hosted education webinars for MDPCP practices outlining how to use the tool, encouraging referrals to DPP and promoting use of the referral tool as well.

Milestone 4: Maryland Primary Care Program – BMI Quality Measure

In January 2021, all 525 MDPCP practices began tracking the BMI quality measure and will report data to CMS via CRISP at the end of Q1 in CY 2022. The Program Management Office has prioritized a variety of activities to promote improved performance on the BMI measure and create sustainable practice workflows. In early 2021, the PMO developed resource guides for all four 2021 eCQMs, including CMS69v8, Preventative Care and Screening: Body Mass Index (BMI) Screening and Follow-Up Plan. This resource guide walks MDPCP practices through the specifics of the measure and lists patient support and provider resources. Additionally, the PMO launched a pilot program focused on involving practices in targeted, rapid-cycle Plan-Do-Study-Act (PDSA) cycles that began in October 2021 and will end in January 2022. The PMO has also hosted various educational webinars throughout the fall of 2021 to provide an overview of eCQMs for 2022 and promote use of the CRISP DPP Referral tool.

Additional Efforts to Address Diabetes Burden

The section of the report highlights additional initiatives the State and stakeholders are implementing to address diabetes burden in Maryland. The initiatives described are not an exhaustive list of ongoing and planned activities but are key areas of focus driving progress under SIHIS.

Maryland Department of Health Diabetes Action Plan

In 2020, MDH assembled a team to implement actions from the Diabetes Action Plan. A description of activities completed through 2021 include the following:

- Contract with the University of Maryland School of Public Health, Horowitz Center for Health Literacy to provide technical assistance to the Local Health Improvement Coalitions (LHICs) to prioritize diabetes in their communities. Health literacy training sessions for LHICs were included in

this effort to better serve individual communities with clear and appropriate diabetes prevention and control messaging. Technical assistance was provided to 20 functioning LHICs with each LHIC implementing a diabetes strategy in their jurisdictions.

- A web-based diabetes educational series for providers and community health workers who generally serve vulnerable or hard to reach populations.
- Initiation of a pilot study with multiple medical laboratories to identify hotspots of diabetes and prediabetes in various communities by zip code. These reports will pinpoint underserved communities with high prediabetes and diabetes prevalence or risk and may allow for the stratification of the data by income, race, and other indicators. Data analysis is expected at the end of 2021.
- The Diabetes Quality Task Force (DQTF) launched in the spring 2021 to address quality assurance, clinical guidelines, and standard messaging for diabetes prevention and management. The DQTF consists of four workgroups: Environmental Approaches, Health Systems Intervention, Data, Surveillance, and Epidemiology, and Community Clinical Linkages. These workgroups are prioritizing strategies to improve quality in diabetes care for all populations, including those who are hard-to-reach. Quality and outcome measures are in the process of being developed for this task force. Task force members completed a prioritization survey identifying activities that align with the Diabetes Action Plan.
- Initiation of an Employer Initiative with “The Cost of Diabetes in the Workplace: Actions you can take to reduce diabetes in Maryland” webinar in September 2021. This event aimed to increase commitment from benefits decision makers across the state of Maryland to address prevention of type 2 diabetes through adoption of the evidence-based practices that support lifestyle change in high-risk employees. The webinar provided participants an opportunity to hear directly from MDH, the Centers for Disease Control and Prevention (CDC), and CareFirst who have prioritized diabetes prevention in their worksite. Participants were issued a call to action at the conclusion of the meeting and have been offered an opportunity to receive individual consultation post-event.

Medicaid Initiatives

Medicaid continues to expand and refine implementation of its National Diabetes Prevention coverage under the HealthChoice DPP which is currently being implemented by all nine MCOs. A key initiative is implementing continued funding from the CDC through NACDD to Maryland Medicaid of $250,000 through its Coverage 2.0 - Part 4 grant program. The majority of this funding goes to MCOs and continues to support the incorporation of lessons learned from the Medicaid Demonstration Project in the areas of operational and financial management systems building, quality improvement processes, and the identification, strengthening, and coordination of stakeholders' roles into the development and implementation of sustainable coverage models for the National DPP lifestyle change program. MCO workplans for the coming year focus on issues of expanding DPP provider network capacity, especially for claims and billing, and to include both in person and online delivery modes; refining and using the eligibility algorithm developed by the Department, in coordination with the Hilltop Institute of UMBC, to proactively identify and outreach to potentially eligible members; strategies to help members enroll and stay in the program through use of food and program supports, and other creative marketing campaigns; launching online platforms to serve members “in-house”; and provider outreach and engagement strategies.

SVG Stakeholder Highlights

As mentioned earlier in this report, Secretary Schrader requested that SVG member organizations develop and share the specific activities they would undertake to support the State's goals under SIHIS. Select highlights of stakeholder activities to address diabetes are below.

MedChi

MedChi, the statewide professional association for physicians, has been actively supporting efforts to address diabetes in Maryland. MedChi's Care Transformation Organization (CTO), part of the MDPCP, supports 25 practices. In addition to implementing the MDPCP diabetes quality measure, the CTO is piloting technology programs, such as My Sugar, and other diabetes-related remote patient monitoring tools to determine if they can help address diabetes burden. MedChi also worked with the American Medical Association (AMA) on education and outreach to physicians on diabetes burden.

CareFirst

CareFirst has prioritized enhancing diabetes benefits to members with diabetes and pre-diabetes. Members pay $0 for preferred brand insulin and diabetes supplies and may also participate in a virtual diabetes management program. CareFirst also operates Sharecare's DPP Scale Back program, a telehealth-based weight loss program for members at risk for pre-diabetes.

Leveraging CRISP to Drive Progress

In addition to using the CRISP DPP Referral tool mentioned earlier in this section, Medicaid is also working closely with CRISP on other tools to identify and refer patients to DPP. Medicaid is collaborating with CRISP to capitalize on the prediabetes flag technology that provides providers a Care Alert at the point of care that a patient is eligible for DPP. Additionally, CRISP also supports population level SMART alert reports so MCOs can provide proactive outreach and support to members potentially eligible for DPP.

CY 2022 Priorities

In 2022, the State is focused on accomplishing four main priorities to address diabetes and achieve SIHIS goals.

- Infrastructure development of data on selected BMI, Diabetes and Prediabetes measures will be completed to create a Diabetes Dashboard. Data development is important to understand type 2 diabetes and the risk factors for prediabetes and diabetes. An emphasis will be on developing the diabetes measures for a supplemental SIHIS Directional Indicators Dashboard and a Clinical Measure/Provider Dashboard. Baseline measures will be obtained, and the state will develop goals and objectives for improvement on the diabetes measures.
- The DQTF workgroups have been focused on developing work plans with activities that align with the Diabetes Action Plan and SIHIS measures. This will continue to be a focus in 2022.

- MDH will continue to partner with MDPCP and Medicaid to align and operationalize diabetes programming.
- Employer engagement is a priority for the state to continue efforts in addressing prevention of type 2 diabetes. MDH is participating in a state employer learning collaborative made available by the Centers for Disease Control and Prevention and the National Association of Chronic Disease Directors. The goal is to provide strategies to work with employers to increase coverage of the National DPP lifestyle change program.

Domain 3b. Total Population Health – Opioids

SIHIS presents a unique opportunity for the State to address the opioid crisis in Maryland. In 2015, the Lt. Governor convened the Maryland Heroin and Opioid Emergency Taskforce, which highlighted the opioid crisis as a critical health priority for the state. In 2017, Governor Hogan declared a State of Emergency, establishing the Opioid Operational Command Center (OOCC) and the Inter-Agency Heroin and Opioid Coordinating Council (IOCC) which is still in operation today. The specific goal, measure, milestones, and targets for the opioids priority area are below, as well as 2018 baselines broken down by race and ethnicity.

Table 9. Total Population Health - Opioids Goal

Goal: Improve overdose mortality[6]	
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
2021 Year 3 Milestones ***All Milestones Complete***	Identify the cohort of states who will serve as the synthetic control group to measure progress. Enter into Data Use Agreements as necessary. 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

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 through a proxy measure which uses data from the Office of the Chief Medical Examiner (OCME) and the Maryland

[6] Maryland will utilize CDC data that measure age-adjusted overdose rates based on ICD-10 codes.

Department of Planning. Additional detail on the proxy measure is included in Appendix 1 – SIHIS Directional Indicators Dashboard User Guide.

Table 10. Overdose Fatality Rates per 100K by Race/Ethnicity, 2018

Race	2018
White	48.47
Black	45.59
Hispanic	10.80
Asian	0
Other	22.10

Source: OCME Enhanced Data and Maryland Department of Planning

Milestone Progress

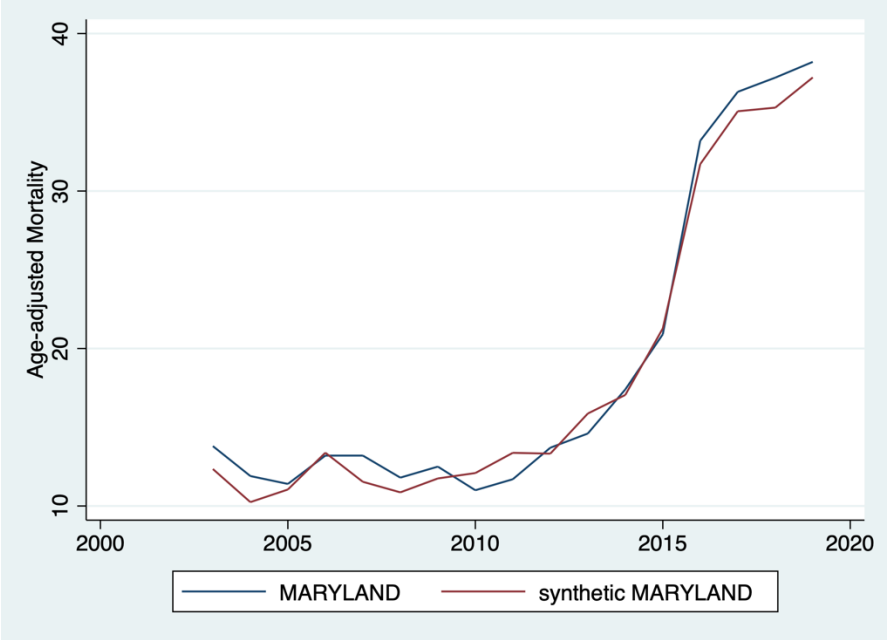
Maryland is pleased to share that all three 2021 milestones for the opioids use priority area have been met.

Milestone 1: Identify cohort of states for synthetic control group

HSCRC has selected three states and Washington, DC to serve as the synthetic control group: Massachusetts, New Jersey, Delaware, Washington, DC. To identify synthetic control states, Maryland relied on multiple years of age-adjusted overdose mortality data from the CDC. The synthetic control process identified a set of weights for each state that, taken together, produce a pre-intervention trend line that closely matches Maryland's, while yielding a control group that resembles Maryland across a selection of demographic variables, including race, education, income and gender. The synthetic control weights reflect the percentage of the control group's overdose mortality rate that is attributable to a particular state. Most states receive a weight of zero, meaning they contribute no data to the synthetic control estimate.

The synthetic control group produced a mortality trend that is acceptably close to Maryland's, as shown by the figure below.

Figure 4. Opioids Synthetic Control Group Mortality Trend



States included in the control group were assigned weights as follows:

Figure 5. Opioids Synthetic Control Group Weights

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

Milestone 2: Regional Partnership Catalyst Program – Behavioral Health Track

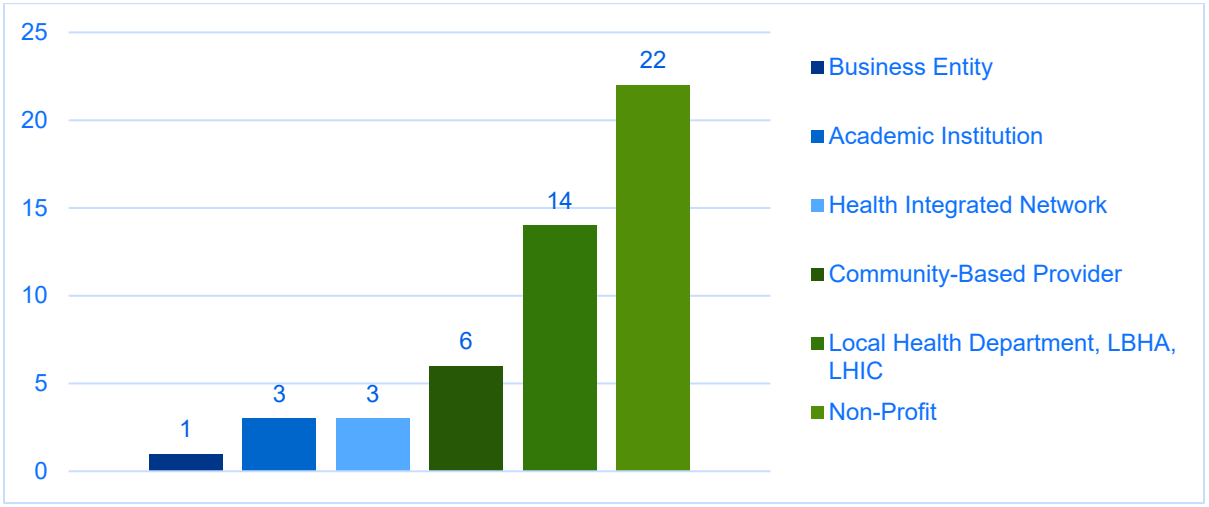
The Regional Partnership Catalyst Grant Program, discussed above in the diabetes section of this report, also supports the implementation and expansion of behavioral health crisis management models as described in the "Crisis Now: Transforming Services is Within Our Reach" action plan developed by the 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 listed below.

Table 11. Table 8. 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 identified a total of 49 community partners to support the expansion of behavioral health crisis services in their communities.

Figure 6. Regional Partnership Behavioral Health Collaborator Types and Counts



Source: Regional Partnership Proposals

As with the diabetes funding stream of the Regional Partnership Catalyst Program, the first year of the program ended December 31, 2021. Regional Partnerships will submit annual reports on activities and spending in spring 2022. To date, CY 2021 has primarily served as a planning year for each Regional Partnership. Regional Partnerships prioritized putting business agreements in place, finalizing memorandums of understanding, and procuring contracts necessary for implementing activities in CY 2022. GBRICS and TLC focused efforts on procuring software to implement "air traffic control" systems and expanding mobile crisis teams in their service area in CY 2022. TRIBE has spent the year preparing to open the doors to their ED-adjacent stabilization center in late January 2022.

Milestone 3: Expand SBIRT to 200 practices participating in MDPCP

As of December 2021, 311 MDPCP practices have implemented Screening, Brief Intervention, and Referral to Treatment (SBIRT). Of these, 115 practices have been assisted in transitioning their SBIRT data reporting into CRISP monthly. Since 2020, 296 providers and staff have been trained on SBIRT. This training includes the specific practice workflow and documentation in the EMR, the steps for a brief intervention utilizing motivational interviewing to assist patients with behavioral change.

The MDPCP provides practices with a menu of evidence-based methods of behavioral health integration. For example, to help practices combat Maryland's statewide opioid epidemic, the State engaged a contractor named Mosaic Group, which is experienced in integrating into primary care the evidence-based protocol for SBIRT. By the end of 2020, 157 MDPCP practices had fully implemented this process, 40 more than in 2019. The contractor has continued to work with these practices to ensure continuous improvement in the process as well as working with more practices to implement SBIRT.

Additional Efforts to Address Opioid Misuse

The section of the report highlights additional initiatives the State and stakeholders are implementing to address opioid use and reduce overdose mortality. The initiatives described are not an exhaustive list of ongoing and planned activities but are key areas of focus driving progress under SIHIS.

Opioid Operational Command Center Initiatives

The Opioid Operational Command Center (OOCC), the state's principal coordinating office for responding to the opioid and overdose crisis, will continue to facilitate inter-agency coordination of state efforts to ensure state and local initiatives are in alignment with the Hogan Rutherford Administration's policy priorities: Prevention & Education, Enforcement & Public Safety and Treatment & Recovery. The OOCC is charged with leading the development of the state's annual coordination plan which identifies the highest priority goals, strategies and tactics for the state's opioid and overdose response.

Additionally, the OOCC serves as a grant-making agency and distributes funding to governmental and non-governmental agencies to implement programs to reduce overdose-related morbidity and mortality. Understanding that individuals who are involved in the criminal justice system are at high-risk of overdose death following release from incarceration, the OOCC will be issuing a notice of funding opportunity (NOFO) to support local detention centers in standing up the provisions of the *Opioid Use Disorder Examinations and Treatment Act* of 2019. This act requires local detention centers to screen inmates for opioid use disorder and connect them to an FDA-approved formulation of medications for opioid use disorder (MOUD), if appropriate. By January 1, 2023, all local detention centers must be compliant with the legislation. The OOCC believes that by connecting individuals with OUD to MOUD within the correctional system, and ensuring continuity of care upon release, the State will address overdose risk for a vulnerable population.

The Outpatient Mental Health Center (OMHC) to Crisis Stabilization Facility (CSF) Transition Program was established by a grant from the OOCC in FY 2021 and received continued funding through FY 2022 this past summer. The goal of the program is to assist with the need for crisis infrastructure in Maryland by assisting established OMHCs with their transition to becoming CSFs. Through the technical assistance provided by the OMHC to CSF Transition Team, each selected site will work on a feasibility study, create operational and transition budgets, and increase their ability to provide buprenorphine products through obtaining DATA 2000 Waivers, as part of the funding received from the OOCC. Selected sites were notified of their selection in mid-December and their on-boarding began January 3rd, 2022. Each site will work with the OMHC to CSF Transition Team on all internal deliverables mentioned until June 30th, 2022.

Medicaid Initiatives

In addition to covering specialty SUD treatment in institutions of mental diseases (IMDs), Medicaid will now offer coverage to adults aged 21 to 64 who have a severe mental illness (SMI) diagnosis and are residing in a private IMD. Medicaid is also focused on expanding the Maternal Opioid Misuse (MOM) Model which is discussed more thoroughly under the maternal health milestones section of this report.

Naloxone Distribution and Saturation Formula

The Center for Harm Reduction Services (CHRS) within MDH administers the Overdose Response Program (ORP), which provides the means for training bystanders to administer naloxone in the event of an opioid overdose. MDH authorizes local entities as ORPs, allowing them to provide overdose education and dispense naloxone 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. 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 20.0-30.0 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.

Racial Disparities in Overdose Taskforce

In 2017, Maryland began observing racial disparities in overdose mortality trends. Between 2017-2019 overdose mortality declined by 11% for white Marylanders, while increasing by nearly 40% for Black Marylanders.[7] To respond to this growing disparity, the IOCC, chaired by Lt. Governor Boyd Rutherford, formed the Racial Disparities in Overdose Taskforce. The charge of the task force is to identify contributing factors leading to the acceleration in overdose deaths in the Black community and to identify policies and programs that can be implemented immediately to reduce overdose death among Black Marylanders. The workgroup is comprised of a diverse group of stakeholders, including but not limited to state and local government, providers, the advocacy community, and individuals with lived experience. The task force will report its findings to the Lt. Governor's Inter-Agency Opioid Task Force in August 2022.

SVG Stakeholder Activity Highlights

As mentioned earlier in this report, Secretary Schrader requested that SVG member organizations develop and share the specific activities they would undertake to support the State's goals under SIHIS. Select highlights of stakeholder activities to address opioid use are below.

CareFirst

CareFirst has a team of care managers specifically dedicated to behavioral health transitions to improve patient outcomes. The team works collaboratively with patients, their providers, and community resources to provide support, care coordination and, when necessary, discharge planning from behavioral health facilities. CareFirst also has a comprehensive opioid management strategy to address inappropriate and high-dose opioid use, as well as a program to address potential overutilization of controlled substances and high-risk behavior. CareFirst is also implementing quality measures specific to behavioral health that incentivize providers to improve quality of care for patients.

MedChi

MedChi promotes the Prescription Drug Monitoring Program (PDMP) and runs the PDMP hotline. MedChi also partners with the Maryland School of Pharmacy to provide continuing medical education (CMEs) to dispensing physicians. In addition to providing CMEs, MedChi works with other state medical societies on opioid education and prescribing best practice tools.

[7] Data from Vital Statistics Administration.

