Health Services Cost Review Commission
4160 Patterson Avenue, Baltimore, Maryland 21215
Phone: 410-764-2605 · Fax: 410-358-6217
Toll Free: 1-888-287-3229
hscrc.maryland.gov

December 20, 2019

The Honorable Lawrence J. Hogan, Jr.
Governor of Maryland
100 State Circle
Annapolis, Maryland 21401

The Honorable Thomas V. Mike Miller, Jr.
President of the Senate
H-101 State House
Annapolis, MD 21401-1991

The Honorable Adrienne A. Jones
Speaker of the House
H-107 State House
Annapolis, MD 21401-1991

The Honorable Robert R. Neall
Secretary of MDH
201 W. Preston Street
Baltimore, MD 21201

RE: Health – General Article Section 19-207(b)(6) Annual Report on Activities of the Health Services Cost Review Commission (MSAR #10158)

Dear Governor Hogan, President Miller, Speaker Jones, and Secretary Neall:

I am pleased to submit to you the FY 2019 Report to the Governor from the Maryland Health Services Cost Review Commission (HSCRC), prepared relative to Section 19-207(b)(6) of the Health – General Article. This report provides a review of HSCRC activities during FY 2019.

The All-Payer Model replaced Maryland's 36-year-old Medicare waiver and allowed Maryland to adopt new and innovative policies aimed at reducing per capita hospital expenditures and improving patient health outcomes. To build upon the success of the All-Payer system, on January 1, 2019, Maryland entered into a new agreement with CMS called the Total Cost of Care Model. Under this new Model, working together with partners across the State, the HSCRC aims to improve population health, transform care across the delivery system, and ultimately reduce the total cost of care for Marylanders. More information on the HSCRC, the new Total Cost of Care Model, and Maryland hospital activities can be found on the HSCRC's website: http://hscrc.maryland.gov.

If you have any questions about this report, please contact me at tequila.terry1@maryland.gov.

Sincerely,

Tequila Terry
Deputy Director

CC: Sarah Albert, Department of Legislative Services

Report to the Governor

Fiscal Year 2019

Health Services Cost Review Commission
4160 Patterson Avenue
Baltimore, Maryland 21215
(410) 764-2605

December 2019

Table of Contents

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 in January 2019, will progressively transform care delivery across the health care system with the objective of controlling total healthcare costs, improving health and quality of care.

The TCOC Model serves as the central focus in this *Fiscal Year (FY) 2019 Report to the Governor from the Maryland Health Services Cost Review Commission* (HSCRC or Commission). This report, prepared in accordance with Section 19-207(b)(6) of the Health-General Article of the Annotated Code of Maryland (MSAR #10158), includes:

- An overview of performance under the All-Payer Model during 2014-2018
- An overview of the new TCOC Model and implementation activities
- Performance under the TCOC Model from January 1, 2019 through June 30, 2019
- An update other HSCRC activities, including care transformation efforts, stakeholder engagement, and rate setting methodology development
- A summary of hospital financial performance in FYs 2018 and 2019
- An overview of HSCRC infrastructure, staffing, the FY 2019 budget

Section I: Overview of Total Cost of Care Model and Key Requirements

Performance under the All-Payer Model (2014-2018)

The All-Payer Model (APM) contained measurements that reached across the payer and provider system. The following is a description of the targets that Maryland was required to meet by the end of 2018.

Total Hospital Per Capita Cost Growth – Target Achieved

The APM Agreement required that the State limit the average annual growth in all-payer hospital per capita revenue for Maryland residents to 3.58 percent. By measuring hospital revenue growth on a per capita basis, this measure reflects hospitals costs for the average Marylander. Success on this measure, therefore, is an important indicator as the State strives to deliver higher-value care in hospitals, while constraining the growth of hospital costs, regardless of payer. Per capita revenue for Maryland residents grew at a rate more than one percent below that target for all years of the Model except 2017, so that by the end of the Model the average annual growth rate was 2.03 percent—well below the 3.58 percent target in the Model.

Aggregate Medicare Savings - Target Achieved

The APM Agreement required the State to save Medicare at least $330 million in hospital expenditures over the five years of the Agreement. Cumulatively, Maryland realized $1.4 billion in hospital savings throughout the five years of the APM—an additional $1.07 billion in savings to Medicare beyond the Model requirement.

Shifting from a Per-Case Rate System to Global Budgets - Target Achieved

The APM Agreement also required that Maryland transition at least 80 percent of hospital revenue to global- or population-based budgets by 2018. Within the first year of the Model, 95 percent of the State's regulated hospital revenue had transitioned to global budgets. By CY 2016, 98 percent of Maryland's regulated hospital revenues were contained within global budget structures and all of Maryland's regulated hospitals operate under Global Budget Revenue (GBR) agreements. The remaining two percent of non-GBR revenue accounts for drug costs, which are funded based on volume.

Reducing the Hospital Readmission Rate among Medicare Beneficiaries - Target Achieved

HSCRC policies have focused on reducing hospital inpatient readmission rates since 2011. The APM Agreement required Maryland's hospital readmission rate for Medicare fee-for-service (FFS) beneficiaries to be at or below the national readmission rate by the end of 2018. Maryland successfully reduced its readmissions rate to below the national average by substantially reducing the rate over the course of the APM. At the beginning of the APM, the Maryland readmission rate was 1.22 percentage points higher than the nation (Maryland: 16.60 percent; Nation: 15.38 percent). By the end of the Model, 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).

Cumulative Reduction in Hospital Acquired Conditions - Target Achieved

Under the APM, Maryland hospitals were required to achieve a 30 percent cumulative reduction in Hospital Acquired Conditions (HACs) by 2018. Maryland measures HACs using a list of potentially preventable complications (PPCs). 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. Maryland hospitals reduced prevalence of these conditions by 51 percent— well above the Model requirement.

Medicare Savings and Total Cost of Care Performance – Target Achieved

Under the APM Agreement, the total cost of care growth for Maryland Medicare beneficiaries could not exceed the national growth rate by more than one percent in any given year and could not exceed the national growth in any amount for two consecutive years. During the five years of the APM, Maryland was in compliance with these guardrail targets and produced a cumulative $869 million in Medicare total cost of care savings.

Goals Established by the Total Cost of Care Model (2019-2028)

While the APM focused primarily on hospitals, the Total Cost of Care (TCOC) Model focuses on transforming care across the entire healthcare system. The Model began on January 1, 2019, and will continue through 2028, so long as Maryland meets the Model's performance requirements. These include both spending, quality, and population health improvements.

Healthcare Spending under TCOC Model

The TCOC Model continues the per capita all-payer hospital growth limit requirement from the APM and sets new, more ambitious TCOC savings targets. The two key spending requirements under the Model are:

- Average annual hospital cost growth per capita must stay at or below 3.58 percent.
- The State must build up to $300 million in savings for Medicare total cost of care spending on Medicare Part A and Part B (hospital and non-hospital) annually by the end of 2023, and maintain those annual savings through the end of the Model (2028).

Quality Measures and Population Health under TCOC Model

The State must make reductions in healthcare cost growth without backtracking on hospital quality measures for the remainder of the Model (through 2028). Additionally, Maryland must identify population health priorities and develop health improvement goals. The State must develop robust methodologies for at least three population health priorities, and propose their approach to CMS for approval. These areas of focus should align with the Statewide Integrated Health Improvement Strategy, discussed in Section IV.

Strategies for Success

To support these savings and health improvement goals, the Model allows Maryland to do the following:

- Expand statewide and hospital-specific total cost of care accountability for Maryland Medicare fee-for-service beneficiaries, managed through adjustments to hospital rates via the Medicare Performance Adjustment.
- Broaden incentives for healthcare providers to participate in voluntary programs that leverage federal programs and align efforts to improve care and care coordination.