Leveraging CRISP to Drive Progress

In 2021, CRISP implemented a consent registry and management tool that enables provider mediated workflows for the registration of 42 CFR Part 2 compliant consents to share information. This tool will allow SUD providers covered under 42 CFR Part 2 to partner with CRISP to share substance use disorder treatment information with patient care teams through the HIE. CRISP worked in 2021 to increase the number of SUD providers sharing Part 2 information through the HIE. In addition, CRISP developed a workflow that will allow consent signatures to be captured outside the tool and then registered in the tool, enabling consents to be captured and filed as more SUD providers move to telehealth workflows due to the Covid-19 situation. In 2022, CRISP will train more BH and somatic care providers, including PCPs, federally qualified health centers (FQHCs), and hospital discharge planners to use the consent tool to register consent. In addition, CRISP will work with payers to enable them to work with their members to register consent so that the payer team can also view SUD information.

CY 2022 Priorities

In 2022, the State is prioritizing expanding SBIRT in emergency department (ED) and primary care settings to identify individuals with opioid use disorders. In parallel, the State will continue to work to expand access to MOUD in the hospital and primary care setting so that individuals who are identified as having an opioid use disorder can be connected to treatment. Additionally, Maryland will continue to expand its robust community-based naloxone distribution program. The State will increase efforts to ensure that healthcare providers, including opioid treatment programs, hospitals, homeless services providers, and emergency medical systems, are able to distribute naloxone directly to those at greatest risk for overdose.

Domain 3c: Total Population Health – Maternal Health

Severe maternal morbidity (SMM) events are unexpected outcomes of labor and delivery. According to the Centers for Disease Control and Prevention, severe maternal morbidity has increased in the past several years.[8] The increase may be due to overall population health changes in birthing individuals such as increasing maternal age, pre-pregnancy obesity, pre-existing chronic medical conditions, and cesarean deliveries.[9]

To generate the Maryland's SMM rate, the State uses administrative hospital discharge data and International Classification of Diseases (ICD) diagnosis codes and procedure codes. Federal partners such

[8] 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.

[9] 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.

as the Health Resource Service 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 then published in the Federally Available Data (FAD) Resource Document and the Alliance for Innovation on Maternal Health (AIM) Data resource webpage. Under SIHIS, Maryland is using indicators available through the FAD Resource Document and AIM Data resource webpage. The State intends to use the updated formula to align with national SMM calculations. The 2018 baselines have been updated from the SIHIS proposal to reflect the updated SMM indicators and most recent formula. The specific goal, measure, milestones, and targets for the maternal health priority area are below.

Table 12. 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 SMM Rate per 10,000 delivery hospitalizations
2021 Year 3 Milestone	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	219.3 SMM Rate per 10,000 delivery hospitalizations
2026 Year 8 Final Target	197.1 SMM Rate per 10,000 delivery hospitalizations

Table 13. Race/Ethnicity Disparities in Maryland SMM Rate, 2018 Baseline

Race	2018
NH White	181.4
NH Black	334.2
Hispanic	242.0
NH Asian	249.2
Other	205.2

Source: HSCRC Case-Mix Data

Impact of COVID-19 on Performance

The State is closely monitoring monthly performance on SMM rates which were negatively impacted by COVID-19. As vaccination rates increase in the State, the SMM rates are declining, although the impact of

the COVID-19 omicron variant on performance may impact this improved performance. The State will continue to monitor performance throughout 2022 and communicate with CMMI if negative trends continue and threaten the State's ability to meet its 2023 target. Despite the influence of COVID-19 on SMM outcomes, healthcare providers and stakeholders continue to work diligently to expand and implement interventions to improve maternal health and reduce SMM in Maryland.

Milestone Progress

Maryland is pleased to share that all four 2021 milestones for the maternal health priority area have been met.

Milestone 1: Re-launch the Maryland Perinatal Quality Collaborative

Perinatal Quality Collaboratives are state networks of teams working to improve the quality of care for mothers 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 uses the safety bundles from the AIM, which is a national data-driven maternal safety and quality improvement initiative. The MDPQC relaunched and hosted its initial MDPQC kickoff on January 25, 2021, on the AIM severe hypertension bundle. The kickoff consisted of patient speakers, a hospital's experience, and the AIM Implementation Director with a focus on maternal hypertension.

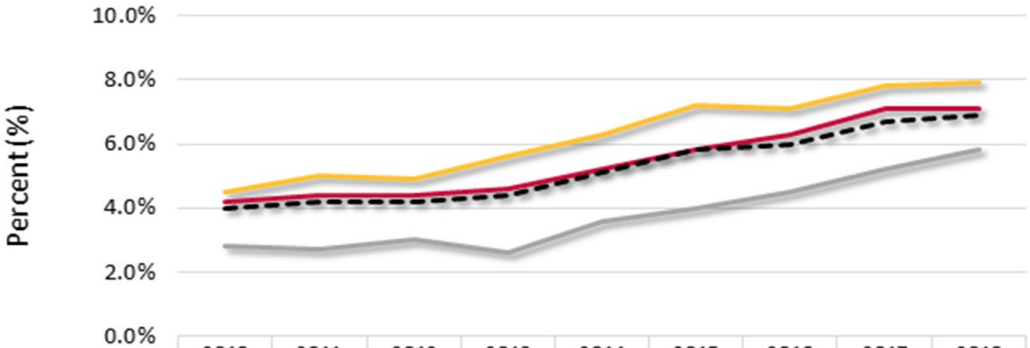
Hypertension was selected by the MDPQC Steering Committee, which consisted of perinatal care providers and public health professionals. Factors leading to this decision included that the rates of chronic and gestational hypertension have been steadily increasing in Maryland with increasing disparities in chronic hypertension seen between Black Non-Hispanic and White Non-Hispanic birthing people (Figure 4 and Figure 5). Steering Committee members recognized that hypertension conditions lead to severe complications. According to literature, birthing individuals with pre-eclampsia and eclampsia may have a 3- to 25-fold increased risk of severe complications, such as placental abruption, bleeding disorders, and respiratory complications.[10] Finally, a significant proportion of SMM events were related to hypertension. In 2018, seventeen percent of the SMM events were pre-eclampsia and eclampsia events.[11] From 2016-2019, 21% of the SMM events were related to hypertension-related severe maternal morbidity events.[12]

[10] Dr. Jun Zhang, Susan Meikle & Ann Trumble (2003) Severe Maternal Morbidity Associated with Hypertensive Disorders in Pregnancy in the United States, Hypertension in Pregnancy, 22:2, 203-212, DOI: 10.1081/PRG-120021066

[11] Calculated by Maternal and Child Health Bureau Epidemiology with Health Services Cost Review Commission (HSCRC) data

[12] Calculated by the Maternal and Child Health Bureau Epidemiology with HSCRC data. Hypertension-related Severe Maternal Morbidity was defined as having 1 or more of the following conditions: acute renal failure, cardiac arrest/ventricular fibrillation, heart failure during procedure or surgery, conversion of cardiac rhythm, acute myocardial infarction, pulmonary edema, disseminated intravascular coagulation, thrombotic embolism, puerperal cerebrovascular disorders, eclampsia, or aneurysm. This was defined by the Centers for Disease Control and Prevention. https://www.cdc.gov/pcd/issues/2019/19_0045.htm#T1_down

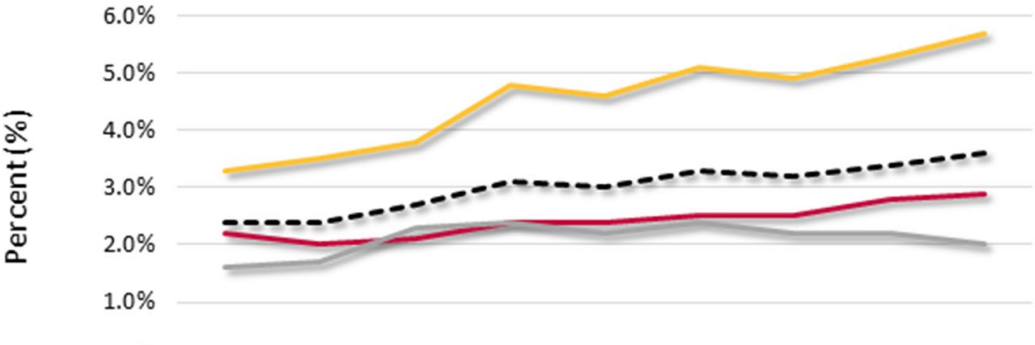
Figure 7. Percent of Births with Pregnancy-Associated Hypertension by Race and Ethnicity, 2010-2018



	2010	2011	2012	2013	2014	2015	2016	2017	2018
NH White	4.2%	4.4%	4.4%	4.6%	5.2%	5.8%	6.3%	7.1%	7.1%
NH Black	4.5%	5.0%	4.9%	5.6%	6.3%	7.2%	7.1%	7.8%	7.9%
Hispanic	2.8%	2.7%	3.0%	2.6%	3.6%	4.0%	4.5%	5.2%	5.8%
Total	4.0%	4.2%	4.2%	4.4%	5.1%	5.8%	6.0%	6.7%	6.9%

Data source: Vital Statistics Administration (VSA), MDH

Figure 8. Percent of Births with Chronic Hypertension by Race and Ethnicity, Maryland, 2010-2018



	2010	2011	2012	2013	2014	2015	2016	2017	2018
NH White	2.2%	2.0%	2.1%	2.4%	2.4%	2.5%	2.5%	2.8%	2.9%
NH Black	3.3%	3.5%	3.8%	4.8%	4.6%	5.1%	4.9%	5.3%	5.7%
Hispanic	1.6%	1.7%	2.3%	2.4%	2.2%	2.4%	2.2%	2.2%	2.0%
Total	2.4%	2.4%	2.7%	3.1%	3.0%	3.3%	3.2%	3.4%	3.6%

Data source: Vital Statistics Administration (VSA), MDH

All thirty-two Maryland birthing hospitals participate in the MDPQC. The MDPQC has been working to provide technical assistance to the birthing hospitals particularly in submitting data for the PQC and AIM (Table 1).

*Table 14. Maryland Birthing Hospitals Data Submission to MDPQC and AIM, Q4 CY 2020 - Q3 CY 2021**

	Hospitals Submitted, n (%)				% Change Q420 -Q321
Structure Measures	**CY20 – Q4**	**CY21 – Q1**	**CY21 – Q2**	**CY21 – Q3**	
S1: Patients, Families, and Support	12 (38%)	14 (44%)	14 (44%)	14 (44%)	17% ↑
S2: Debriefs	20 (63%)	24 (75%)	24 (75%)	26 (81%)	30% ↑
S3: Multidisciplinary Case Reviews	17 (53%)	21 (66%)	22 (69%)	23 (72%)	35% ↑
HTN S4: Unit Policy	22 (69%)	26 (81%)	27 (84%)	28 (88%)	27% ↑
HTN S5: EHR Integration	17 (53%)	21 (66%)	24 (75%)	25 (78%)	47% ↑

Source: MDPQC and AIM Reports

Milestone 2: Pilot a Severe Maternal Morbidity Review Process in Maryland Birthing Hospitals

In September 2019, the HRSA awarded the Johns Hopkins University (JHU) $10.3 million dollars over a five-year period as part of the State Maternal Health Initiative Program to address disparities in maternal health and improving maternal health outcomes, with a particular emphasis on preventing and reducing maternal mortality and severe maternal morbidity. JHU has partnered with MDH, Baltimore Healthy Start, and hospital centers to address SMM.

Six birthing hospitals participated in the SMM review process. The six hospitals were Anne Arundel Medical Center, Howard County General Hospital, Johns Hopkins Hospital, MedStar St. Mary's Hospital, Mercy Medical Center, and Sinai Hospital of Baltimore. The SMM Surveillance Case Definition in Maryland is adapted from the proposed CDC, American College of Obstetrics and Gynecology (ACOG), and Society for Maternal Fetal Medicine (SMFM) definition for facility-based surveillance. It includes all birthing individuals admitted to a critical care unit, birthing individuals with four or more units of red blood cells transfused, and birthing individuals affected by emerging public health threats requiring hospital admission and treatment.

Lead data abstractors at each hospital identify the SMM Cases, abstract, and enter relevant case information into a surveillance database that was developed by Maryland Maternal Health Innovation Program (MDMOM) health informatics specialists and housed on the MDMOM program website. Upon abstraction of data from several cases, multidisciplinary hospital-based review committees meet to review cases and assess their preventability.

Milestone 3: Draft Maryland Maternal Health Strategic Plan

As part of the Maternal Health Improvement Program, the Maternal Health Improvement Task Force developed a Maternal Health Strategic Plan to improve maternal health outcomes in Maryland for the next five years. The plan builds upon HRSA Title V Block Grant needs assessment and State's activities.

There are five goals for the Maternal Health Improvement Program Strategic Plan:

- Goal 1: Promote equity and anti-racism in maternal health policies and practices
- Goal 2: Promote maternal health (preconception, prenatal and birth, postpartum and interconception periods) through the implementation of effective programs and advocacy for necessary policy change.
- Goal 3: Acknowledge the influence of the social determinants of health and historical racism in the development of strategies to improve resiliency and promote an optimal quality of life for birthing people, their families, and their communities.
- Goal 4: Improve access to and utilization of data and improve surveillance of data on structural racism and its impact, to make informed policy decisions.
- Goal 5: Develop a maternal health provider workforce that will be available, accessible, and culturally relevant whose practice is rooted in principles of equity and racial justice.

The strategic plan builds upon the MDMOM initiative and includes 25 objectives and 57 tactics across more than 20 partners.

Milestone 4: Launch MCH Funding Initiative

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. Funding through Medicaid will create the opportunity for the State to receive federal match funding to nearly double the investment.

The following are the priority areas for the funding:

Medicaid-led Initiatives

Funding to Medicaid will support a suite of evidence-based and promising practices to improve maternal and child health outcomes in partnership with its MCOs, including:

1. Home Visiting Services pilot expansion;
2. Reimbursement for doula services;
3. CenteringPregnancy, a clinic-based group prenatal care model;
4. Healthy Steps, a clinic-based intensive prenatal and postpartum case management framework; and
5. Maternal Opioid Misuse (MOM) model expansion

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Home Visiting Services (HVS) Pilot Expansion

Medicaid has operated a Home Visiting Services (HVS) pilot since 2017 through its §1115 waiver, which has enabled an expansion of evidence-based home visiting services to Medicaid-eligible high-risk pregnant individuals and children up to age two. The HVS pilot program is aligned with two evidence-based models focused on the health of pregnant individuals. The Nurse Family Partnership (NFP) model is designed to reinforce maternal behaviors that encourage positive parent-child relationships and maternal, child and family accomplishments. The Healthy Families America (HFA) model targets parents facing issues such as

single parenthood, low income, childhood history of abuse, substance use disorder, mental health issues or domestic violence. The current financing structure of the HVS pilot, which requires local lead government entities to provide a local match through an intergovernmental transfer, has garnered limited participation from additional lead entities because of the requirement to produce the required match from non-federal funding sources. Expanding existing HFA or NFP programs will allow more high-risk pregnant individuals to get access to both health and social support during the prenatal to three-year period through home visiting services.

HVS coverage is anticipated to be available statewide through all nine MCOs, effective January 13, 2022. As of December 2021, Medicaid has met all key milestones required in the path to coverage: 1) regulations for HVS coverage are drafted and were available for public comment between October 22-November 22nd. These include the requirements for HVS participation with Medicaid, including accreditation standards and the proposed reimbursement model, among other coverage details; 2) a new HVS provider type has been established in the Medicaid Management Information Systems (MMIS); 3) two provider enrollment training webinars are being prepared and scheduled for December (one focused on LHD enrollment, and the other non-LHD enrollment); 4) meetings with MCOs have occurred in July, September and October, a FAQ document with MCO questions has been prepared, and MCOs are preparing their systems for this coverage; 5) MDH has maintained communications with HVS stakeholders and is scheduled to meet weekly with the MCH Bureau (MCHB) staff through the end of the year to discuss implementation progress, communications and collaboration opportunities to help ensure a successful rollout of this benefit, including how programs that currently are funded by maternal, infant, and early childhood home visiting (MIECHV) will respond to the Medicaid coverage.

Reimbursement for Doula Services

Doulas are trained to provide continuous physical, emotional, and informational support to a mother 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 mothers 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, primiparous, giving birth in a hospital without a companion or had experienced language or cultural barriers.

Doula coverage is anticipated to be available statewide through all nine MCOs, effective February 7, 2022. As of November 10, 2021, Medicaid has met all key milestones required in the path to coverage: 1) regulations for doula coverage are drafted and are now expected to be available for public comment between November 19-December 20th. These include the requirements for doula participation with

Medicaid, including certification standards and the proposed reimbursement model, among other coverage details; 2) a new doula provider type has been established in the MMIS system; 3) two provider enrollment training webinars are being prepared and scheduled for December (focused on Doula group enrollment) and January (focused on individual doula enrollment; 4) meetings with MCOs have occurred in July, September and October, a FAQ document with MCO questions has been prepared, and MCOs are preparing their systems for this coverage; 5) MDH has maintained communications with doula stakeholders (led by the Doula Technical Assistance Advisory Group-DTAAG) and is scheduled to meet in early December to discuss implementation progress, communications and collaboration opportunities to help ensure a successful rollout of this benefit; 6) MDH is collaborating with the Maryland Hospital Association (MHA) to ensure that hospitals are aware of and prepared to participate in the benefit; 7) the State Plan Amendment (SPA) has been drafted and is expected be submitted to CMS in early 2022.

CenteringPregnancy

CenteringPregnancy is an evidence-based group prenatal care model for low-risk pregnancies. 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 covering medical and non-medical aspects of pregnancy, including nutrition, common discomforts, stress management, labor, and birth, breastfeeding and infant care. While Centering groups are comprised of participants of different ages, races and socio-economic backgrounds, this program has been shown to improve outcomes and reduce preterm birth, particularly for Black participants. Evidence suggests CenteringPregnancy reduces costs, improves outcomes, and leads to high satisfaction, with one study showing a reduction in risk of premature birth by 36 percent, with an average cost savings of $22,667, in the rate of low birthweight by 44 percent (average savings of $29,627) and NICU stays (average savings of $27,249). There are currently eight CenteringPregnancy sites in Maryland—four in the Baltimore metro area, two in the DC metro area, one on the Eastern Shore and one in Western Maryland. MDH has researched CenteringPregnancy implementation in other states and has been working with MCOs to begin implementation of CenteringPregnancy coverage in CY2022.

HealthySteps

HealthySteps, a program of 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. 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. HealthySteps has demonstrated a 204 percent average annual return on investment. Healthy Steps has two existing locations in Maryland: University of

Maryland School of Medicine Department of Family & Community Medicine and University of Maryland Pediatrics – Midtown, both located in Baltimore. MDH has researched HealthySteps implementation in other states and has been working with MCOs to begin implementation of HealthySteps coverage in CY2022.

Maternal Opioid Misuse (MOM) Model

The MOM model focuses on improving care for pregnant and postpartum Medicaid participants diagnosed with opioid use disorder (OUD). 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 model focuses on improving clinical resources and enhancing care coordination to Medicaid beneficiaries with OUD during and after their pregnancies. Under the Maryland MOM model, HealthChoice MCOs receive a per member, per month 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. The Maryland MOM model is currently a CMMI-funded demonstration; model services are provided on a pilot basis in one Maryland jurisdiction (St. Mary's County) from July 2021 through June 2022. The model is anticipated to scale to statewide by January 2023, leveraging the MCH Population Health Improvement Fund as the state share when the model transitions to §1115 funding in July 2022.

PHS-led Initiatives

PHS has developed an Eliminating Disparities in Maternal Health initiative which will provide funding to jurisdictions with elevated SMM rates. This initiative will support the expansion of CenteringPregnancy and other evidence-based and promising practice home visiting interventions. The MCHB has released a competitive bid to expand these programs and will issue funding in early 2022.

Additional Efforts to Address SMM

The section of the report highlights additional initiatives the State and stakeholders are implementing to address severe maternal morbidity and improve maternal health outcomes. The initiatives described are not an exhaustive list of ongoing and planned activities but are key drivers of progress under SIHIS.

State Investments in Post-Partum Coverage

During the 2021 session, the Maryland legislature passed Senate Bill 923, which extends Medicaid coverage for comprehensive medical, dental and other health care services for postpartum individuals. The legislation provided an estimated $17 million in additional funding to improve health for mothers who participate in Maryland's Medicaid program. On April 1, 2022, the Department will extend the postpartum

period from 60 days to 12 months. The Centers for Medicare and Medicaid Services (CMS) released additional guidance on how to implement expanded postpartum in December 2021.

The Governor's Supplemental Budget for FY 2021 allocated $1 million in funds for dental coverage for postpartum women, to align with the member's somatic coverage. The Department is currently in the process of promulgating regulations to include postpartum coverage for eligible members of the Maryland Healthy Smiles Dental Program (MHSDP). Effective November 15, 2021, Maryland Medicaid's Fee-for-Service (FFS) dental coverage provided to pregnant women under the MHSDP will be extended through their postpartum period.