Moving forward, hospitals must strengthen partnerships with non-hospital providers to reduce healthcare spending and improve quality across the healthcare system. While the HSCRC will continue to only regulate hospital rates, HSCRC staff are developing and expanding value-based payment opportunities for non-hospital providers. Maryland will only reach the TCOC Model targets if all providers in the healthcare system work together to transform care.

Section II: Total Cost of Care Performance (January – June 2019)

Maryland met all financial and quality targets under the APM Agreement. Under the new Model, the State must continue to perform positively and meet the new healthcare spending

requirements to control total hospital per capita growth and achieve TCOC Medicare savings. The information below contains data showing Maryland's positive performance during the first six months of the TCOC Model.

Total Hospital Per Capita Cost Growth

The Maryland TCOC Model agreement requires the State to limit the average annual growth in all-payer hospital per capita revenue for Maryland residents to a 3.58 percent growth rate. This number is based on the average growth in per capita gross state product (GSP) for the period 2002 through 2012. Continuing the favorable performance under the APM, the CY 2019 per capita revenue for the first six months under the TCOC Model was 1.01 percent. Additionally, the CY 2019 Medicare FFS per capita also had favorable results with a 2.11 percent decline over the first six months of CY 2018.

Medicare Savings and Total Cost of Care Performance

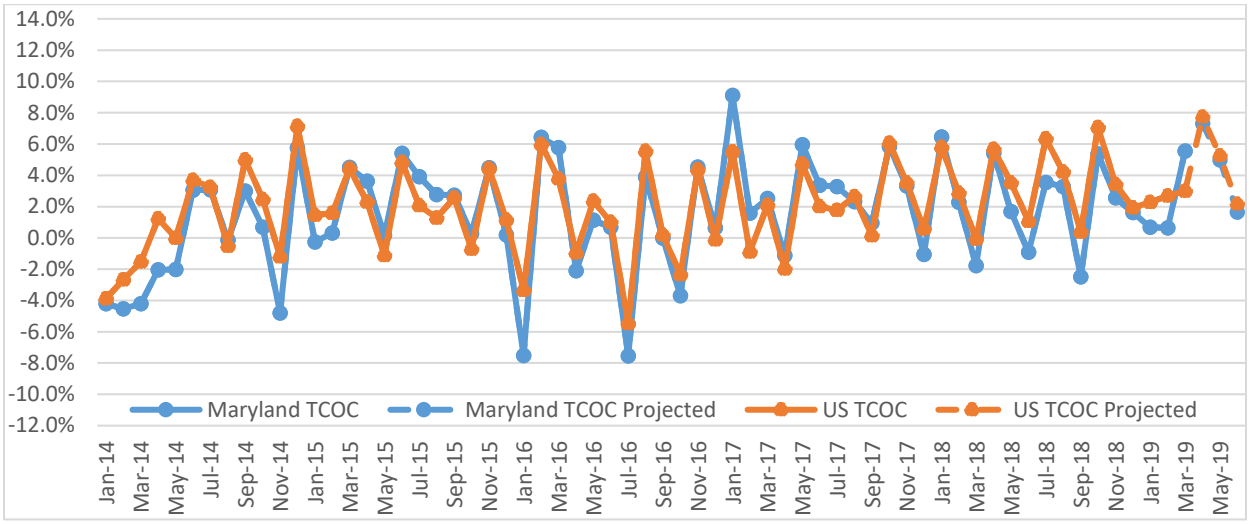
Under the TCOC Model, the TCOC growth for Maryland Medicare beneficiaries may not exceed the national growth rate by more than one percent in any given year and may not exceed the national growth for two consecutive years. Additionally, Maryland must build to an annual $300 million in TCOC savings by the fifth year of the Model (CY 2023).

Maryland successfully achieved cumulative total cost of care savings of $869 million over the five years of the APM. In the last year of the APM alone, Maryland reached $273 million in TCOC savings. The TCOC Model builds off of this progress with preliminary data through June 2019 showing TCOC savings of $298 million, a $25 million increase over 2018 performance.