SVG Stakeholder Activity Highlights

As mentioned earlier in this report, Secretary Schrader requested that SVG member organizations develop and share the specific activities they would undertake to support the State's goals under SIHIS. Select highlights of stakeholder activities to address maternal health outcomes are below.

CareFirst

As part of ongoing efforts to improve maternal and newborn health outcomes, CareFirst is working with large obstetric practices to develop payment models to improve maternity episodes of care. Additionally, through collaboration with L&D providers and hospitals, CareFirst has prioritized evaluating health disparities and offering programs to improve access to care for women and infants to improve health outcomes. Additionally, CareFirst offers care coordination and case management for members identified as high-risk obstetric patients.

University of Maryland Medical System

In addition to participating in various collaboratives and programs to address maternal health, such as the PQC and MDMOM, UMMS is implementing various maternity bundles to increase use of evidence-based practices in obstetric care. The system is currently focused on implementing the severe hypertension in pregnancy bundle, in addition to the AIM bundles for Safe Reduction of Primary Cesarean Births and Obstetric Hemorrhage. UMMS also prioritizes clinician education though the use of an Active OB simulation program to educate and strengthen technical, behavioral, and communication skills.

CY 2022 Priorities

In 2022, the State is focused on scaling existing MCH programs and interventions to maximize impact on SMM rates and reduce maternal health disparities. MDH is prioritizing the expansion of maternal, infant, and early childhood home visiting programs through Medicaid and MCHB. Additionally, the State is expanding the number of CenteringPregnancy sites, as well as the number of SMM review sites.

Domain 3d: Total Population Health – Child Health

Asthma, which has one of the largest racial and ethnic disparities in terms of ED visit rates, is responsible for more ED visits than many other major chronic diseases, such as hypertension and diabetes. Additionally, 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. The specific goal, measure, milestones, and targets for the child health priority area are below, as well as 2018 baselines broken down by race and ethnicity.

Table 15. 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	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 16. Race/Ethnicity Disparities in Childhood Asthma-Related ED Visit Rates, 2018

Race	2018
NH White	4.1
NH Black	19.1
Hispanic	5.5
NH Asian	2.6
Other	10.3

Impact of COVID-19 on Performance

As is true for hospitals nationally, Maryland hospitals saw sharp declines in ED volumes in 2020 and early 2021. Understandably, Maryland's asthma-related ED visit rate for ages 2-17 declined during this period. While 2021 volumes are trending back to 2018 baselines, they are still artificially low. Despite these low ED

volumes, the State believes that the underlying dynamics of childhood asthma in Maryland have not changed. In some cases, childhood asthma may be exacerbated as patients avoided seeking healthcare entirely, potentially worsening racial disparities. The State will continue to monitor performance throughout 2022 and evaluate the impact of COVID-19 on progress. In the meantime, the State continues to expand interventions and identify opportunities to address and reduce childhood asthma and health disparities.

Milestone Progress

Maryland achieved all 2021 milestones for the childhood asthma population health priority area.

Milestone 1: Check population projections

To achieve Milestone one, further analysis was conducted to understand the Asthma-related emergency department visits. An average of 97.2% of all ED visits for asthma for children enrolled in Medicaid are in hospitals in Maryland (2013 - 2019).

Through Medicaid and HSCRC, the Environmental Health Bureau (EHB) obtained details of calendar year 2018 emergency department visits for the Medicaid population aged 2 - 17 years. These data showed that 424 children residing in Maryland had a total of 505 ED visits in hospitals outside of Maryland. The vast majority of these children (300) were treated in Washington DC. Thus, while the overall impact of cross-border treatment for asthma on SIHIS is likely negligible, there may be regional impacts and/or impacts on the state's disparities goals, depending on which children are not being treated in Maryland. Analysis of the data is continuing to understand exactly what these impacts might be and possible strategies to address them.

Milestone 2: Development of Asthma Dashboard

Maryland's Environmental Public Health Tracking project in the EHB provides a display of asthma data by relevant geographies across the State. A dashboard for the SIHIS initiative will be included in the Environmental Public Health Tracking public portal, which will include the asthma measures adopted through the SIHIS process and will also include links to LHDs and other partners participating in the asthma interventions. The dashboard was completed in December 2021 and public release of the dashboard is slated for early 2022.

Milestone 3: Asthma-related ED visit as a Title V State Performance Measure and shift some of the Title V funds for Asthma-related interventions.

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 the State Fiscal Year 22, LHDs were allowed to use their core public health funding to address asthma. Activities include 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, partnering with the health exchange to strengthen linkages to care. For State Fiscal Year 22, three LHDs participate in asthma activities through Title V.

Milestone 4: Launch MCH Funding Initiative

As mentioned earlier in this report, the HSCRC approved $40 million in cumulative funding to support maternal and child health interventions. The funding initiative will direct $10 million annually (FY 2022-2025) to Medicaid and PHS under MDH to support statewide expansions of evidence-based and promising practices to promote maternal and child health. Of the $10 million in annual funding, $1.25 million will directly support interventions to address childhood asthma.

One million of annual funding is dedicated to expanding Medicaid's CHIP Health Services Initiative (HSI) State Plan Amendment that authorizes asthma home visiting programs with LHDs. The program currently operates in nine jurisdictions: Baltimore City and Baltimore County, Charles, Dorchester, Frederick, Harford, Prince George's, St. Mary's, and Wicomico Counties. These are sites with some of the highest burden of asthma ED visits. Two new jurisdictions, Anne Arundel County and Montgomery County, will be implementing the asthma home visiting program beginning in 2022. Once they are deemed eligible and enrolled in the program, children's families are eligible for up to six home visits to receive education and training around home environmental factors that trigger asthma, durable goods that can reduce or eliminate home triggers, and improved care coordination with providers through asthma action plans. The program similarly provides home visiting for eligible children who have been lead poisoned and is one of the first such programs in the country. The home visiting program is built on evidence-based models that emphasize remediation of environmental factors, including the provision of education and training for parents, and provision of durable cleaning supplies and other equipment to assist families in reducing environmental factors including dust mites, insect and pet allergens, and other common allergens. Work to engage MCOs on this initiative has also recently begun, aimed at creating new or enhancing existing processes that notify MCOs when a member has been referred to or enrolled in an asthma home visiting

program. MCOs will work to ensure the child/family also receive the clinically appropriate services and/or counseling to achieve effective asthma management.

An additional $250,000 in annual funding will support other community-based interventions, such as mobile asthma treatment, for patients of all payer types. A competitive RFA to establish community-based asthma interventions was released in fall 2021.

Additional Efforts to Address Childhood Asthma

The section of the report highlights additional initiatives the State and stakeholders are implementing to address childhood asthma in Maryland. The initiatives described are not an exhaustive list of ongoing and planned activities but are key drivers of progress under SIHIS.

Rapid Referral Pilots

The MDH EHB and Medicaid program are working with several health care organizations and managed care organizations on a variety of asthma-related pilots, all designed to improve care coordination, referrals, and communications among and between primary and specialty care providers, managed care case management and asthma home visiting programs, and local health department asthma home visiting programs. Among the pilots are several with hospitals and health systems that are interested in expedited referrals to local health department home visiting programs. EHB is also working with CRISP on a pilot to identify and refer Medicaid-enrolled children who are seen in emergency departments or hospitalized for asthma. Many of these pilots are planned for a 2022 implementation, providing the state and health care systems with valuable information about improving care coordination,

SVG Stakeholder Highlights

As mentioned earlier in this report, Secretary Schrader requested that SVG member organizations develop and share the specific activities they would undertake to support the State's goals under SIHIS. Select highlights of stakeholder activities to address childhood asthma are below.

University of Maryland Medical System

UMMS has various initiatives in place to address childhood asthma-related ED visits. UMMS is expanding existing UM School of Medicine asthma treatment program, as well as education programs for clinicians, patients, and families to promote high-quality care. Additionally, UMMS is increasing efforts to identify and address unmet SDOH needs to address childhood asthma burden.

CY 2022 Priorities

In 2022, the State will continue to maintain the implementation of the asthma home visiting program in the nine existing, and expand to two new jurisdictions, in partnership with Medicaid. The State will also

establish one or more community-based asthma projects. Additionally, the State will continue to pilot rapid referrals to the asthma home visiting programs with the University of Maryland Medical System (UMMS) and Greater Baltimore Medical Center (GBMC) through the use of CRISP care alerts, provided to physicians at the point of care.

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.

Across the each SIHIS domain, Maryland was careful to consider goals, measures, and targets in its 2020 proposal that are realistic and achievable during the SIHIS performance period. However, COVID-19 continues to stretch healthcare resources and could ultimately affect the State's ability to achieve some or all of the goals under SIHIS. The State will continue to monitor performance across all SIHIS goals and will communicate with CMMI about the impact of COVID-19 on outcomes as additional data becomes available. Despite these challenges, Maryland is proud of the work accomplished in 2021 to support SIHIS and enthusiastic to continue this work in 2022. The State of Maryland looks forward to further discussions with CMMI on 2021 activities and ongoing efforts in 2022 to achieve SIHIS goals.

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Appendix I. SIHIS Population Health Directional Indicators Dashboard User Guide and Reports

STATEWIDE INTEGRATED HEALTH IMPROVEMENT STRATEGY (SIHIS):

POPULATION HEALTH DIRECTIONAL INDICATORS DASHBOARD

User Guide 1.0

October 13, 2021

hMetrix

TABLE OF CONTENTS

1 BACKGROUND & INTRODUCTION

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 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 a Memorandum of Understanding (MOU) that required Maryland to provide a proposal for the Statewide Integrated Health Improvement Strategy (SIHIS) to CMMI by December 31, 2020. The 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. CMMI approved the State's SIHIS proposal in March 2021

SIHIS contains five goals across three domains. The domains and associated goals are presented in the figure below. Each goal has a baseline measured on 2018 data, an interim target that will be measured on CY 2023 data, and a final target that will be measured on CY 2026 data.

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 "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

The SIHIS Population Health Directional Indicator reports focus on the Population Health Domain, which has three focus areas:

1. Opioid Use Disorder
2. Diabetes
3. Maternal and Child Health

Many of the data sources used for official SIHIS monitoring are calculated annually on delayed data sources. Therefore, CRISP and hMetrix partnered together with HSCRC and MDH to develop a series of reports using proxy measures and available data sources.

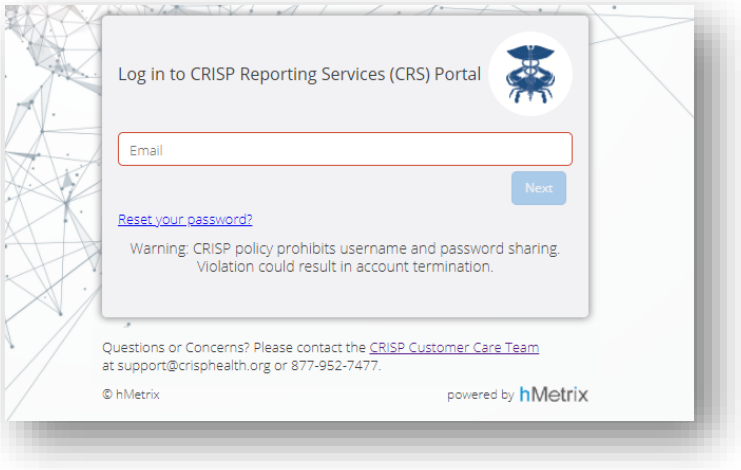
1.1 Software Requirements

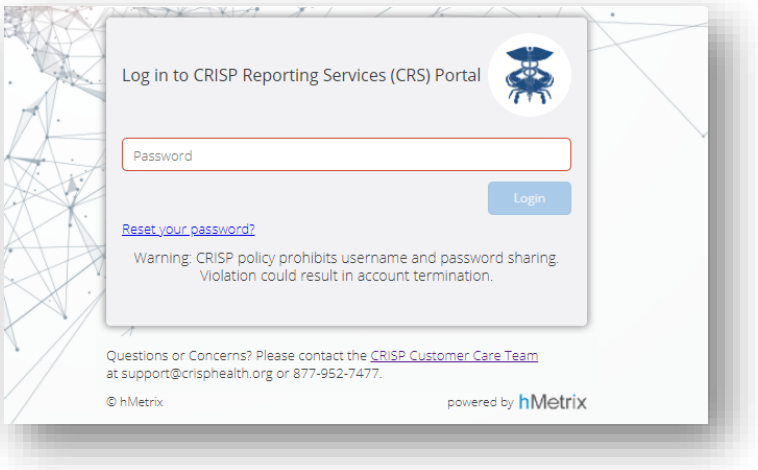
The SIHIS Population Health Directional Indicator reports are available through a web-based application accessible using a modern browser: Google Chrome 57 or higher, Internet Explorer 11 or higher, Firefox 52 or higher, and Safari 9 or higher.

1.2 Launching SIHIS Population Health Directional Indicator Reports

To access the SIHIS Population Health Directional Indicator reports, a user must first login to the CRISP Hospital Reporting Portal. Once in the portal, the user shall click the Card labeled "Public Health." The following screen shots represent the user's workflow.

Step 1: Log into the CRISP Hospital Reporting Portal using the user id and password provided for the portal - https://reports.crisphealth.org/

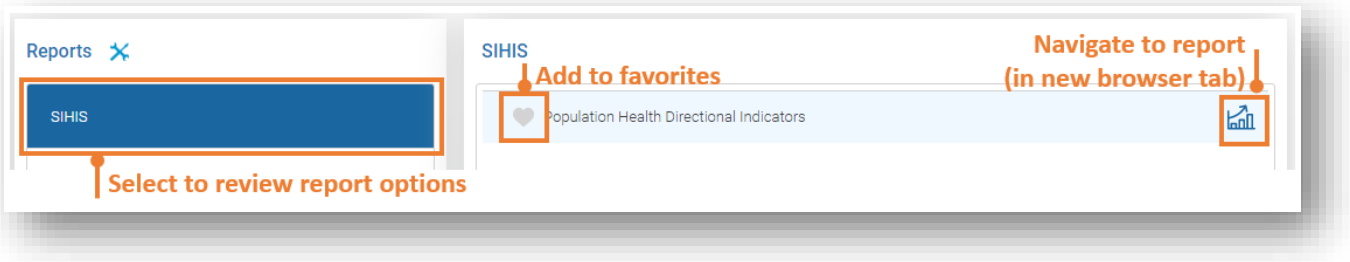




Step 2: Click the Card named “Public Health” within the Portal

Step 3: After clicking the card, users will see a menu with links to various Public Health reports. From this menu, select “SIHIS.”

Step 4: Upon selecting SIHIS, users can then navigate to the Population Health Directional Indicators report.



2 COMPARISON OF FORMAL SIHIS AND PROXY MEASURES

Due to data availability, CRISP is not able to present results for all of the formal measures. In these instances, CRISP worked with the HSCRC and MDH content leads to identify proxy measures that would suggest directional performance for the formal SIHIS measure. In this section, we present the construct of the formal measure, as well as the proxy measure presented in these reports.

2.1 Opioid Domain: Overdose Fatalities

A comparison of the formal and proxy measure is presented in the table below. For purpose of this measure, mortality and fatality is used interchangeably.

Element	Formal Measure	Proxy Measure
Measure	• Drug overdose mortality rate per 100,000 Maryland Residents • Age-adjusted • Includes all drugs/substances	• Drug overdose fatality rate per 100,000 Maryland Residents • Not age-adjusted • Includes all drugs/substances
Comparison/Trend	Change in rate from 2018 baseline compared to cohort of states with similar mortality rates and demographics. As of report release, the methodology for identifying and quantifying the overdose fatality rate for the comparison states is not available.	Change in rate from 2018 baseline compared to national change from 2018 baseline
Data Sources Numerator	**Maryland & Cohort**: National Vital Statistics System, available through Center for Disease Control (CDC) Wonder Database[1]	**Maryland**: Office of the Chief Medical Examiner (OCME) Enhanced Data **Nation:** National Vital Statistics Rapid Release Provisional Data[2]
Data Sources Denominator	**Maryland & Cohort**:[3]	**Maryland:** MD Department of Planning Maryland population estimates[4]
Time Period for Baseline	**Maryland & Cohort**: 12-month rolling average as of December 31, 2018	**Maryland & Nation**: 12-month rolling average as of December 31, 2018
Time Period for Measurement Period	**Maryland & Cohort**: Updated annually, approximately a 2-year delay in reporting	**Maryland**: Updated monthly, approximately 2-month delay in reporting **Nation**: Updated monthly, approximately 7-month delay in reporting
Population	Residents of Maryland	Deaths that occurred in Maryland regardless of residency

[1] https://www.cdc.gov/drugoverdose/deaths/2019.html
[2] https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm
[3] https://www.cdc.gov/drugoverdose/deaths/2019.html
[4] https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx

2.2 Diabetes Domain: Diabetes Prevention Recognition Program (DPRP)

A comparison of the formal and proxy measure is presented in the table below.

Element	Formal Measure	Proxy Measure
Measure	Reduction in mean body mass index (BMI) for adult Maryland residents	Cumulative enrollment of adult Maryland residents in diabetes prevention recognition programs
Comparison/Trend	Change in rate from 2018 baseline compared to cohort of states. As of report release, the methodology for identifying and quantifying the overdose fatality rate for the comparison states is not available	Change in cumulative enrollment from 2018 baseline compared to national change from 2018 baseline
Data Sources Numerator	**Maryland & Cohort**: Behavioral Risk Factor Surveillance Survey (BRFSS)[5]	**Maryland & Nation**: Centers for Disease Control (CDC) programmatic data
Data Sources Denominator	**Maryland & Cohort**: Behavioral Risk Factor Surveillance Survey (BRFSS)	**Maryland & Nation:** MD Department of Planning Maryland population estimates for ages 18 and over[6] Estimate of individuals with pre-diabetes based on Maryland Diabetes Action Plan (34% of adult population)[7]
Time Period for Baseline	**Maryland & Cohort**: Statewide average BMI for 12-month rolling average as of December 31, 2018	**Maryland & Nation**: Cumulative enrollment as of December 31, 2018
Time Period for Measurement Period	**Maryland & Cohort**: Updated annually, approximately 18-month delay in reporting	**Maryland & Nation**: Updated quarterly, approximately 1-month delay in reporting
Population	Maryland residents over 18 years old	Maryland residents over 18 years old with pre-diabetes

[5] https://www.cdc.gov/brfss/annual_data/annual_2020.html
[6] https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx
[7] https://health.maryland.gov/phpa/ccdpc/Documents/Diabetes%20Action%20Plan%20documents/Diabetes%20Action%20Plan%20June%201%202020.pdf

2.3 Maternal and Child Health: Severe Maternal Morbidity Hospitalizations

A description of the formal measure is presented in the table below. As the Case Mix data is readily available and updated, the results presented for this measure are consistent with the formal measure.

Element	Formal Measure
Measure	Severe maternal morbidity (SMM) rate per 10,000 delivery hospitalizations for women ages 12-55 years old
Comparison/Trend	Rate of SMM delivery hospitalizations compared to measure targets
Data Sources Numerator	HSCRC Case Mix Data; SMM indicators based on guidance from the Alliance for Innovation on Maternal Health[8] and Federal Available Data logic; includes Blood Transfusions[9]
Data Sources Denominator	HSCRC Case Mix Data; Delivery hospitalization indicators based on guidance from Federally Available Data Logic
Time Period for Baseline	Statewide average annual rate of SMM hospitalizations as of December 31, 2018
Time Period for Measurement Period	Statewide average rate of SMM hospitalizations for the most recent rolling 12 months
Population	Maryland residents ages 12-55 with a delivery hospitalization

2.4 Maternal and Child Health: Childhood Asthma-Related ED visits

A description of the formal measure is presented in the table below. As the Case Mix data is readily available and updated, the results for this measure are consistent with the formal measure.