Maryland continues to perform favorably when compared to the nation in both hospital and total cost of care spending per capita. Non-hospital spending per capita shows excess growth when compared to the nation, specifically Part B spending. While an increase in non-hospital growth is to be expected as services move from hospital-settings to non-hospital settings, it is important this growth not substantially offset savings achieved in hospital spending and total cost of care. These trends continue to be monitored on a monthly basis.

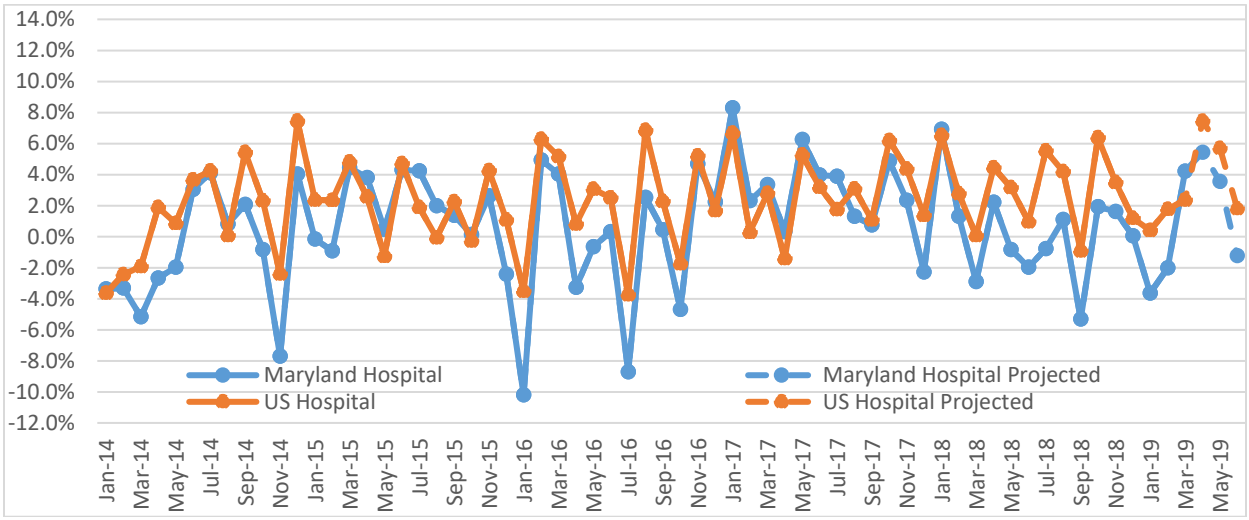
The following figures represent actual growth trends from CY 2014 through June 2019. The trend measures growth for the current calendar year month versus the prior calendar year month.

Figure 1. Total Cost of Care per Capita, CY 2014-June 2019



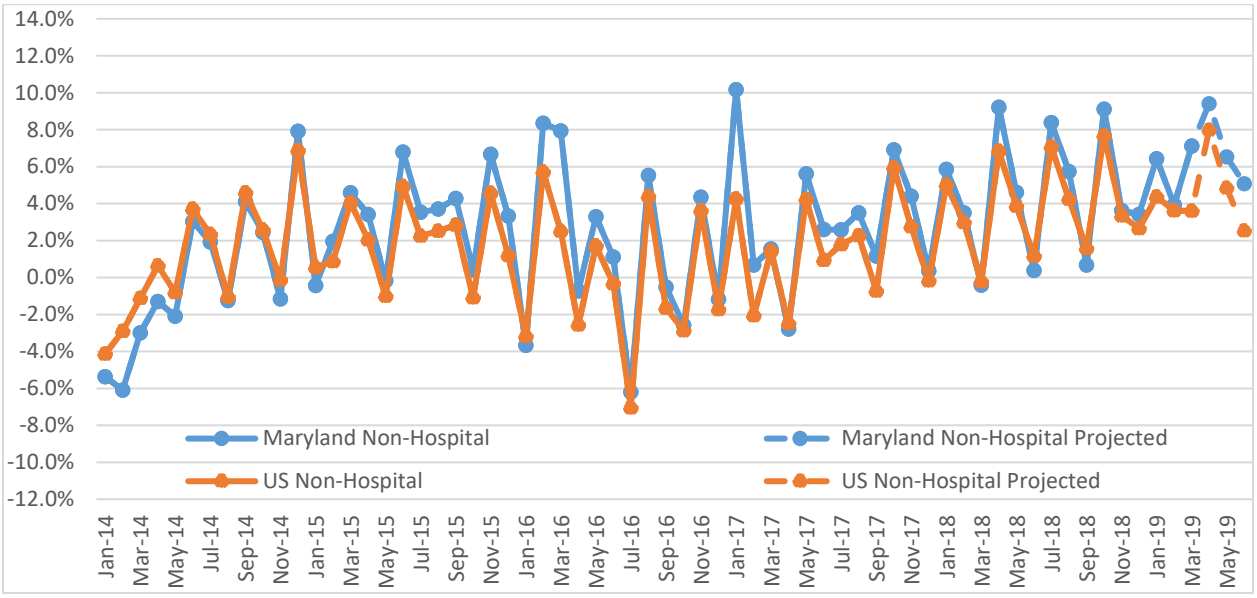
Source: CMMI Monthly Data Reports to CMS

Figure 2. Medicare Hospital Spending per Capita, CY 2014- June 2019



Source: CMMI Monthly Data Reports to CMS

Figure 3. Medicare Non-Hospital Spending per Capita, CY 2014- June 2019



Source: CMMI Monthly Data Reports to CMS

Policies influencing Financial Performance and TCOC

Medicare Performance Adjustment (MPA)

The HSCRC implemented the Medicare Performance Adjustment (MPA, also referred to as MPA Traditional) to assist the State in the transition to the TCOC Model, which focuses on controlling TCOC (both hospital and non-hospital costs). The MPA adjusts hospital Medicare payments based on Medicare TCOC performance. Commissioners voted on the initial policy in November 2017 to allow for a January 2018 implementation date, with payment adjustments that began in July 2019 (Rate Year 2020) and will continue into RY 2021 (July 2020-June 2021). Based on hospital performance in CY 2019 for the RY 2021 adjustment, these adjustments are net positive payments to hospitals given favorable TCOC performance across the State. The TCOC Workgroup, described in Section VI of this report, worked throughout 2019 to refine the MPA methodology and guide implementation in CY 2020 and future years. Commissioners approved the MPA Year 3 policy in November 2019, which will impact Medicare payment adjustments for RY 2022 (July 2021 – June 2022).

Update Factor

The Update Factor policy is a revenue update that incorporates both price and volume adjustments for hospital revenue under Global Budget Revenues (GBR). In considering the system-wide update for hospitals with global budget revenues under the TCOC Model, HSCRC staff sought to achieve balance among the following conditions: meeting the requirements of the TCOC Model agreement; providing hospitals with the necessary resources to keep pace with changes in inflation and demographic changes; 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 2020 update policy was implemented on July 1, 2019. The Commission adopted the following policies as a part of the FY 2020 Update Factor:

- Provide an overall increase of 3.59 percent for revenue (inclusive of an uncompensated care increase and deficit assessment reduction), resulting in a 3.28 percent per capita revenue increase for hospitals under Global Budgets
- Allocate 0.19 percent of the total inflation allowance to high cost outpatient oncology and infusion drugs, providing a 10 percent increase based on the amount each hospital reported for estimated cost and utilization for the top 80 percent of these drugs for RY 2020
- Provide a conditional additional allowance to the two major Academic Medical Centers of one percent for growth in high cost inpatient procedures and intensity for RY 2020
- Prospectively reduce Global Budgets by 0.30 percent statewide for Potentially Avoidable Utilization.

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.