Element	Formal Measure
Measure	Childhood asthma-related emergency department visits per 1,000 children ages 2 – 17 years old
Comparison/Trend	Rate of asthma-related emergency department visits compared to measure targets
Data Sources Numerator	HSCRC Case Mix Data; Asthma defined according to AHRQ CCS category
Data Sources Denominator	MD Department of Planning Maryland population estimates for ages 2 - 17[10]
Time Period for Baseline	Statewide average annual rate of childhood asthma-related emergency department visits as of December 31, 2018
Time Period for Measurement Period	Statewide average rate of childhood asthma-related emergency department visits for the most recent rolling 12 months
Population	Maryland residents ages 2-17

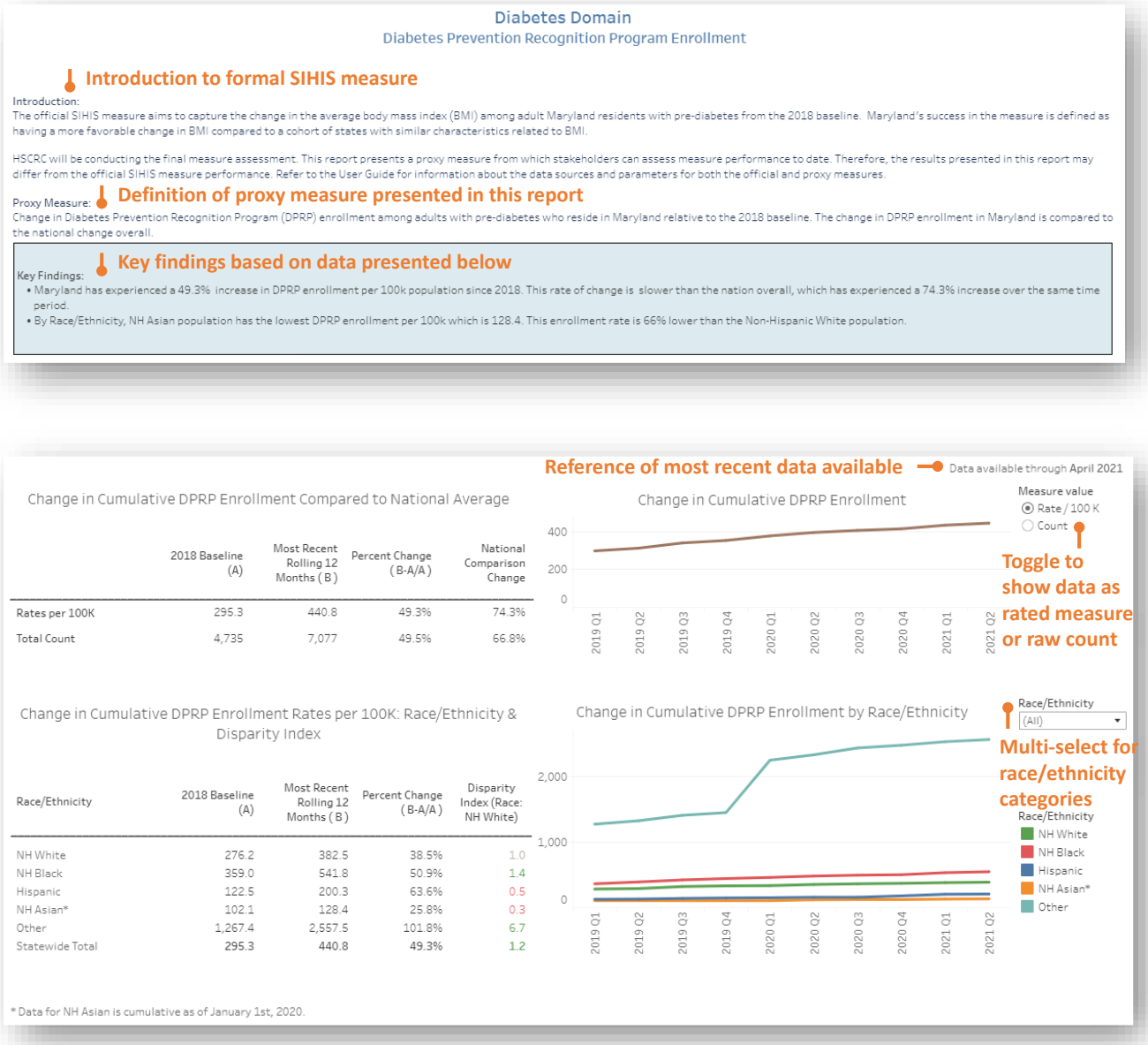
[8] https://safehealthcareforeverywoman.org/aim/resources/aim-data-resources/
[9] https://mchb.tvisdata.hrsa.gov/uploadedfiles/TvisWebReports/Documents/FADResourceDocument.pdf
[10] https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx

3 REPORT DESIGN AND FUNCTION

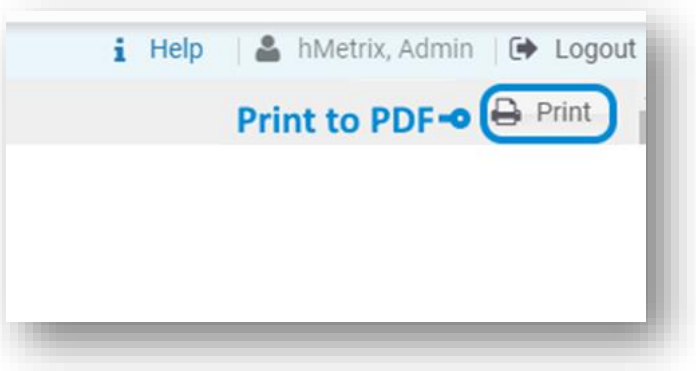
All reports in this reporting suite are designed with a consistent format and design. Each report contains:

1. An introduction to the formal and proxy measure
2. Key findings related to overall measure performance and current racial/ethnicity disparities
3. Tabular and graphic depiction of overall performance over time as well as performance by race/ethnicity
4. Ability to print the report to PDF for distribution outside of the application

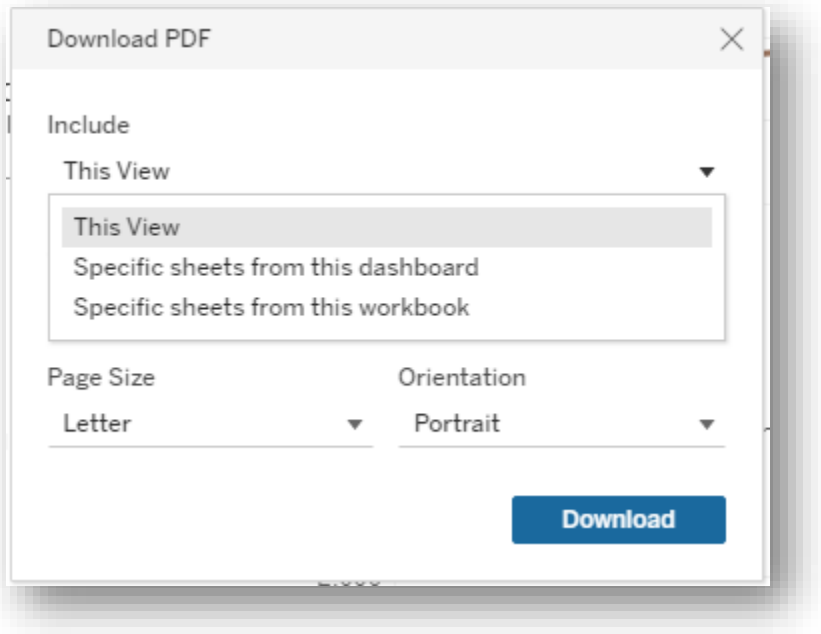
The figure below highlights key aspects of the reports, using the Diabetes Domain as an example.



Each report allows for printing the current view of the report to a PDF document.



Clicking Print when selecting “This View” will result in the below prompt. The default settings will create a PDF will all of the graphs and tables presented in the currently viewed report. **Users can select “Specific sheets from this workbook” to download more than one report at a time**. Click "Download" to generate the PDF.



Diabetes Domain

Diabetes Prevention Recognition Program Enrollment

Introduction:

The official SIHIS measure aims to capture the change in the average body mass index (BMI) among adult Maryland residents from the 2018 baseline. Maryland's success in the measure is defined as having a more favorable change in BMI compared to a cohort of states with similar characteristics related to BMI.

HSCRC will be conducting the final measure assessment. This report presents a proxy measure from which stakeholders can assess measure performance to date. Therefore, the results presented in this report may differ from the official SIHIS measure performance. Refer to the User Guide for information about the data sources and parameters for both the official and proxy measures.

Proxy Measure:

Change in Diabetes Prevention Recognition Program (DPRP) enrollment among adults with pre-diabetes who reside in Maryland relative to the 2018 baseline. The change in DPRP enrollment in Maryland is compared to the national change overall.

Key Findings:

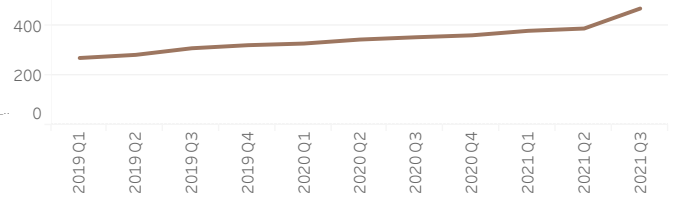
- Maryland has experienced a 92.9% increase in DPRP enrollment per 100k population since 2018. This rate of change is faster than the nation overall, which has experienced a 80.5% increase over the same time period.
- By Race/Ethnicity, NH Asian population has the lowest DPRP enrollment per 100k which is 163.3. This enrollment rate is 63% lower than the Non-Hispanic White population.

Data available through **September 2021**

Cumulative DPRP Enrollment Compared to National Average

	2018 Baseline (A)	Most Recent Rolling 12 Months (B)	Percent Change (B-A/A)	National Comparison Change
Rates per 100K	269.9	520.6	92.9%	80.5%
Total Count	4,328	8,358	93.1%	81.6%

Cumulative DPRP Enrollment By Quarter

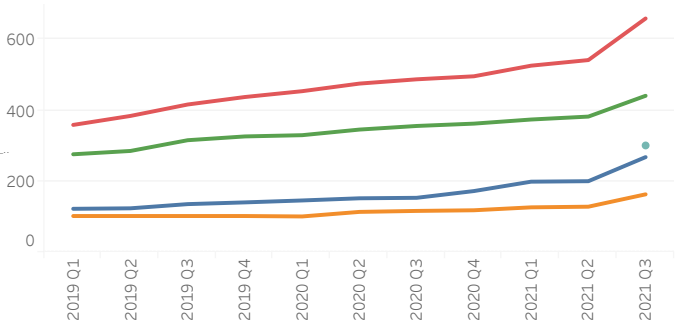


Measure value
- (●) Rate / 100 K
- ( ) Count

Cumulative DPRP Enrollment Rates per 100K: Race/Ethnicity & Disparity Index

Race/Ethnicity	2018 Baseline (A)	Most Recent Rolling 12 Months (B)	Percent Change (B-A/A)	Disparity Index (Race: NH White)
NH White	276.2	441.1	59.7%	1.0
NH Black	359.0	659.1	83.6%	1.5
Hispanic	122.5	268.2	119.0%	0.6
NH Asian*	102.1	163.3	59.9%	0.4
Other	N/A	301.1	N/A	0.7
Race Not Reported	N/A	N/A	N/A	N/A
Statewide Total	269.9	520.6	92.9%	1.2

Cumulative DPRP Enrollment By Quarter By Race/Ethnicity



Race/Ethnicity
All

Race/Ethnicity
- NH White
- NH Black
- Hispanic
- NH Asian*
- Other
- Race Not Reported

* Data for NH Asian is cumulative as of January 1st, 2020.

*Effective September 1, 2021, data for "Other" race/ethnicity has been divided into "Other" and "Data Not Reported". As such, a 2018 baseline is not available for these categories.

Opioids Domain
Overdose Fatalities

Introduction:
The official SIHIS measure aims to capture the annual change in overdose mortality as compared to a cohort of states with historically similar overdose mortality rate and demographics.

HSCRC will be conducting the final measure assessment. This report presents a proxy measure from which stakeholders can assess measure performance to date. Therefore, the results presented in this report may differ from the official SIHIS measure performance.

Proxy Measure:
Annual change in overdose mortality in Maryland as compared to the nation overall.
Refer to the User Guide for information about the data sources and parameters for the official and proxy measure.

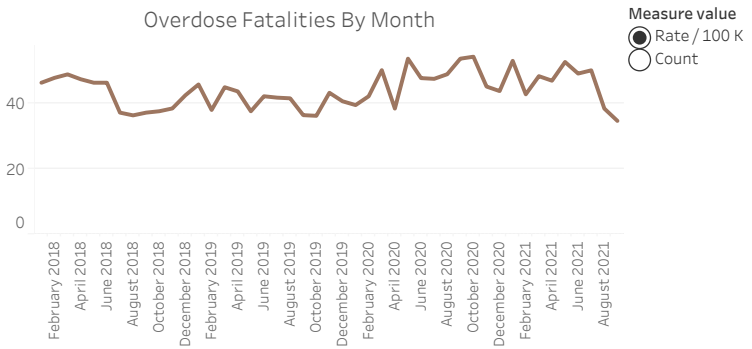
Key Findings:
- Maryland has experienced a 8.4% increase in Overdose Fatality per 100k population since 2018. This rate of change is slower than the nation overall, which has experienced a 42.3% increase over the same time period.
- By Race/Ethnicity, overdose fatality among the Non-Hispanic Black population is 1.3 times higher than the Non-Hispanic White population.

Data available through September 2021

Overdose Fatalities Compared to National Average

	2018 Baseline (A)	Most Recent Rolling 12 Months (B)	Percent Change (B-A/A)	National Comparison Change
Rates per 100K	42.63	46.20	8.4%	42.3%
Total Count	2,406	2,798	16.3%	43.7%

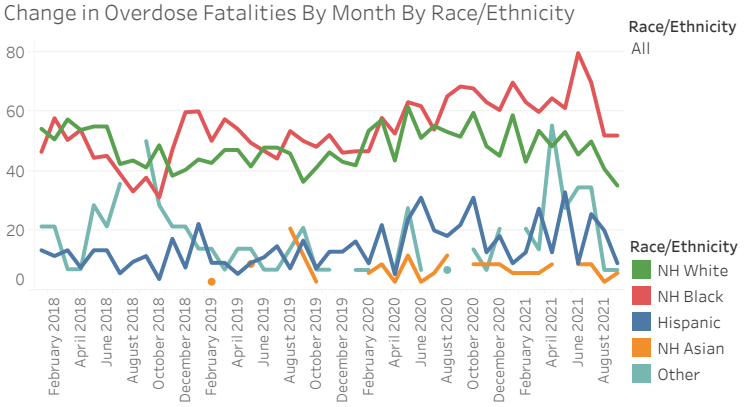
Overdose Fatalities By Month



Overdose Fatality Rates per 100K: Race/Ethnicity & Disparity Index

Race/Ethnicity	2018 Baseline (A)	Most Recent Rolling 12 Months (B)	Percent Change (B-A/A)	Disparity Index(Race: NH White)
NH White	48.47	48.52	0.1%	1.0
NH Black	45.59	63.64	39.6%	1.3
Hispanic	10.80	18.49	71.3%	0.4
NH Asian	0.00	6.64	NA	0.1
Other	22.10	20.19	-8.6%	0.4
Statewide Total	42.63	46.20	8.4%	1.0

Change in Overdose Fatalities By Month By Race/Ethnicity



Maternal and Child Health Domain

Severe Maternal Morbidity Rate

Introduction:
The official SIHIS measure aims to capture the annual rate of severe maternal morbidity (SMM) per 10,000 delivery hospitalizations. Maryland's success in the measure is defined as having an SMM rate per 10,000 deliveries that is lower than the target.

HSCRC will be conducting the final measure assessment. Therefore, while this report attempts to track the official SIHIS measure, the results presented in this report may differ from the official SIHIS measure performance. Refer to the User Guide for information about the data sources and parameters for both the official measure and any modifications made for this report.

Reported Measure:
Annual severe maternal morbidity rate per 10,000 delivery hospitalizations among women ages 12-55. The official targets have been established to represent an improvement from the 2018 baseline.

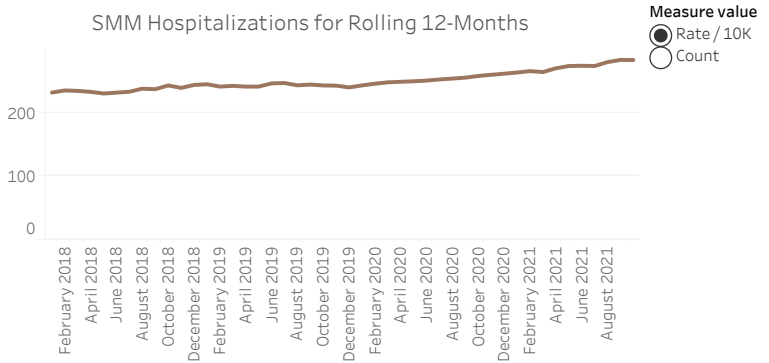
Key Findings:
- Maryland had 282.2 SMM-related hospitalizations per 10,000 delivery discharges over the last 12 months. This rate is 62.9 hospitalizations per 10,000 higher than the 2023 target. It is also 39 hospitalizations per 10,000 higher than 2018 baseline.
- By Race/Ethnicity, NH Black population has the SMM hospitalization rate per 10,000 deliveries, which is currently 1.7 times higher than the Non-Hispanic White population.
- NH Black population experienced the largest annual growth in SMM hospitalization rate per 10,000 deliveries, with an increase of 46.3 SMM hospitalizations per 10,000 deliveries since 2018 .

Data available through October 2021

SMM Hospitalizations Compared to 2023 Target

	2018 Baseline	Most Recent 12 Months	2023 Target	Difference - Most Recent 12 months to Target
Rates per 10K	243.1	282.2	219.3	62.9
SMM Events	1,585	1,738		
Eligible Deliveries	63,614	59,850		

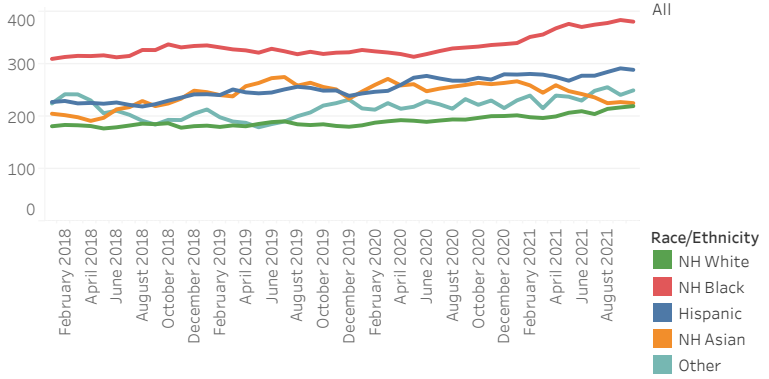
SMM Hospitalizations for Rolling 12-Months



SMM Hospitalization Rates per 10K Compared to 2023 Target: Race/Ethnicity & Disparity Index

Race/Ethnicity	2018 Baseline	Most Recent 12 Months	2023 Target	Difference - Most Recent 12 months to Target	Disparity Index
NH White	181.4	219.7	169.8	49.9	1.0
NH Black	334.2	380.5	295.7	84.8	1.7
Hispanic	242.0	288.8	213.2	75.6	1.3
NH Asian	249.0	225.3	217.7	7.6	1.0
Other	205.2	249.7	204.6	45.1	1.1
Statewide Total	243.1	282.2	219.3	62.9	1.3

SMM Hospitalizations for Rolling 12-Months by Race/Ethnicity



Maternal and Child Health Domain

Childhood Asthma

Introduction:

The official SIHIS measure aims to capture the annual rate of childhood asthma-related emergency department (ED) visits. Maryland's success in the measure is defined as having an ED visit rate per 1,000 children that is lower than the target.

HSCRC will be conducting the final measure assessment. Therefore, while this report attempts to track the official SIHIS measure, the results presented in this report may differ from the official SIHIS measure performance. Refer to the User Guide for information about the data sources and parameters for both the official measure and any modifications made for this report.

Reported Measure:

Annual rate of asthma-related emergency room department visits for children 2-17. The official targets have been established to represent an improvement from the 2018 baseline.

Key Findings:

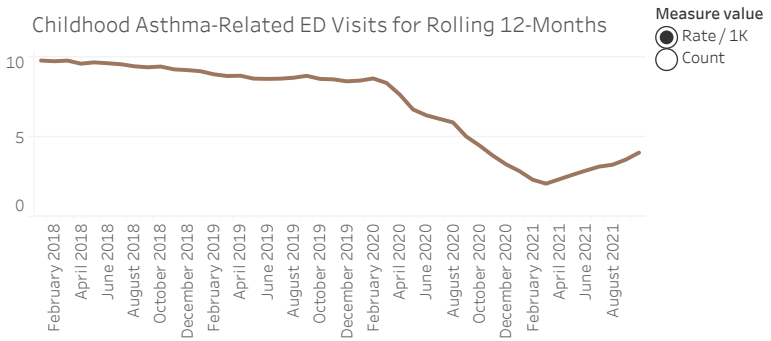
- Maryland had 4.0 asthma-related emergency department visits per 1,000 children over the last 12 months. This rate is 3.2 visits per 1,000 children lower than the 2023 target
- By Race/Ethnicity, NH Black population has the highest asthma-related emergency department rate per 1,000 children, which is currently 5.5 times higher than the Non-Hispanic White population. However, this rate is still 5.7 visits per 1,000 children lower than the 2023 race/ethnicity target of 14.36.

Data available through October 2021

Childhood Asthma-Related ED Visits Compared to 2023 Target

	2018 Baseline	Most Recent 12 Months	2023 Target	Difference - Most Recent 12 months to Target
Rates per 1K	9.2	4.0	7.2	-3.2
Total Count	10,974	4,792		

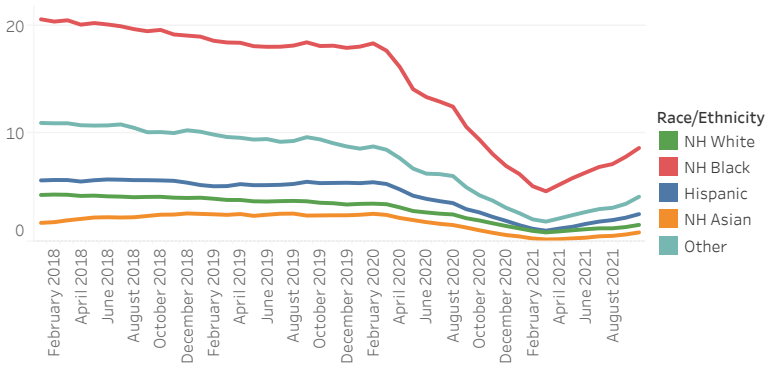
Childhood Asthma-Related ED Visits for Rolling 12-Months



Childhood Asthma-Related ED Visit Rates per 1K Compared to 2023 Target: Race/Ethnicity & Disparity Index

Race/Ethnicity	2018 Baseline	Most Recent 12 Months	2023 Target	Difference - Most Recent 12 months to Target	Disparity Index
NH White	4.1	1.6	3.50	-1.9	1.0
NH Black	19.1	8.7	14.36	-5.7	5.5
Hispanic	5.5	2.6	4.70	-2.1	1.6
NH Asian	2.6	0.9	2.60	-1.7	0.6
Other	10.3	4.2	7.30	-3.1	2.7
Statewide Total	9.2	4.0	7.2	-3.2	2.6

Childhood Asthma-Related ED Visits for Rolling 12-Months by Race/Ethnicity



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Maryland Total Cost of Care Model

Annual Monitoring Report: Expenditures

July 2021

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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 health care 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
- 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
- Ninety-five percent of in-state hospital regulated revenue must be under population-based budget agreements

In the second year of the Total Cost of Care Model, Maryland exceeded all the annual spending requirements mandated under the State agreement. The State remained below the 3.58 percent per capita growth rate as the State's growth was 0.21 percent in 2020. Maryland also achieved $390.6 million in annual Medicare savings—already surpassing the $300 million annual savings requirement for Model Year (MY) 5—and successfully limited TCOC per beneficiary growth rate to 0.50 percentage points below the national Medicare cost growth rate. Furthermore, the State met all quality and payment methodology requirements included in the TCOC Model agreement for CY 2020. The State did not backslide on readmission and potentially preventable complication (PPC) measures. Finally, 97.9 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.

Data for the measures were developed using financial data from hospital unaudited financial data and claims-based files obtained from CMS and Maryland (e.g., HSCRC Hospital Abstract Data). This report presents available data for January through December 2020 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 TCOC Model, 2019 and 2020 data are presented in this report and growth is compared to 2013. Additionally, the Medicare data presented in Goal 19.b is payment data that does not include any non-claims-based payments or adjustments.

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 to be 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 2020 commercial hospital per capita data is not available until 2022.* **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 Dept. of Planning), Medicare (CMS), Medicaid and Dual Eligible (Maryland Medicaid eHealth Statistics), Private Payer (State Health Access Data Assistance Center (SHADAC)
Monitoring Results **See below Table 2**	Between 2013 and 2020, all-payer per capita hospital charges grew by 14.23 percent. Medicare per beneficiary hospital charges increased by -0.71% percent between 2013 and 2020, from $6,979 to $6,930. During the same time period, per beneficiary hospital charges increased for Medicaid by 8.60 percent. Between 2013 and 2020, per beneficiary hospital charge for Medicare/Medicaid dually eligible beneficiaries increased by 13.92 percent. Per beneficiary hospital charges for private payers increased by 5.32 percent between 2013 and 2019.

Table 2. Goal 19a: Hospital per Capita Total Charges, by Payer, 2019-2020

Measures	Population		2013	2019	2020
All-payer Maryland Hospital per capita total charges for MD residents	Maryland	Total Hospital Charges ($)	14,070,827,137	16,392,737,941	16,427,659,811
		Population	5,932,654	6,054,954	6,055,802
		Per capita Charges ($)	2,372	2,707	2,713
		% Change from 2013		**14.00%**	**14.23%**
Medicare FFS Maryland hospital per capita total charges per Beneficiary	Maryland	Total Inpatient Charges ($)	3,577,606,896	3,887,260,993	3,899,971,141
		Part A Beneficiaries	792,589	903,160	914,701
		Part A Per Capita Charges ($)	4,514	4,304	4,264
		Total Outpatient Charges ($)	1,704,310,983	2,232,913,809	2,078,537,682
		Part B Beneficiaries	691,255	771,398	779,568
		Part B Per Capita Charges ($)	2,466	2,895	2,666
		Total Hospital Per Capita Charges ($)	6,979	7,199	6,930
		% Change from 2013		**3.14%**	**-.71%**
Medicaid Maryland hospital per capita total charges per Beneficiary	Maryland	Total Charges ($)	2,595,383,354	3,617,010,109	3,628,304,162
		Total Enrollees	1,254,123	1,594,584	1,614,359
		Per capita Charges ($)	2,069	2,268	2,248
		% Change from 2013		**9.61%**	**8.60%**
Medicare/Medicaid dual eligible Maryland hospital per capita total charges per Beneficiary	Maryland	Total Charges ($)	1,047,382,694	1,387,958,184	1,420,881,156
		Total Enrollees	143,874	173,781	171,324
		Per capita Charges ($)	7,280	7,987	8,294
		% Change from 2013		**9.71%**	**13.92%**
Private Payer (SHADAC)	Maryland	Total Charges ($)	4,844,844,194	5,101,717,888	Not Available
		Total Enrollees	3,762,456	3,761,708	Not Available
		Per capita Charges ($)	1,288	1,356	Not Available
		% Change from 2013		**5.32%**	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

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 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 below Table 3	Maryland Medicare per capita health expenditures increased by 5.26 percent between 2013 and 2020, compared to an increase of 9.92 percent for the U.S. Total Maryland Medicaid per beneficiary health expenditure increased by 19.06% between 2013 and 2020. Medicare/Medicaid dually eligible health expenditures per beneficiary has grew by only 1.58 percent, from $14,572 to $14,802. Per beneficiary health expenditures for private payer beneficiaries increased from $3,133 in 2013 to $3,918 in 2019 – a 25.06 percent increase.

Table 3. Per Capita Annual Health Expenditures, by Payer, 2019-2020

Measures	Population		2013	2019	2020
Medicare per capita total expenditure[1]	Maryland	Total Part A Expenditures ($)	4,419,176,140	4,949,018,125	4,969,631,567
		Part A Beneficiaries	792,589	903,160	914,701
		Part A Per Capita Expenditures ($)	5,576	5,480	5,433
		Total Part B Expenditures ($)	3,847,620,277	5,244,180,423	4,906,867,374
		Part B Beneficiaries	691,255	771,398	779,568
		Part B Per Capita Expenditures ($)	5,566	6,798	6,294
		Total Per Capita Expenditures ($)	11,142	12,278	11,727
		% Change from 2013		**10.20%**	**5.26%**
	National	Total Part A Expenditures ($)	178,838,635,359	188,048,114,200	179,750,269,026
		Part A Beneficiaries	36,435,042	37,339,465	36,574,202
		Part A Per capita Expenditures ($)	4,908	5,036	4,915
		Total Part B Expenditures ($)	152,511,071,263	192,508,310,877	178,721,164,102
		Part B Beneficiaries	32,927,792	32,894,164	32,078,442
		Part B Per Capita Expenditures ($)	4,632	5,852	5,571
		Total Per Capita Expenditures ($)	9,540	10,889	10,486
		% Change from 2013		**14.13%**	**9.92%**
Medicaid per capita total expenditure (includes Dually eligible)[2]	Maryland	Expenditures ($)	7,575,448,645	11,724,987,703	11,506,532,383
		Yearly Average Total Enrollment	1,275,913	1,609,202	1,627,779
		Per Capita Expenditures ($)	5,937	7,217	7,069

[1]These figures do not include any adjustments for non-claims-based payment data.
[2]Expenditures and enrollment data for Medicaid beneficiaries for CY 2020 is preliminary and subject to change.

		% Change from 2013		**22.72%**	**19.06%**
Medicare/Medicaid dual eligible per capita total expenditure (Medicaid expenditures only)[3]	Maryland	Expenditures ($)		2,591,995,790	2,536,084,154
		Yearly Average Total Enrollment	2,055,772,516	17,781	171,324
		Per capita expenditures ($)	13,870	14,915	14,803
		% Change from 2013	**14,572**	**2.35%**	**1.58%**
Private Payer per capita total expenditure	Maryland	Expenditures ($)	7,760,817,042	5,557,465,056	Not Available
		Yearly Average Total Members	29,722,861	1,360,081	Not Available
		Per Capita Expenditures ($)	3,132	4,086	Not Available
		% Change from 2013		**25.06%**	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 eight years of the Model, the HSCRC will continue to lead efforts to meet the ambitious goals of the Total Cost of Care 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.

[3]Expenditures and enrollment data for Medicaid/Medicare Dual beneficiaries for CY 2020 is preliminary and subject to change.

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Total Cost of Care (TCOC) Model Annual Monitoring Report

CY 2020

December 31, 2021, Submitted 01/31/2022

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Introduction

The State of Maryland is leading a transformative effort to improve care and lower the growth in health care 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, collecting and reporting hospital case-mix data, 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 of $120 million by Model Year 1 (MY 1) (CY 2019), building up to $300 million in annual savings by MY 5 (CY 2023).
- 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 quality and payment methodology requirements included in the TCOC Model agreement for CY 2020. In CY 2020, the State did not backslide on readmission and potentially preventable complication (PPC) measures. The State limited the aggregate Medicare 30-day unadjusted all-cause, all-site hospital readmission rate to 15.17 percent, which is well below the national Readmission Rate for Medicare FFS of 15.55 percent. In addition, Maryland maintained a 0.70 Case-mix Adjusted PPC Rate in CY 2020 for the 14 PPCs that comprise the Maryland's Hospital Acquired Condition (MHAC) pay-for-performance program, a reduction from the CY 2018 rate of 0.78. Finally, 98 percent of in-state regulated revenue remained under population-based payment methodologies, ensuring that Maryland met the TCOC Model requirement of 95 percent. For more information on the financial performance of the Maryland Model during Model Year 2, please refer to the Annual Monitoring Report – Expenditures (submitted July 2021).

In the second year of the Model (CY 2020), the State took aggressive action to respond to the Coronavirus pandemic; collaborate, model, and propose a Statewide Integrated Health Improvement Strategy, issue Catalyst Grants to support Regional Partnerships to transform healthcare, and continue to model outcome-based credit proposals.

Maryland's hospitals are at the center of the State's efforts to respond to the COVID-19 pandemic. The HSCRC has acted quickly to ensure hospitals have the funding needed to provide care to patients requiring intensive, inpatient treatment for COVID-19. HSCRC responded in the following ways:

1. **Aligning with federal partners.** HSCRC staff worked closely with federal partners in Congress and the Centers for Medicare and Medicaid Services (CMS) to ensure Maryland hospitals have access to federal relief aid and to assure compliance with the TCOC Contract.

2. **Addressing regulatory and policy barriers.** HSCRC staff modified and suspended policies and established new mechanisms to aid hospitals in preparing for the increase in patients affected by COVID-19.

3. **Ensuring hospital financial stability.** HSCRC worked to establish policies, modify rate setting methodologies, and identify all available funding to support hospitals during the COVID-19 pandemic.

4. **Supporting State capacity planning.** HSCRC staff played an active role in the State Surge Activation Planning Team through modeling patient volumes, providing rate setting support for alternative settings of care, interpreting federal relief packages, and identifying additional funding sources.

5. **Communicating broadly.** HSCRC staff issued frequent communications to hospitals to ensure immediate COVID-19 policy questions are addressed. Additionally, staff proactively sent information to State legislators, DLS, and partner agencies about actions taken to address COVID-19.

Under the TCOC Model and global budgets, our hospital payment structure gave Maryland hospitals a unique advantage in responding to this emergency. HSCRC staff took proactive action to maximize the resources available to Maryland hospitals. More information on HSCRC policy actions to respond to COVID-19 can be found on the HSCRC website: https://hscrc.maryland.gov/Pages/COVID-19.aspx.

In 2020, Maryland also undertook the development of the Statewide Integrated Health Improvement Strategy (SIHIS), approved funding for the Regional Partnership Catalyst Program, and furthered the methodology of outcomes-based credits for population health improvement.

In the third and current year of the Model, Maryland Hospitals have continued to face challenges due to COVID, including the latest surge in omicron variant COVID-19 cases. Despite the challenges posed by

COVID-19, State partners (including hospitals, payers, and the Maryland Department of Health) have been integral to the State successfully meeting the 2021 SIHIS milestones, which are documented in the recently submitted annual report on SIHIS performance. Additionally, the State recently submitted its proposal for a $5 million credit under its diabetes outcome credit methodology, to offset Maryland's CY 2021 TCOC savings. Itemized MY 3 (CY 2021) TCOC spending and quality requirements will be submitted for CMS certification in the new year, in accordance with established agreements between the State of Maryland and CMMI.

COVID-19 Public Health Emergency

The State of Maryland has spent the past two years battling the Coronavirus COVID-19 Pandemic. We applaud the heroic efforts of our first responders, nurses, doctors, and healthcare providers to address this ongoing crisis with flexibility and compassion. Emergency measures have transformed our healthcare provision landscape, in some instances temporarily, and in others permanently. We have acknowledged this time of great disruption and uncertainty as best as possible in the implementation of the TCOC Model and its attendant goals, transformation incentives, and performance improvement requirements. We look forward to working with CMMI to make any adjustments necessary to further account for the COVID-19 pandemic in future years. Wherever possible, this report provides full CY 2020 data with COVID cases included. In some cases, the inclusion of COVID cases has not been possible, in light of the disruptions experienced during the first year of the pandemic and subsequent data challenges. We appreciate CMMI's careful review of the attendant measures and performance, with acknowledgment that some data trends must be caveated in light of utilization disruptions and shifts in patterns of care due to COVID-19. We look forward to improving quality of care throughout the life of the TCOC Model.

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 catalogue State performance with respect to selected quality and financial goals as outlined in the Total Cost of Care Model Agreement Appendix D under three domains: Patient Experience of Care, Population Health, and Health care Expenditures. The "Maryland Total Cost of Care Model Annual Monitoring Report: Expenditures" was submitted in July 2021 in fulfillment of the Health care expenditures goals of the Annual Monitoring Report; the CY 2020 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 sub-group 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 cost, 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). As mentioned above, this report on CY 2020 quality trends is impacted by the COVID-19 Public Health Emergency and should be interpreted with the understanding that utilization and care patterns were significantly altered due to the pandemic.

Goals to Improve Patient Experience of Care

Maryland believes that a TCOC Model can simultaneously improve the quality of care 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 satisfaction.

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. For fiscal year (FY) 2023 rates (based on Sep '20-Oct '21 performance and CY21 performance), 2 percent of revenue for the

	QBR program is at-risk, and the HCAHPS domain weighting remains at 50 percent (compared with just 25 percent in the federal VBP program) due to concerns about Maryland performance lagging behind the nation. The HSCRC has finalized its FY 2024 QBR policy, which continues to weigh the Person and Community Engagement domain at 50 percent, but which newly incorporates the linear scoring methodology from CMS Hospital Compare to further incentivize improvements in HCAHPS survey results. For this report, we include 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? 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 (2013–2020*), patients in Maryland indicated lower levels of hospital satisfaction than patients across the United States. In 2020*, approximately 66 percent of Maryland patients rated their hospital experience as a "9" or "10", compared to 72 percent of patients nationwide. • Patient experience with physician communication was also rated higher in the United States than in Maryland. In 2020*, about 77 percent of Maryland patients expressed a high level of satisfaction with the way their physician communicated; this compares to 81 percent of patients nationally. Experience

[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

	with physician communication changed little between 2013 and 2020* for either Maryland or U.S. patients. • Experience with nurse communication also changed little between 2013 and 2020*, and remained at 75 percent for Maryland as compared to 80 percent for the nation.

*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. Following the QBR Re-design in CY 2021, HSCRC and Maryland hospitals have re-committed to improving HCAHPS performance over the life of the TCOC Model, and have adopted the following strategies:

- Include a limited financial incentive in the RY 2024 QBR policy to reward/penalize hospitals for HCAHPS performance using the **linear scoring** methodology. Maryland believes this will further incent improvement for hospitals to improve from unfavorable (i.e. "Sometimes", "Never", or "Disagree") responses to Favorable (i.e. "Usually", or "Agree"), even if hospitals fall short of achieving top-box responses. Maryland notes that this incentive is limited, and that the primary focus of the HCAHPS measure will remain on the "top box" methodology.
- Through partnership with the Maryland Health Care Commission (MHCC), require timely submission of detail-level HCAHPS responses (beginning January 2022) to MHCC. This can empower Maryland to better understand drivers of HCAHPS performance, and direct improvements accordingly.
- Consider **complementary** quality measures by vetting options with the Performance Measurement Work Group (PMWG), which may influence patient experience. Thus far, Maryland has considered the Timely Follow Up measure (see Goal 6), as well as building the infrastructure required to re-instate an assessment of Emergency Department Wait Times.
- Consider a **Learning Collaborative** or other Hospital-led initiative to share best practices to improve patient experience.
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Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020*
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%
	National	71%	71%	72%	73%	73%	73%	73%	72%
Communication with doctors: Percentage of survey respondents reporting "always" on three questions (composite measure)	Maryland	77%	78%	78%	77%	78%	77%	77%	77%
	National	82%	82%	82%	82%	82%	81%	82%	81%
Communication with nurses: Percentage of survey respondents reporting "always" on six questions (composite measure)	Maryland	75%	76%	76%	75%	76%	76%	76%	75%
	National	79%	79%	80%	80%	80%	81%	81%	80%

*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 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[2] <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?

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

	• 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 presented include data for Cys 2013-2019 (Jan-Dec) as Care Compare is restating CY 2019 HHCAHPS results for CY 2020.
Monitoring Results	• In 2019, 82 percent of Maryland residents indicated that they received the best home health care possible (down one percent from 2018) compared to 84 percent nationwide (nationwide score remains unchanged since 2013). • Maryland and national experience ratings of the home health team's communication were identical in 2019. Approximately 85 percent of both Maryland and United States residents reported a high level of satisfaction with their home health care providers' communication. • Patients who reported that their home health team discussed medicines, pain, and home safety with them were comparable in 2019, with 82 for Maryland and 83 percent for the nation.

Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020*
Patient's rating of home health agency: percentage of survey respondents reporting a 9 or 10 (10 being the best)	Maryland	82%	82%	83%	81%	82%	83%	82%	82%
	National	84%	84%	84%	84%	84%	84%	84%	84%
Patients who reported that their home health team communicated well with them	Maryland	85%	85%	85%	85%	85%	85%	85%	85%
	National	85%	85%	85%	85%	85%	85%	85%	85%
Percent of patients who reported that their home health team discussed medicines, pain, and home safety with them	Maryland					82%	81%	82%	82%
	National					83%	83%	83%	83%

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, to evaluate patient care performance in nursing homes in Maryland.
Measurement Methodology	Nursing Home Quality Measures For 2015 to 2020*, 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 2020, 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: 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 The 2020 survey also included three Overall COVID-19 Measures: • 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 2016 to CY 2020 in all but two measures (percentage of long-stay residents experiencing one or more falls with major injury 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 2019 in all but one measure (percentage of long-stay high-risk residents with pressure ulcers).