MPA Framework

The HSCRC introduced the Medicare Performance Adjustment Framework (MPA Framework) policy in the September 2019 Commission meeting. The MPA Framework will be used to ensure that the State meets the Medicare savings targets in the TCOC Model Agreement, while also incentivizing hospitals to engage in Care Transformation Initiatives (CTIs). CTIs are programs implemented by hospitals to reduce cost and improve quality of care across all sites of service (also discussed in Section V). In order to accomplish these goals, the HSCRC's MPA Framework recommendation includes the potential use of both (1) a positive adjustment to Medicare payments to reward hospitals that produce total cost of care savings through care transformation and (2) negative adjustments to Medicare payments, if such adjustments are needed to help the State achieve the TCOC Model's Medicare savings requirements.

In addition, an offset to the positive payments for care transformation is included. This offset penalizes hospitals that are not pursuing successful CTIs. The combination of rewards and penalties ensures that both Medicare and successful hospital participants receive savings while non-contributing hospitals are penalized.

The MPA Framework Policy was approved by Commissioners in the October 2019 Commission meeting. The policy outlines the link between the MPA Framework and care transformation activities and further highlights the mechanics of the MPA Framework with other Commission policies including the Update Factor policy. The policy concludes that no negative adjustment to rates is required for the first half of 2020 given the State's current favorable Medicare savings run rate ($298 million through June 2019).

Section III: Hospital Quality Programs and Performance

Maryland continues to be a national leader in implementing innovative hospital payment systems to achieve the goals of cost containment, access to care, equity in payment, financial stability, and quality improvement. Maryland's achievements in recent years have resulted in hospital pay-for-performance programs that are broader than corresponding federal programs in design and scope, and that encompass a robust set of performance measures with strong emphasis on all-payer patient outcomes. Maryland has steadily expanded the magnitude and scope of its quality payment reform initiatives since 2008. Maryland's hospital quality initiatives are part of a comprehensive set of emerging healthcare delivery reform efforts and activities in the State to achieve the three-part aim of better care for individuals, better health for populations, and reduced expenditures for all patients.

Each of the quality-based payment programs places hospital revenue at-risk for meeting performance targets. These programs provide strong incentives for hospitals to continuously improve quality performance. The hospital quality-based payment programs are listed below and are described in the subsections that follow.

- Quality-Based Reimbursement (QBR) Program
- Maryland Hospital Acquired Conditions (MHAC) Program
- Readmission Reduction Incentive Program (RRIP)
- Potentially Avoidable Utilization (PAU) Shared Savings Policy

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 experience of care measures, and safety measures. Each domain is then weighted to determine hospitals' final scores on the program (Figure 4).

Figure 4. QBR Measure Domain Weights for FY 2020/FY 2021

Measure Domain	Weight
Clinical Care	0.15
Patient Experience of Care (HCAHPS)	0.50
Safety	0.35

In the FY 2021 policy update, the HSCRC maintained the measurement domains and weights from the FY 2020 policy to be as consistent as possible with the CMS Value-Based Purchasing (VBP) Program, while also targeting areas of needed improvement. In FY 2021, 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