	Maryland Nursing Home Family Experience of Care Survey • Of the seven domains, Maryland remained constant from CY 2018 to CY 2020 in four domains (staff and administration of the nursing home, food and meals, physical aspects of the nursing home, and security and residents' personal rights). • Of the seven domains, Maryland decreased performance from CY 2018 to CY 2020 in three domains (care provided to residents by .1 points, autonomy and resident rights by .2 points, and activities by .1 points). We believe that the decrease in performance, at least in part, is attributable to the COVID-19 pandemic and its resulting quarantine requirements. • Maryland improved performance in one overall satisfaction measure (overall rating of care received at the nursing home by .1 points) while performance decreased in the other overall satisfaction measure (percentage that said they would recommend the nursing home by 1 percent).

Nursing Home Quality of Care Measures

Measures	Population	Apr15-Dec15*	2016	Jul17-Jun18*	2018	2019	2020*
Percentage of short-stay residents who improved in their ability to move around on their own. [QM-471]	Maryland	65.19%	65.48%	67.95%	66.58%	66.25%	71.82%
	Nation	63.55%	64.45%	67.95%	67.41%	67.99%	72.12%
Percentage of short-stay residents who got antipsychotic medication for the first time. [QM-434]	Maryland	2.19%	1.95%	1.73%	1.57%	1.47%	1.71%
	Nation	2.18%	2.06%	1.90%	1.80%	1.79%	1.89%
Percentage of long-stay residents experiencing one or more falls with major injury. [QM-410]	Maryland	2.90%	2.84%	2.70%	2.67%	2.64%	3.00%
	Nation	3.33%	3.34%	3.38%	3.37%	3.36%	3.41%
Percentage of long-stay residents with a urinary tract infection. [QM-407]	Maryland	4.48%	3.97%	2.70%	2.47%	2.32%	2.22%
	Nation	4.85%	4.18%	3.02%	2.76%	2.65%	2.49%
Percentage of long-stay high-risk residents with pressure ulcers. [QM-453]	Maryland	6.64%	7.10%	6.78%	8.96%	8.89%	10.52%
	Nation	5.79%	5.67%	5.56%	7.32%	7.32%	8.35%
Percentage of long-stay residents who got an antianxiety or hypnotic medication. [QM-452]	Maryland	18.44%	18.56%	16.90%	15.49%	14.88%	14.89%
	Nation	23.55%	23.32%	21.60%	20.17%	19.70%	19.70%
Percentage of long-stay residents who needed and got a flu shot	Maryland	95.24%	95.34%	96.48%	96.60%	96.52%	96.36%

Measures	Population	Apr15-Dec15*	2016	Jul17-Jun18*	2018	2019	2020*
for the current flu season. [QM-454]	Nation	94.46%	94.62%	95.23%	95.76%	95.98%	95.94%
Percentage of long-stay residents who needed and got a vaccine to prevent pneumonia. [QM-415]	Maryland	92.10%	93.36%	93.98%	94.12%	93.93%	93.32%
	Nation	93.30%	93.71%	93.91%	93.66%	93.87%	93.58%
Percentage of long-stay residents who got an antipsychotic medication. [QM-419]	Maryland	14.02%	13.71%	12.58%	12.21%	12.52%	13.23%
	Nation	17.42%	16.29%	15.00%	14.48%	14.20%	14.42%

*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.

Additional Future Considerations

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
Staff and Administration of the Nursing Home*	Maryland	3.4	3.4	3.4
Care Provided to Residents*	Maryland	3.4	3.3	3.4
Food and Meals*	Maryland	3.1	3	3.1
Autonomy and Residents' Rights*	Maryland	3.3	3.3	3.1
Physical Aspects of the Nursing Home*	Maryland	3.2	3.2	3.2
Activities*	Maryland	3.0	3.0	2.7
Security and Residents' Personal Rights*	Maryland	3.3	3.3	3.3

Measures	Population	2018	2019	2020
Overall Rating of Care Received at the Nursing Home	Maryland	7.7	7.6	7.8
Percentage that said "Definitely Yes" Or "Probably Yes" to "Would you recommend the nursing home?"	Maryland	81%	78%	80%
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%
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%
Overall rating of care received at the nursing home in response to the COVID-19 outbreak	Maryland			81%

*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.
Measurement Methodology	**CG-CAHPS Survey Question Reported[3],[4]** 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".

[3] CG-CAHPS information was accessed via the CG-CAHPS Report Builder, which may be found here: https://cahpsdatabase.ahrq.gov/CAHPSIDB/CG/RptBuilder.aspx
[4] 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

	Additional information on the CG-CAHPS database is available here: https://www.cahpsdatabase.ahrq.gov/CGSurveyGuidance.aspx
Monitoring Results	• Patients' rating of ambulatory care provider 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). • 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 2020 data at the time of the report, please see: https://cahpsdatabase.ahrq.gov/Summaryresults.aspx (presenting data through CY 2019).

Measures	Population	2013	2014	2015	2016	2017	2018	2019
Patient's rating of provider: percent with top box scores ("9" or "10")	Maryland (South)	82%	83%	85%			83%	83%
	Northeast	81%	82%	82%	83%		81%	78%
	Midwest	83%	83%	83%	82%		82%	81%
	West	79%	80%	83%	82%		77%	77%
	National	82%	82%	83%	82%	80%	80%	79%

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, as the data are available on a regional level (instead of a state level) and do not specifically reflect Maryland performance trends. To try and address these concerns, Maryland is reviewing alternative options for data sources on patient experience with ambulatory care.

The HSCRC's "Sister Commission", the Maryland Health Care Commission, has updated its "Maryland Freestanding Ambulatory Surgical Facility Survey" for CY 2018. The MHCC surveys the more than 300 Ambulatory Surgical Centers (ASCs) in Maryland along the following five domains:

1. Facility Certification, Ownership, and Operational Status
2. Services and Staffing
3. Utilization

4. Financing
5. Patient Safety Activities

With the aggregation of responses to this updated survey, the HSCRC hopes to work with the MHCC to report upon ASC activities in future Annual Monitoring Reports, using CY 2018 as a "Baseline". We believe that areas particularly pertinent to the ongoing success of the TCOC Model include the proportion of Medicare patients served at Maryland ASCs, surgeries that are gradually shifting from inpatient settings to ASCs, and surgical complications requiring transfer to Acute Care hospital. Additionally, the MHCC seeks to understand whether Maryland ASCs administer an independent patient satisfaction survey, whether ASCs submit any relevant experienced infections to the National Healthcare Safety Network (NHSN), and whether ASCs are accredited by a separate accreditation body, such as the Joint Commission. Responses to these additional questions may inform future data reporting efforts toward understanding and increasing Patient Satisfaction in Ambulatory Care settings.[5]

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.[6] 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.

[5] We note that this additional survey tool remains unchanged in the "Additional Commentary" section for Model Year 2. Further efforts to incorporate this tool and its associated findings will be undertaken in MY 3.
[6] 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

	• When I left the hospital, I had a good understanding of the things I was responsible for in managing my health. • 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 (48 v. 52 percent) in 2020*. • When "Strongly Agree" and "Agree" are combined, Maryland is much closer in performance to the Nation, at 93% compared to 94%. • Maryland and National respondents are comparable at the rate to which the "Disagree" or "Strongly Disagree" that they understand their post-discharge care, seven percent (MD) and six percent (Nation) in 2020*.

*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.

Measures		Population	2014	2015	2016	2017	2018	2019	2020*
Three Item Care Transition Measure	Strongly Agree	Maryland	48%	48%	47%	49%	49%	49%	48%
		National	52%	52%	52%	53%	53%	54%	52%
	Agree	Maryland	45%	45%	46%	45%	44%	45%	45%
		National	43%	43%	43%	42%	42%	41%	42%
	Disagree or Strongly Disagree	Maryland	7%	7%	7%	6%	7%	6%	7%
		National	5%	5%	5%	5%	5%	5%	6%

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 HSCRC also continues to improve alignment with 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 inpatient hospital discharge to a post-acute care provider or to home—is a key strategy to improve quality of care, including the 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 forthcoming Statewide Integrated Health Improvement Strategy (SIHIS) Proposal. Finally, the HSCRC continues to improve alignment with the MD Primary Care Program (MD-PCP). For more information on the MDPCP, please refer to the MDPCP Annual Report, linked below.
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 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 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. At this time, this measure is assessed for Medicare FFS beneficiaries only, since both hospital and non-hospital data are needed to calculate the measure. While the measure is presently Medicare-only, improvements in clinical practice incentivized by the QBR program may benefit all payers. Additionally, the HSCRC is pursuing the inclusion of other payers to this measure, pending data availability and feasibility. Throughout the past two years, Maryland has updated the methodology for

	this measure to a) better reflect the measure stewards' intention; and b) incorporate new and existing telehealth codes into acceptable follow-up. Finally, 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 mental health hospitalization. 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. 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 Performance Adjustment (MPA) Framework.[7] HSCRC staff solicit feedback from the Care Transformation Steering Committee, who prioritize, develop, and finalize each CTI proposed by hospitals. Alignment with MDPCP The State of Maryland TCOC Model views a successful Maryland Primary Care Program as central to the broader success of the Model.

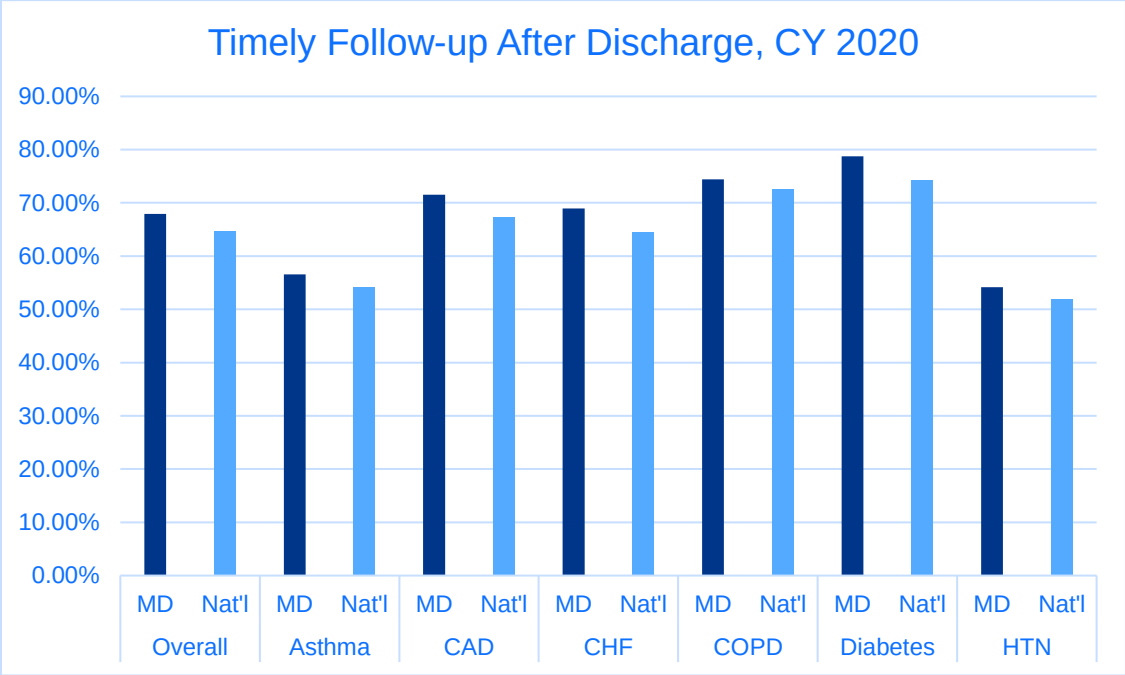
[7] For more information about the Medicare Performance Adjustment, please see the Total Cost of Care Workgroup page of the HSCRC website, https://hscrc.maryland.gov/Pages/hscrc-tcoc.aspx.

Monitoring Results	**Follow-up After Discharge for Acute Exacerbation of Chronic Condition** • In CY 2018, Maryland had a follow-up rate across all six conditions of 70.37 percent; during CY 2020, the rates of follow-up dropped to 67.90% for Maryland. This rate remained higher than the contemporaneous National follow-up rate of 64.75%. Despite declining in follow-up rates in CY 2020 (during the Public Health Emergency), Maryland is committed to achieving the SIHIS goal of 75% timely follow-up by Year 8 of the Model. • Maryland is including improvement on this measure as a Goal under Domain 2: Care Transformation across the System, of the SIHIS proposal. • Maryland is also including a by-hospital measure improvement incentive in the QBR program, beginning CY 2021 performance, and provides within-year updates. **Discharges with Principal Provider Notified in Maryland** • The percentage of MD Discharges resulting in a provider being notified via an ENS alert has increased tremendously, from 10.26% in CY 2013 to 91.36% in CY 2020. • Beginning in CY 2020, the ENS data report no longer separately provides ambulatory provider notification percentages. **Care Transformation Initiatives** To date, the Steering Committee has approved five CTI thematic areas: (1) Transitions of Care, (2) Palliative Care, (3) Primary Care Transformation, and (4) Community-Based Care, and (5) Emergency Care. CTIs launched in July 2021. All Maryland acute care hospitals plan to participate in at least one CTI area and may submit multiple CTIs under each thematic area. Hospitals submitted a preliminary total of 119 CTIs for 2021.

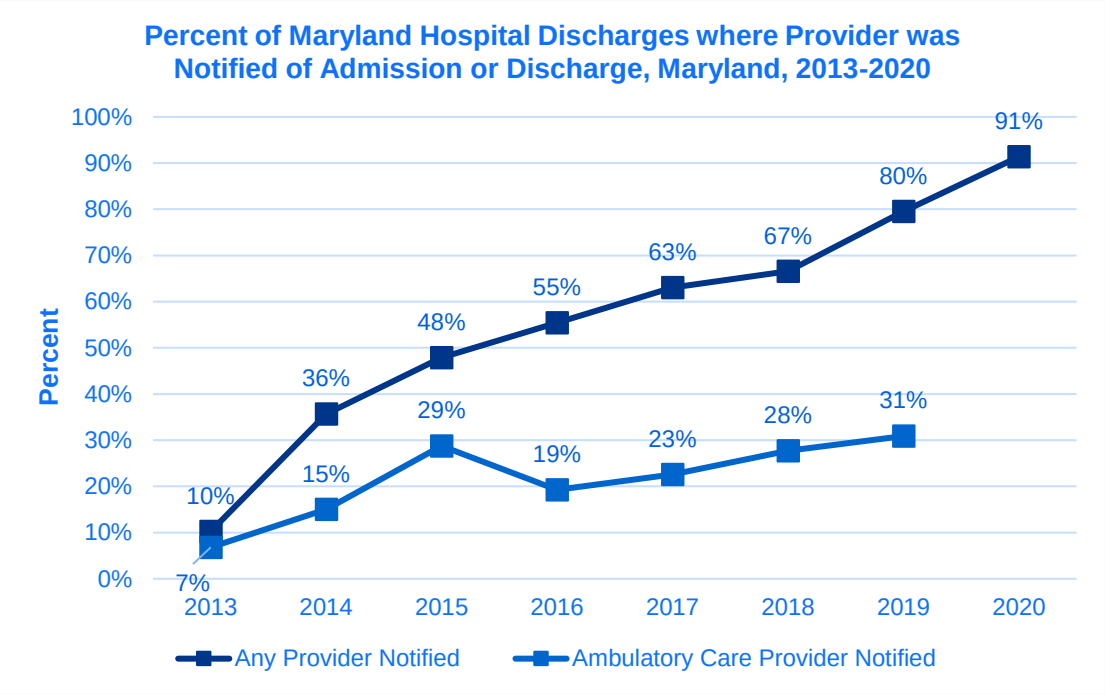
Follow-up After Discharge for Acute Exacerbation of Chronic Condition

Measures	Population	2016	2017	2018	2019	2020
Overall	MD	70.37%	70.89%	70.85%	71.45%	67.90%
	Nat'l			66.82%	69.00%	64.75%
Asthma	MD	59.30%	60.05%	61.79%	60.84%	56.57%
	Nat'l			57.34%	59.73%	54.27%
CAD	MD	72.92%	73.61%	73.86%	74.89%	71.55%
	Nat'l			68.23%	70.58%	67.32%
CHF	MD	71.25%	71.71%	72.10%	73.23%	68.93%
	Nat'l			67.25%	69.21%	64.46%
COPD	MD	79.28%	79.37%	79.32%	79.67%	74.41%
	Nat'l			73.96%	77.67%	72.52%

Measures	Population	2016	2017	2018	2019	2020
Diabetes	MD	79.44%	81.35%	80.60%	80.77%	78.77%
	Nat'l			75.80%	79.21%	74.31%
HTN	MD	55.30%	55.77%	55.04%	55.94%	54.15%
	Nat'l			52.59%	53.66%	51.98%



Population	2013	2014	2015	2016	2017	2018	2019	2020
Any Provider Notified	10.26%	35.69%	47.88%	55.31%	63.06%	66.55%	79.51%	91.36%
Ambulatory Care Provider Notified	6.81%	15.00%	28.78%	19.23%	22.60%	27.74%	30.89%	



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. • As mentioned previously, the methodology has been updated and should not be trended pre- and post- CY 2016.

Measures	Population	2017	2018	2019	2020
Medicare-participating providers per 1,000 Medicare Enrollees	Maryland	33.5	34.2	34.1	34.6

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.

Stakeholder Innovation Group

Maryland's Secretary of Health directed Maryland stakeholders to convene an advisory group to discuss health care delivery and payment innovations that may be expanded or developed to help realize the goals of the TCOC Model. The group, known as the Stakeholder Innovation Group (SIG), is a broad group of health care industry representatives that includes hospitals, physicians, skilled nursing and long term care facilities, and payers. The group is staffed by the Maryland Hospital Association and attended by several State agencies including the HSCRC, the Maryland Health Care Commission (MHCC), and the Maryland Department of Health (MDH). The group, which began in 2019, met twice in 2021. These meetings provided stakeholders with updates on the Total Cost of Care Model, including population health improvement work, the new Episode Quality Improvement Program for specialists, global budgets, and the 2021 evaluation of the Model from CMMI, among other topics.

Community Benefits

The HSCRC has reconvened the Consumer Standing Advisory Committee (CSAC) in response to the HB1169/SB0774 legislation from the 2020 Maryland Legislative session. This legislation enacted updates to hospital Community Benefit Reporting as mandated under HSCRC statute. Among updated definitions, the legislation indicated that the HSCRC should establish a workgroup to explore community representation in community benefit reporting, integrate Community Benefit reporting guidelines with the Community Health Needs Assessment process outlined by federal regulation under the Affordable Care Act and provide the legislature a report on these efforts by December of 2020. Therefore, the CSAC narrowed its focus to consider the benefit that Maryland hospitals operating under the TCOC Model create within their communities and help respond to the 2020 legislative changes. Additionally, the group examined the amount of community benefit dollars that hospitals are spending in their communities, establishing new

guidelines that can help ensure community and consumer perspective is included in understanding community health needs, and assessing the extent to which community benefit spending addresses community health needs and population health.

Regional Partnership Catalyst Program and Maternal and Child Health Funding

The HSCRC will launch 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.

In November 2020, the HSCRC approved $165.4 million in five-year cumulative funding for this program to support the implementation of diabetes prevention and management programs, as well as behavioral health crisis services. The HSCRC awarded $86.3 million to six Regional Partnerships to support the implementation of the CDC-recognized Lifestyle Change programs for diabetes prevention, as well as diabetes management programs. 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.

In May 2021, the HSCRC re-directed set-aside funding from the Regional Partnership Catalyst Program to support maternal and child health (MCH), the third population health priority area under SIHIS Cumulative funding of $40 million over four years will be directed to fund MCH investments led by Medicaid, Managed Care Organizations, and Public Health Services under the Maryland Department of Health.

More details on activities under the Regional Partnership Catalyst Program and the MCH funding initiative can be found in the State's report on 2021 SIHIS performance.

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 2021, the State operated two care redesign tracks: the Episode Care Improvement Program (ECIP) and the Hospital Care Improvement Program (HCIP). The HSCRC has seen the most growth in Care Redesign Program participation in the Episode Care Improvement Program and

Episode Quality Improvement Program. ECIP began on January 1, 2019, with nine hospital participants and currently has 21 hospital participants in 2021. 24 hospitals have signed up for ECIP for CY2022. Care partner engagement, a key element of CRP implementation, is robust. For the fourth quarter of CY 2021, the unduplicated care partner count for ECIP and HCIP combined was 4,335 individuals and 27 facilities (facilities are applicable to ECIP only).

There has been a reduction in the number of hospitals participating in CRP after a peak in 2019, partially attributed to additional care transformation opportunities such as CTIs. However, growth in ECIP participation has grown slightly, and some hospitals remaining in ECIP have added clinical episode categories to drive quality improvements, increase efficiency of care, and improve the patient experience. Additionally, HSCRC continues to develop and add CRP tracks, such as the Episode Quality Improvement Program.

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 begins on January 1, 2022 and will include a range of initial Clinical Episodes in the specialty areas of cardiology, gastrointestinal, and orthopedics. EQIP enrollment stands at 2,471 physicians at the end of 2021.

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 Hospital Compare, 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 Hospital Compare 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.

Measurement Methodology	Venous Thromboembolism or VTE • VTE-5 - Blood Clot Treatment - patients with blood clots who were discharged on a blood thinner medicine and received written instructions about that medicine • VTE-6 - Blood Clot Prevention - patients who developed a blood clot while in the hospital who did not get treatment that could have prevented it Stroke Treatment • STK-4 - Ischemic stroke patients who got medicine to break up a blood clot within 3 hours after symptoms started ED Wait Times for Admitted Patients • ED-1b - Average (median) time patients spent in the emergency department, before they were admitted to the hospital as an inpatient. • ED-2b - Average (median) time patients spent in the emergency department, after the doctor decided to admit them as an inpatient, before leaving the emergency department for their inpatient room. 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 2020 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 Hospital Compare website.
Monitoring Results	Venous Thromboembolism or VTE • The VTE-5 measure has been discontinued. At its conclusion in CY 2016, Maryland patients with blood clots who were discharged on a blood thinner medicine were more likely than national patients to receive written instructions about the medicine, 96% to 93%. • The VTE-6 measure has been discontinued. At its conclusion in CY 2018, Maryland patients who developed a blood clot while in the hospital were less likely than comparable national patients to have missed treatment that could have prevented the blood clot, 2% compared to 3%. Stroke Treatment

	• The STK-4 measure has been discontinued. At its conclusion in CY 2016, Maryland ischemic stroke patients received medicine to break up a blood clot within three hours after symptoms started at greater rate than comparable national patients, 92% to 88%. ED Wait Times for Admitted Patients • The ED-1b measure has been discontinued. At its conclusion in CY 2018, Maryland patients waited longer after arrival before being admitted to the hospital as an inpatient, 378 minutes compared to 256 minutes. • The ED-2b measure has been discontinued. At its conclusion in CY 2019, Maryland patients waited longer after a decision to admit had been made before being admitted to the hospital as an inpatient, 132 minutes compared to 101 minutes. • Despite the discontinuation of these measures, Maryland continues to work with hospitals to incent improved ED efficiency. Maryland is currently reviewing alternative ED throughput measures, and is considering other measures of ED quality of care - please see Goal 16. Sepsis Care • The SEP_1 measure first became available on CMS Hospital Compare in CY 2017. In its most recent report, Maryland reports a higher percentage of patients who received appropriate care for severe sepsis and septic shock compared to the nation (59 percent compared to 57 percent nationally in 2020). • In 2019, four other sepsis bundles became available on CMS Hospital Compare. In 2020, Maryland performed on par with or better than the nation in percentage of patients receiving appropriate septic shock and severe sepsis care, among the different measures.

Measures	Population	2013	2014	2015	2016	2017	2018	2019	Jul20-Dec20*
Blood Clot Prevention - patients who developed a blood clot while in the hospital who did not get treatment that could have prevented it [VTE-6]	Maryland	5%	3%	1%	1%	1%	2%		
	National	8%	6%	2%	2%	2%	3%		
Blood Clot Treatment - patients with blood clots who were discharged on a blood thinner medicine and received written instructions about that medicine [VTE-5]	Maryland	89%	95%	99%	96%				
	National	82%	89%	92%	93%				
Ischemic stroke patients who got medicine to break up a blood clot within 3 hours after symptoms started [STK-4]	Maryland		64%	79%	92%				
	National	66%	80%	86%	88%				
Average (median) time patients spent in the emergency department, before they were admitted to the hospital as an inpatient [ED-1b]	Maryland	357	356	367	375	372	378		
	National	274	275	280	280	280	256		

Measures	Population	2013	2014	2015	2016	2017	2018	2019	Jul20-Dec20*
Average (median) time patients spent in the emergency department, after the doctor decided to admit them as an inpatient before leaving the emergency department for their inpatient room [ED-2b]	Maryland	143	133	140	144	147	147	132	
	National	98	96	99	100	102	87	101	
Percentage of patients who received appropriate care for severe sepsis and septic shock [SEP_1]	Maryland					55	57	59	59
	National					50	57	60	57
Septic Shock 3-Hour Bundle [SEP_SH_3HR]	Maryland							86	85
	National							86	85
Septic Shock 6-Hour Bundle [SEP_SH_6HR]	Maryland							73	87
	National							69	82
Severe Sepsis 3-Hour Bundle [SEV_SEP_3HR]	Maryland							79	80
	National							80	78
Severe Sepsis 6-Hour Bundle [SEV_SEP_6HR]	Maryland							88	89
	National							89	89

Goal 10 - Improve Process of Care - Outpatient

Goal 10. Improve Process of Care - Outpatient	
Goal Summary	Per the terms of the All-Payer Model Agreement, the HSCRC continues to monitor additional measures to support continued quality improvement. In this report, the HSCRC has included five outpatient process of care measures related to Timely and Effective Care: for ECG, for appropriate ED 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.
Measurement Methodology	The HSCRC is reporting the following quality measures of Outpatient Process of Care for the 2016 Annual Report: • OP-05 – Average (median) number of minutes before outpatients with chest pain or possible heart attack got an ECG • OP-18b – Average (median) time patients 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 • OP-30 – Percentage of patients with history of polyps receiving follow-up colonoscopy in the appropriate timeframe For more information on these measures, please see CMS Hospital Compare.
Monitoring Results	• The OP-05 measure has been discontinued. At its conclusion in CY 2018, Maryland lagged slightly behind the nation in number of minutes before outpatients with chest pain or possible heart attack got an ECG, ten minutes compared to eight. • Maryland wait times for the OP-18b ED wait time for discharged (i.e., not admitted) patients are longer than national wait times, 223 to 148 minutes. • The percentage of patients with stroke symptoms who received brain scan results within 45 minutes of arrival increased significantly in Maryland, from 62 percent in 2014 to 76 percent in 2020. Nationally there were smaller increases (from 65 percent in 2014 to 72 percent in 2020). • In 2019, the [OP-30] measure was discontinued. At its conclusion, Maryland improved in 2018 compared to 2015 in the percentage of patients receiving appropriate colonoscopy recommendations and procedures (if the patient had a history of polyps) and outperformed the nation by 7 percent and 2 percent, respectively.

Measures	Population	2014	2015	2016	2017	2018	2019	Jul20-Dec20*
Average (median) number of minutes before outpatients with chest pain or possible heart attack got an ECG [OP-05]	Maryland	9	10	10	9	10		
	National	7	7	7	7	8		
Average (median) time patients spent in the emergency department before leaving from the visit [OP-18b]	Maryland	192	203	218	202	202	212	223
	National	140	141	138	141	135	142	148
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%
	National	65%	68%	71%	73%	72%	72%	72%
Percentage of patients receiving appropriate recommendation for follow-up screening colonoscopy [OP-29]	Maryland		85%	91%	80%	96%		95%
	National		74%	85%	88%	89%		91%
Percentage of patients with history of polyps receiving follow-up colonoscopy in the appropriate timeframe [OP-30]	Maryland		87%	93%	82%	95%		
	National		80%	90%	90%	93%		

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 (NUMERATOR) / Sum of Predicted Infections (ELIGCASES) for the stated years.* For more information on the NHSN Safety Measures, please visit the CMS Hospital 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 by multiplying the Observed / Expected ratio for each hospital by the statewide observed PPC rate. 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 reflect most recent data submitted to CMS for MY 2 Performance Certification.
Monitoring Results	• Maryland SIRs decreased for three measures (C.Diff, MRSA, and SSI-Colon Surgery), but increased for three (CLABSI, CAUTI, and SSI-Hysterectomy). • Concerns have been raised about NHSN performance based upon previous analysis of state-level results compared to national weighted mean results submitted by the HSCRC. However, based on additional analysis of CY 2019 data, Maryland's performance on NHSN measures has trended roughly on par with the national average over time. Performance varies by NHSN measure and statistics

	using CY 2019 data. Of note, for four of six NHSN measures, the median hospital in Maryland performed better (had lowest standardized infection ratios [SIRs]) than the national median hospital; SSI hysterectomy and C. Diff. are the exceptions. • National SIRs, approximated from CMS Hospital Compare by-hospital data, suggest that Maryland has room to improve on four of the NHSN measures. During 2020, the nation saw worsening NHSN rates on three of the six NHSN Measures. • Finally, as noted in the table, Care Compare is presently presenting the NHSN SIRs in a combined performance period of Jul 1, 2019-Dec 31, 2019 and Jul 1, 2020-Dec 31, 2020. This suggests that some of the SIR performance comprises carryover performance from CY 2019. • Despite seeing an increase in Case-mix Adjusted PPC Rates in CY 2020 during the public health emergency, these rates have declined from CY 2018, across All Payers. Thus, Maryland achieved the TCOC Model goal of not backsliding on complications. • The PPC rates per 1,000 at-risk discharges, which are unadjusted, have increased during the past year, suggesting an increase in the case-mix index of admitted patients during the pandemic.

*Observed infections may be derived from NUMERATOR measure ID; predicted infections are derived from the ELIGCASES measure ID.

Measures	Population	2016	2017	2018	2019	2020*
CLABSI	Maryland	1.125	0.874	0.792	0.694	0.851
	National	0.891	0.813	0.742	0.685	0.867
CAUTI	Maryland	1.034	0.846	0.784	0.731	0.895
	National	0.94	0.873	0.801	0.717	0.766
C.Diff.	Maryland	0.998	0.925	0.805	0.607	0.592
	National	0.922	0.804	0.71	0.581	0.538
MRSA	Maryland	1.154	0.962	0.921	0.75	0.716
	National	0.948	0.867	0.848	0.821	0.923
SSI - Colon Surgery	Maryland	1.032	0.937	0.937	0.946	0.941
	National	0.931	0.908	0.895	0.866	0.843
SSI - Abdominal Hysterectomy	Maryland	1.02	1.165	1.656	1.242	1.308
	National	0.869	0.863	0.902	0.93	0.925

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	2016	2017	2018	2019	2020
All Payer Potentially preventable complications per 1,000 at-risk discharges	Maryland			0.85	0.70	0.88
Medicare Potentially preventable complications per 1,000 at-risk discharges	Maryland			1.24	0.98	1.27
Medicaid Potentially preventable complications per 1,000 at-risk discharges	Maryland			0.57	0.46	0.56
All Payer Casemix-Adjusted PPC rate	Maryland			0.69	0.55	0.63
Medicare Casemix-Adjusted PPC rate	Maryland			0.78	0.60	0.70
Medicaid Casemix-Adjusted PPC rate	Maryland			0.66	0.53	0.57

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 current (RY 2022) 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. Reducing readmissions remains an important quality improvement goal under the TCOC Model, and as such, we measure and monitor our progress under several different payer sources and with slightly different measure definitions and adjustments. Readmissions during the COVID-19 Public Health Emergency remain low, although the measure is somewhat unstable in CY 2020, reflective of the instability in hospital volume while the novel coronavirus emerged.

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. Expected readmissions are estimated by applying the statewide rates by APR-DRG and severity of illness category to each hospital's discharges, using V37 of the APR-DRG grouper per the RY 2022 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 12.24 percent in 2016 to 10.54 percent in 2020, a reduction of 13.89 percent. • Readmissions per 1,000 Maryland residents fell by 37.32 percent from 11.86 per thousand in 2013 to 7.43 per thousand in 2020. • The CY2020 data should be interpreted with the understanding of the impact of the COVID pandemic.

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 rate by 7.50% over five years of the TCOC Model, approximately 11.7% to 10.8%. 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. With the COVID-19 pandemic ongoing in CYs 2020 and 2021, Maryland will need to discuss whether this target will need to be adjusted.

Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020
30-day all-hospital, all-cause, case-mix adjusted readmission rate	Maryland				12.24%	12.07%	11.71%	11.36%	10.54%
Readmissions per 1,000 Maryland residents	Maryland	11.86	10.95	10.18	9.76	9.65	9.24	8.79	7.43

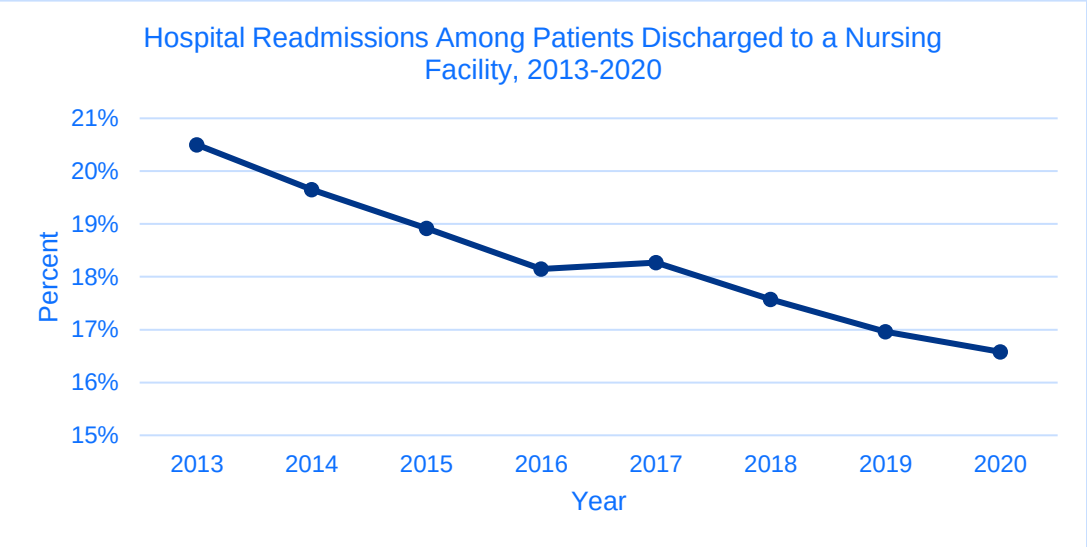
Goal 13 - Reduce Readmissions from various Post-Discharge Settings

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 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 are: (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. 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 2013-2020. Maryland does not presently have a national comparison for this measure.
Monitoring Results	• Between 2013 and 2019, the Maryland admission rate from home health agencies to hospitals decreased slightly from 17 percent to 15.5 percent. The national admission rate decreased slightly from 16 percent to 15.4 percent from 2013 to 2019. • Maryland home health patients' rate of unplanned urgent care visits to the ED rose by 2.6 percent from 11 percent in 2013 to 13.6 percent in 2019. The national rate also increased by 1.0 percent to 13.0 percent during the same time period. • Readmissions of patients discharged to a nursing home decreased from 20.50 percent in CY 2013 to 16.58 percent in CY 2020.

Measures	Population	2012	2013	2014	2015	2016	2017	2018	2019	2020*
Admission rate from home health agencies to acute inpatient hospital	Maryland	17%	17%	16.4%	16.0%	16.3%	15.3%	15.1%	15.5%	15.5%
	National	17%	16%	15.9%	16.2%	16.4%	15.8%	15.6%	15.4%	15.4%
Unplanned urgent visits to the ED for patients receiving home health	Maryland	11%	11%	11.7%	12.4%	12.3%	13.0%	13.1%	13.6%	13.6%
	National	12%	12%	12.2%	12.5%	12.7%	13.0%	12.8%	13.0%	13.0%
Readmission rates for inpatient discharges to nursing homes	Maryland	22.00%	20.50%	19.65%	18.92%	18.15%	18.27%	17.57%	16.96%	16.58%

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

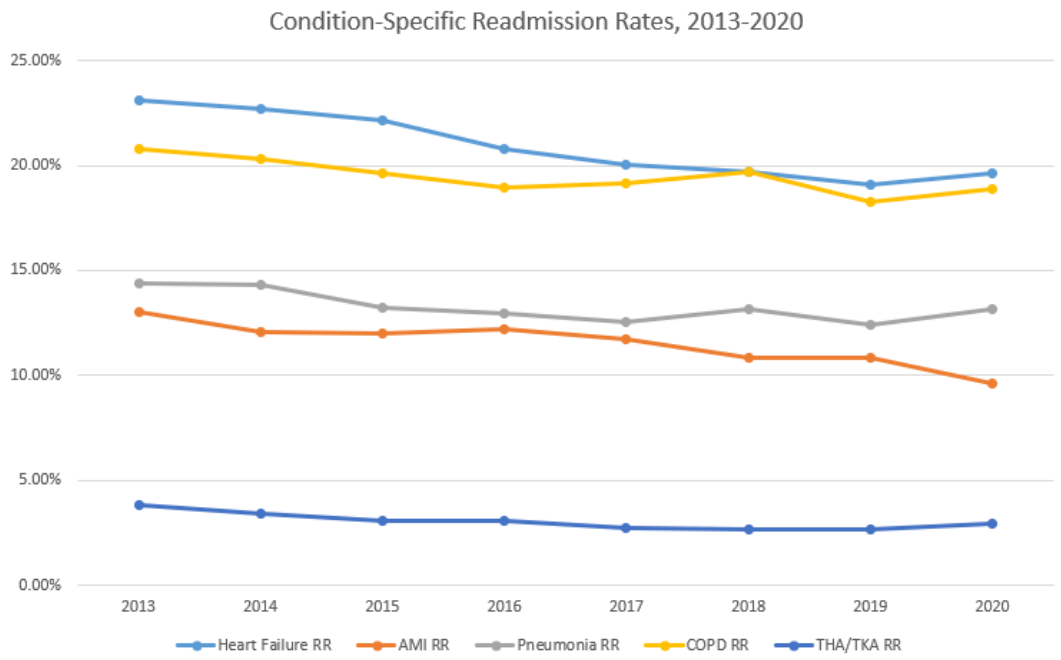


Goal 14 - Reduce Readmissions - Condition-specific

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 Readmission) x 100. Condition-specific readmission rates are unadjusted. Rates correspond to the following conditions: ○ Heart Failure (HF) ○ Acute Myocardial Infarction (AMI) ○ Pneumonia (PNA) ○ Chronic Obstructive Pulmonary Disease (COPD) ○ Hip/Total Knee Arthroplasty (THA/TKA) Note: The condition-specific readmission rates reflect full CY2013-2020 all-payer case-mix data. Data from October-December 2015 and 2016 reflect the updated condition-specific logic under ICD-10 from the National Quality Forum. **Data:** Population estimates, which were used in estimating readmissions per 1,000 population, were obtained from the Maryland Department of Planning.
Monitoring Results	• Between 2013 and 2020, readmission rates for all the specific conditions decreased: heart failure by 15 percent; AMI by 26.46 percent; pneumonia by 8.7 percent; COPD by 9 percent; and Hip/Knee arthroplasty by 22.63 percent.

Measures	Population	2013	2014	2015	2016	2017	2018	2019	2020
Heart failure readmission rate	Maryland	23.12%	22.68%	22.13%	20.81%	20.01%	19.68%	19.09%	19.65%
Acute myocardial infarction readmission rate	Maryland	13.04%	12.06%	12.02%	12.20%	11.72%	10.84%	10.87%	9.59%
Pneumonia readmission rate	Maryland	14.37%	14.31%	13.22%	12.97%	12.53%	13.18%	12.40%	13.12%
Chronic obstructive pulmonary disease readmission rate	Maryland	20.76%	20.32%	19.66%	18.92%	19.17%	19.72%	18.25%	18.89%
Hip/total knee arthroplasty readmission rate	Maryland	3.80%	3.38%	3.08%	3.07%	2.73%	2.69%	2.66%	2.94%



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.