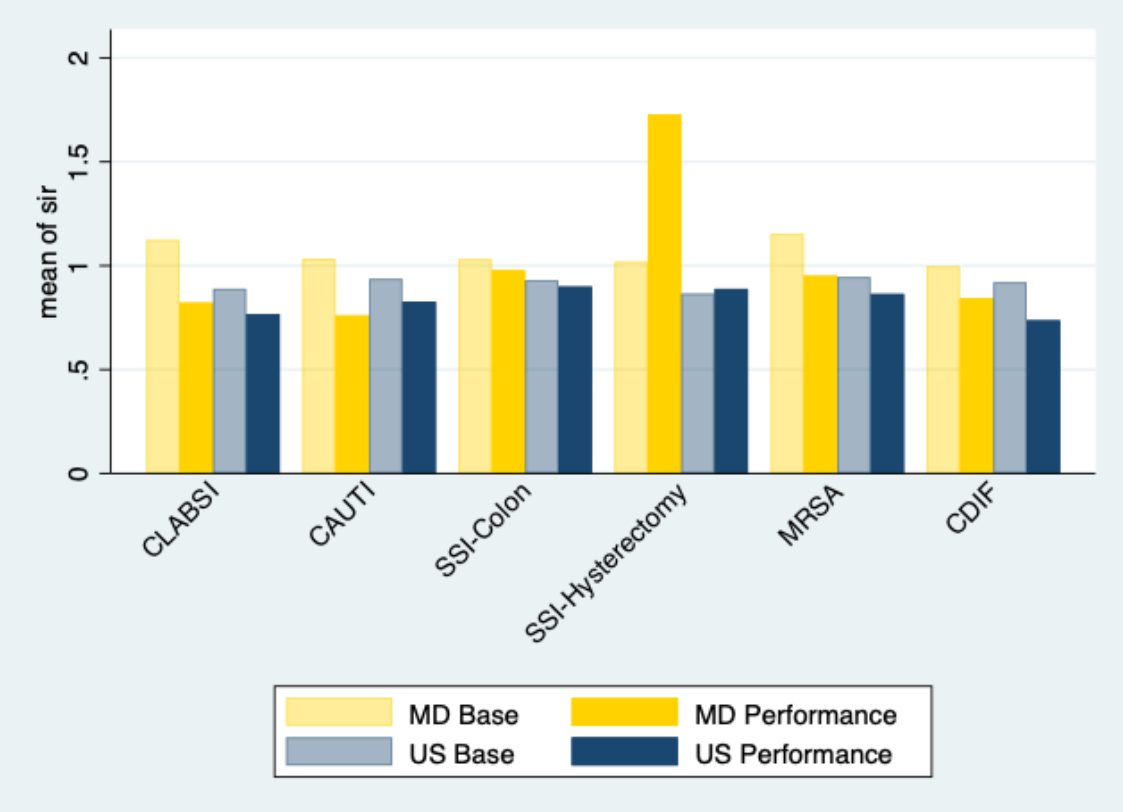
hospital global budgets, and evaluates Medicare payments based on hospitals' total cost of care performance under the MPA.

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.

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 FY 2020 performance period (October 2017-September 2018) suggest that:

- For the healthcare-associated infection measures in the Safety domain, Maryland is performing on par with or 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. However, the nation currently outperforms Maryland on all measures, with exception of the Catheter-Associated Urinary Tract Infection (CAUTI) measure where Maryland performs better and is generally improving at a faster pace, as illustrated in Figure 5 below.

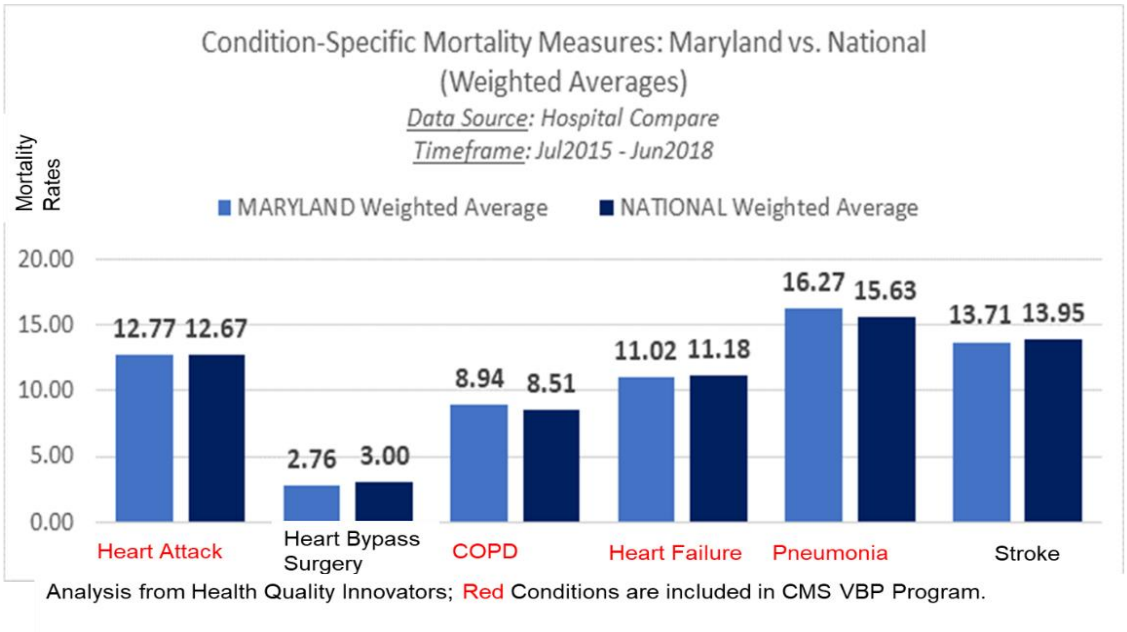
Figure 5. Maryland-Nation NHSN HAI Weighted Average SIRs (RY 2020)