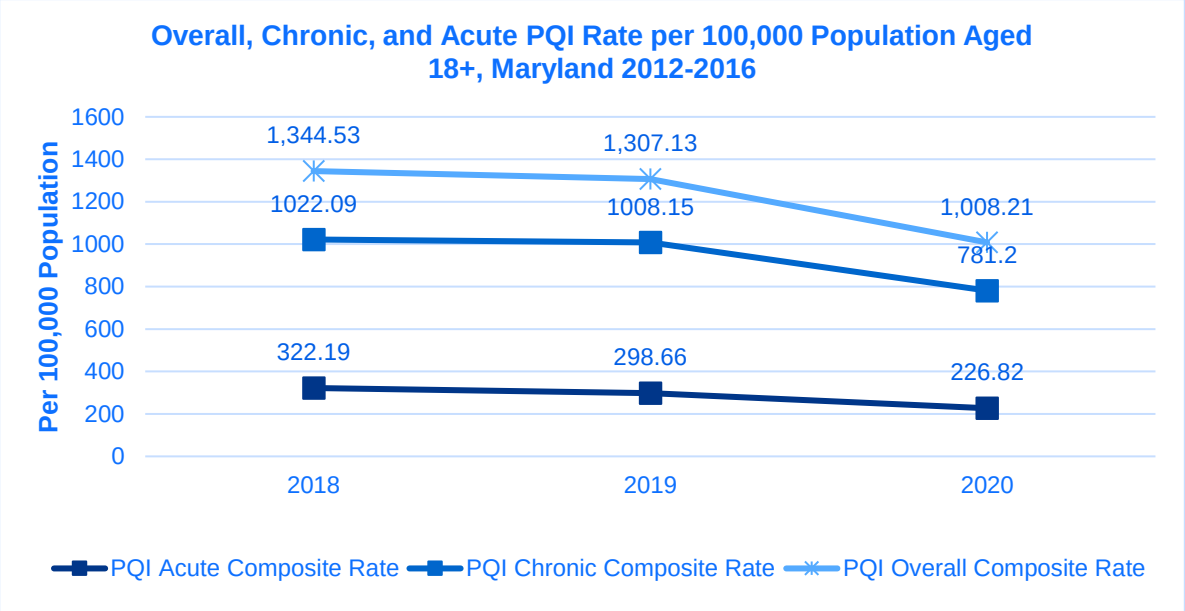
Goal 15- Reduce Potentially Avoidable Hospital Admissions

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 revenue associated with 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 **acute** composite includes admissions with diagnosis codes for bacterial pneumonia, or urinary tract infection. The PQI **chronic** composite 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. The PQI **overall** composite includes admissions in both the acute and chronic composites. **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 1,344 per 100,000 in CY 2018 to 1,008 per 100,000 in CY 2020, a 25 percent decrease.[8] • The reduction in PQIs in 2020 excludes COVID-19 discharges, and the large decrease probably reflects changes in hospital utilization during the COVID Public Health Emergency.

Measures	Population	2018	2019	2020
Preventive quality indicator (PQI) **acute** composite rate per 100,000 population, age 18 and over	4,700,723	322.19	298.66	226.82
Preventive quality indicator **chronic** composite rate per 100,000 population, age 18 and over	4,716,722	1022.09	1008.15	781.2
Preventive quality indicator **overall** composite rate per 100,000 population, age 18 and over	4,721,883	1,344.53	1,307.13	1,008.21

[8] Monitoring performed using AHRQ v2020 methodologies.



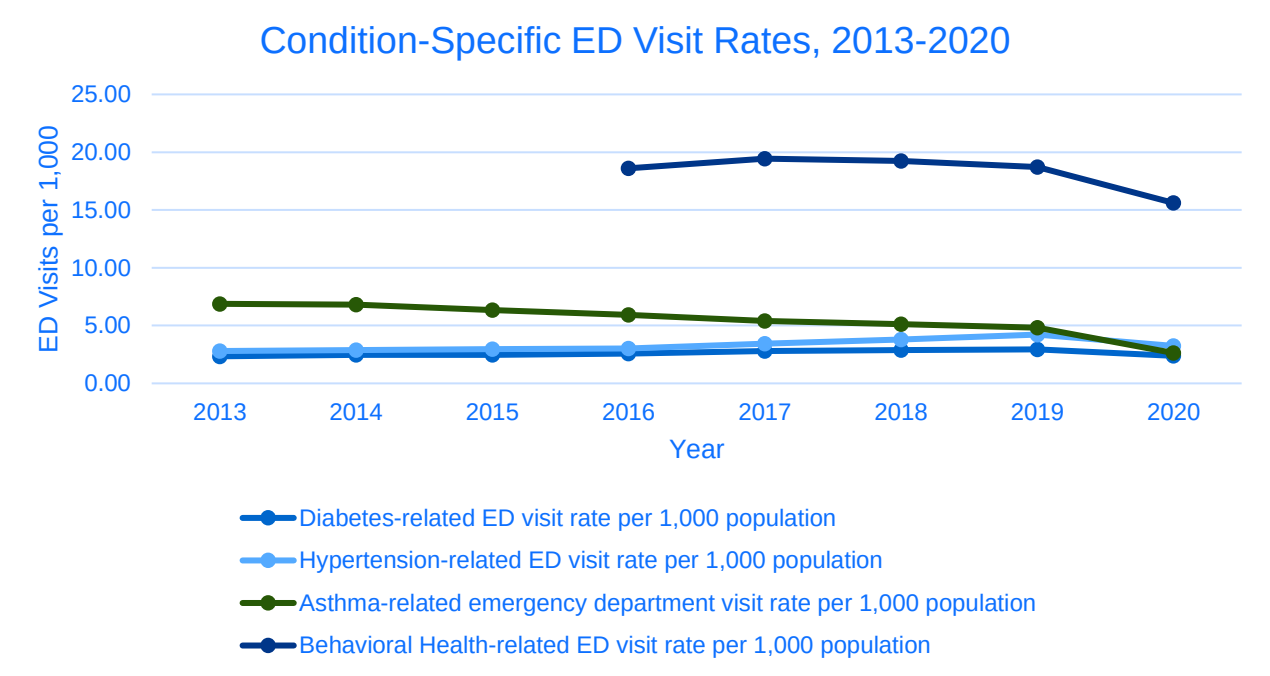
Goal 16 - Reduce Potentially Avoidable ED Visits

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. During the COVID-19 Public Health Emergency, ED visits sharply declined in the initial half of 2020, and did not fully recover to pre-pandemic levels throughout the rest of the year, remaining about 25% lower than prior years. Therefore, condition-specific ED Visit rates are notably lower than prior years across all conditions. Maryland does not believe that this favorable trend accurately represents quality

	improvement, and instead believes that this is a function of changes in utilization patterns observed during the pandemic that may be temporary in nature.
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. **Numerator**: HSCRC outpatient data of relevant condition-specific ICD-9 codes and 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[9] - 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 2019.
Monitoring Results	• The Maryland diabetes-related ED visit rate increased slightly each year. Between 2016 and 2019, the ED rate increased from 2.57 to 2.94 per 1,000 residents, an increase of 14.25 percent. In 2020, the rate decreased to 2.38 per 1,000. • Between 2016 and 2019, the hypertension ED rate increased from 3.01 to 4.22 per 1,000 Maryland residents. This represents an increase of 40.05 percent. In 2020 this rate decreased to 3.25 • The Maryland asthma-related ED visit rate decreased by 18.42 percent between 2016 and 2019, decreasing from 5.92 to 4.83 per 1,000 Maryland residents. In 2020, this rate further declined to 2.63 per 1,000. Notably, asthma admissions declined more precipitously than other condition-specific visit rates, declining nearly 46 percent. • Maryland Behavioral Health-related ED visit rates have remained largely unchanged 2016 to 2019, a 0.59 percent increase from 18.60 to 18.71. The Behavioral Health-related ED visit rate is significantly larger per 1,000 Maryland residents than the other chronic conditions presented. In 2020, this rate declined to 15.61.

[9] While the Behavioral Health CCS Categories remained steady ICD-9 to ICD-10, the “crosswalk” of related codes is not reliable, and therefore Behavioral Health-related ED visit rates are presented CY 2016 onward, wholly under the ICD-10 timeframe and definition.

Measures	2013	2014	2015	2016	2017	2018	2019	2020
Diabetes-related ED visit rate per 1,000 population	2.34	2.46	2.47	2.57	2.80	2.87	2.94	2.38
Hypertension-related ED visit rate per 1,000 population	2.80	2.88	2.95	3.01	3.43	3.79	4.22	3.25
Asthma-related emergency department visit rate per 1,000 population	6.88	6.80	6.35	5.92	5.41	5.11	4.83	2.63
Behavioral Health-related ED visit rate per 1,000 population				18.60	19.44	19.25	18.71	15.61



Additional Future Considerations

The HSCRC is currently exploring the potential adoption of an avoidable ED measurement in its hospital Quality programs. The measure will focus on emergency room care that is necessary but could have been prevented by better community and primary care as well as emergency room that is unnecessarily provided in an ED setting. There are several measurements and algorithms available to assess potentially avoidable emergency room care, which HSCRC staff will be exploring over the coming year.

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 2019 for Maryland.
Monitoring Results	• The average life expectancy in Maryland improved slightly, from 79.1 in 2016 to 79.3 in 2019. • The average life expectancy in United States also improved slightly, from 78.6 in 20176 to 78.8 in 2019. However, provisional CDC data suggest that the average life expectancy at birth declined a full year to 77.8 during CY 2020. • There are persistent disparities in the life expectancy by race, at both the national and state levels.

Measure	Population	2011	2012	2013	2014	2015	2016	2017	2018	2019[10]	2020[11]
Average life expectancy at birth	Maryland	79.5	79.7	79.7	79.8	79.5	79.1	79.1	79.2	79.3	
	White (MD)	80.3	80.4	80.3	80.3	80.2	79.8	79.7	80	80.2	
	Black (MD)	77.1	77.3	77.4	77.6	77.0	76.8	76.9	76.9	76.9	
	National	78.7	78.8	78.8	78.9	78.8	78.7	78.6	78.7	78.8	77.8
	White	79	79.1	79.1	79	78.7			78.6	78.8	78.0
	Black	75.3	75.5	75.5	75.3	75.1			74.7	74.7	72.0

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. For more information on the Outcomes-Based Credits, please refer to the OBC diabetes calculation, submitted January 2022.

Outcomes-Based Credits

For more information on the first outcomes-based credit proposal (reduction of diabetes incidence), please refer to the **Diabetes Outcomes-Based Credit Proposal under the Maryland Total Cost of Care Model** (submitted 2019), as well as its calculation (most recently submitted January 2022). The State is currently working with contractors to develop a methodology for a credit related to opioids, and recently completed analytics and stakeholder communication required to finalize selection of a third outcome credit, which will focus on hypertension.

[10] 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).
[11] Provisional National data at: https://www.cdc.gov/nchs/data/vsrr/VSRR10-508.pdf pg 2.

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 Jan 2022).

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, 2021.

Conclusions

The State of Maryland and the HSCRC demonstrated meaningful progress towards the aims of the Total Cost of Care Model in MY 2 (CY 2020) 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. While some of these efforts may need to be reevaluated due to the effects of the ongoing Public Health Emergency, 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 coming years of the TCOC Model, the State of Maryland and the HSCRC will 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.

maryland health services cost review commission

Appendix I: Numerator, Denominator, Rate

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

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

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Goal 6										
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020
Coronary Artery Disease	National, (5% CCW Sample)	Timely Follow-up						16,183	15,442	10,990
		Eligible Discharges						23,720	21,880	16,325
		Follow-up Rate						68.23%	70.58%	67.32%
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
		Elig Disch				7,493	8,201	8,682	9,374	7,177
		Follow-up Rate				71.25%	71.71%	72.10%	73.23%	68.93%
	National, (5% CCW Sample)	Timely Follow-up						14,850	15,013	10,409
		Eligible Discharges						22,083	21,693	16,147
		Follow-up Rate						67.25%	69.21%	64.46%
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
		Elig Disch				9,216	9,372	9,218	9,155	5,830
		Follow-up Rate				79.28%	79.37%	79.32%	79.67%	74.41%
	National, (5% CCW Sample)	Timely Follow-up						20,208	18,292	10,186
		Eligible Discharges						27,324	23,552	14,045
		Follow-up Rate						73.96%	77.67%	72.52%
Rate of Physician Follow-up after Discharge - Diabetes	Maryland (CCLF)	Timely Follow-up				4,539	4,736	4,595	4,780	3,291
		Elig Disch				5,714	5,822	5,701	5,918	4,178
		Follow-up Rate				79.44%	81.35%	80.60%	80.77%	78.77%

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Goal 6										
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020
	National, (5% CCW Sample)	Timely Follow-up						11,869	11,069	7,204
		Eligible Discharges						15,659	13,975	9,694
		Follow-up Rate						75.80%	79.21%	74.31%
Rate of Physician Follow-up after Discharge - Hypertension	Maryland (CCLF)	Timely Follow-up				4,824	5,142	5,033	5,253	3,676
		Elig Disch				8,724	9,220	9,145	9,390	6,788
		Follow-up Rate				55.30%	55.77%	55.04%	55.94%	54.15%
	National, (5% CCW Sample)	Timely Follow-up						11,846	11,704	8,226
		Eligible Discharges						22,526	21,811	15,826
		Follow-up Rate						52.59%	53.66%	51.98%
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
		Total Discharges	609,853	647,229	629,672	621,812	611,969	597,914	581,406	521,716
		Rate of Notification	10.26%	35.69%	47.88%	55.31%	63.06%	66.55%	79.51%	91.36%
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
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.

Goal 11									
Measures	Population		2013	2014	2015	2016	2017	2018	2019
Central-line Acquired Bloodstream Infection (CLABSI) SIR	Maryland					1.125	0.874	0.792	0.694
	National (approx)					0.891	0.813	0.742	0.685
Catheter-Associated Urinary Tract Infection (CAUTI) SIR	Maryland					1.034	0.846	0.784	0.731
	National (approx)					0.940	0.873	0.801	0.717
Clostridioides difficile (C.Diff) SIR	Maryland					0.998	0.925	0.805	0.607
	National (approx)					0.922	0.804	0.710	0.581

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Goal 11									
Measures	Population		2013	2014	2015	2016	2017	2018	2019
Methicillin-resistant Staphylococcus aureus (MRSA) SIR	Maryland					1.154	0.962	0.921	0.75
	National (approx)					0.948	0.867	0.848	0.821
Surgical Site Infection - Colon Surgery SIR	Maryland					1.032	0.937	0.937	0.946
	National (approx)					0.931	0.908	0.895	0.866
Surgical Site Infection - Abdominal Hysterectomy SIR	Maryland					1.02	1.165	1.656	1.242
	National (approx)					0.869	0.863	0.902	0.930
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
		Number at-risk Discharges	23,066,215	22,023,030	21,221,831	20,703,277		3,697,949	3,577,767
		PPCs per 1,000 at-risk Discharges	1.08	0.83	0.76	0.69		0.86	0.70
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
		Number at-risk Discharges	8,755,714	8,468,548	8,274,128	7,975,683		1,358,651	1,266,382
		PPCs per 1,000 at-risk Discharges	1.37	1.01	0.94	0.82		1.26	0.98
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
		Number at-risk Discharges	4,170,854	4,897,741	4,790,226	4,692,467		884,619	847,109
		PPCs per 1,000 at-risk Discharges	0.84	0.63	0.56	0.54		0.58	0.46
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
	Maryland Medicare FFS		1.44	1.05	0.94	0.78		0.69	0.53
	Maryland Medicaid		1.09	0.83	0.72	0.63		0.59	0.46

Goal 11									
Measures	Population		2013	2014	2015	2016	2017	2018	2019
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
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
		Expected Readm				56,164	56,381	55,752	54,745	50,022
		Readmission Rate				12.24%	12.07%	11.71%	11.36%	10.54%
Readmissions per 1,000 Maryland residents	Maryland	Readmissions	70,318	65,313	61,038	58,693	58,101	55,743	53,121	45,015
		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
		Readmission Rate	11.86	10.95	10.18	9.76	9.65	9.24	8.79	7.43

Goal 13									
Measures	Population		2013	2014	2015	2016	2017	2018	2019
Admission rate from home health agencies to acute inpatient hospital	Maryland		17%	16.4%	16.0%	16.3%	15.3%	15.1%	15.5%
	National		16%	15.9%	16.2%	16.4%	15.8%	15.6%	15.4%
Unplanned urgent visits to the ED for patients receiving home health	Maryland		11%	11.7%	12.4%	12.3%	13.0%	13.1%	13.6%
	National		12%	12.2%	12.5%	12.7%	13.0%	12.8%	13.0%
Readmission rates for inpatient discharges to nursing homes	Maryland	Readmissions	9,523	8,880	9,611	8,930	9,311	9,969	10,633
		Eligible Discharges	46,464	45,194	50,806	49,197	50,955	56,746	62,691
		Readmission Rate	20.50%	19.65%	18.92%	18.15%	18.27%	17.57%	16.96%

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

Goal 15									
Measure	Population		2013	2014	2015	2016	2017	2018	2019
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			

Goal 15									
Measure	Population		2013	2014	2015	2016	2017	2018	2019
		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		

Goal 16										
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020
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
		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
		Visit Rate per 1,000	2.34	2.46	2.47	2.57	2.80	2.87	2.94	2.38
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
		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
		Visit Rate per 1,000	2.80	2.88	2.95	3.01	3.43	3.79	4.22	3.25
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
		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

Goal 16										
Measures	Population		2013	2014	2015	2016	2017	2018	2019	2020
		Visit Rate per 1,000	6.88	6.80	6.35	5.92	5.41	5.11	4.83	2.63
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
		Population				6,016,447	6,023,868	6,035,802	6,045,680	6,055,802
		Visit Rate per 1,000				18.60	19.44	19.25	18.71	15.61

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.

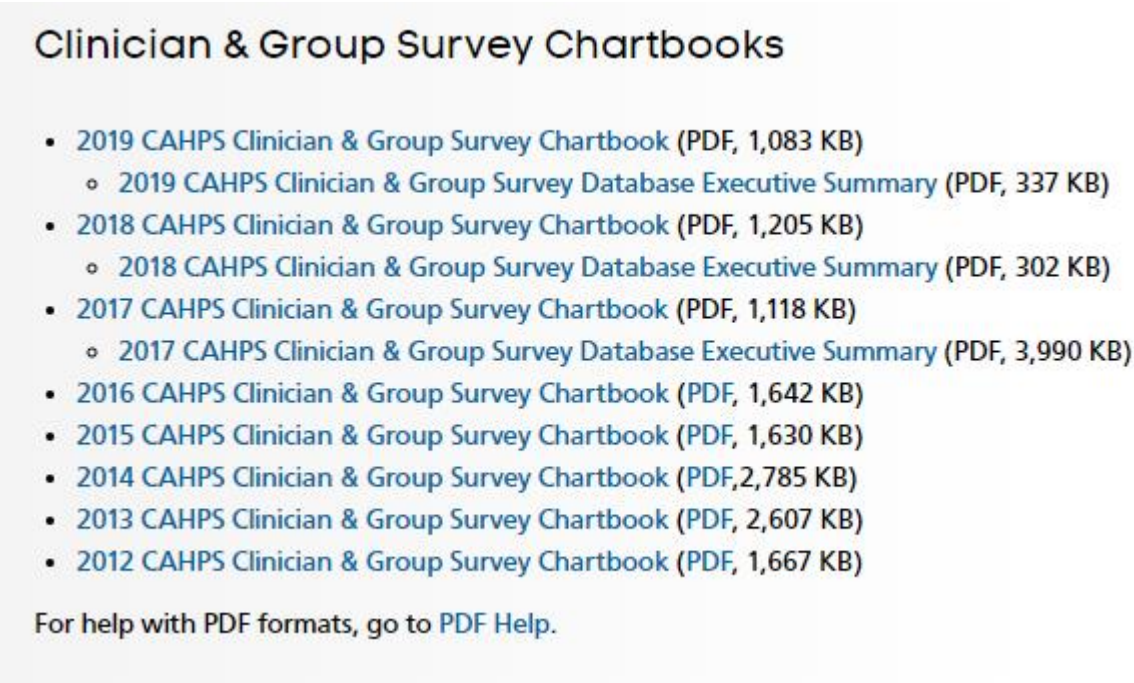
Goal 1 - No additional information.

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.**

Goal 4. For more information on the **CY 2018 MHCC FASF Survey**, please visit the MHCC Quality Page, https://healthcarequality.mhcc.maryland.gov/.

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



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.

Medicaid-Participating Providers per 1,000 Medicare Enrollees

Numerator: To approximate the number of Medicaid-participating providers per 1,000 beneficiaries, Medicaid provided the number of Medicaid providers who met the following conditions in CY 2019:

- The number of Medicaid providers with at least one fee-for-service (FFS) claim or managed care organization (MCO) encounter with a paid date in calendar year (CY) 2019,
- The number of pharmacy providers linked to at least one claims or encounter from the outpatient pharmacy files,
- The number of dental care providers who met the following criteria:
    - At least one FFS claims with a dental procedure code
    - At least one MCO encounter submitted in the supplemental files for dental providers received from the MCOs Medstar, UMMS, or Amerigroup
    - At least one MCO encounter where the provider’s name contained “Dental”

Denominator: The number of beneficiaries in a Calendar Year was queried from Medicaid’s public enrollment data, from the public enrollment website, https://md-medicaid.org/eligibility/new/index.cfm.

Disclaimer: Given updated methodology, this rate of Medicaid-participating physicians per 1,000 beneficiaries should not be trended prior to CY 2019 at this time.

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 2019: 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 2019.

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 11.71%.

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 among Patients Discharged to a Nursing Home

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)