Source: CMS Hospital Compare Data

- Maryland is performing slightly better than the nation on three of the six condition-specific mortality measures, according to most recently available data, as illustrated in Figure 6.

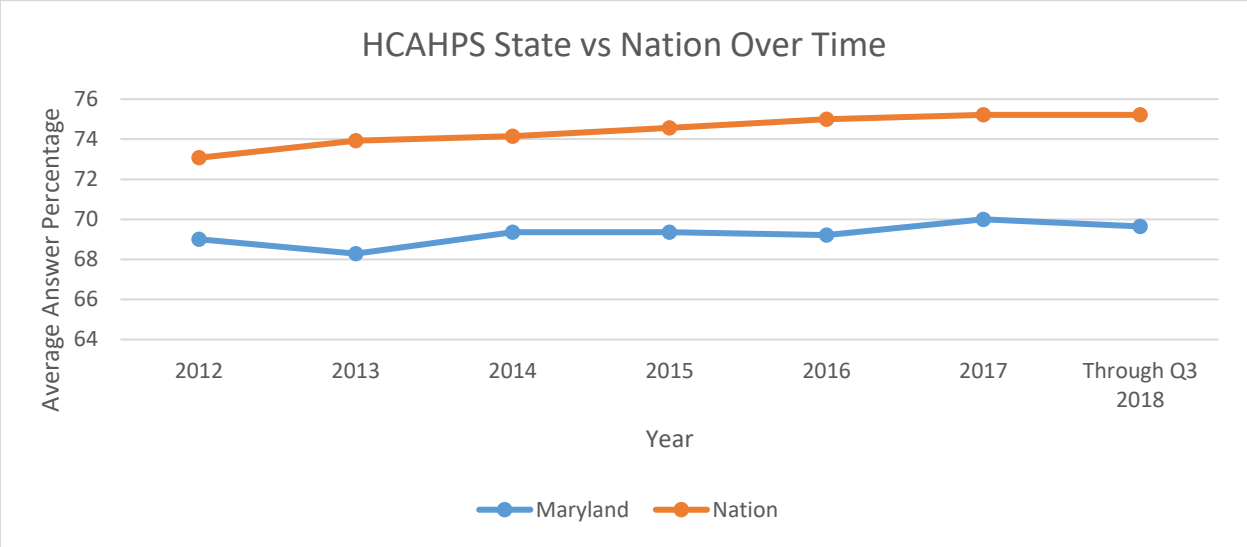
Figure 6. Maryland-Nation 30 Day Mortality Measure Rates



Source: CMS Hospital Compare

- Maryland continues to lag behind the nation in performance on the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) patient experience measures (Figure 7). HSCRC staff remain 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 FYs 2019, 2020 and 2021 policies.

Figure 7. HCAHPS – Maryland vs Nation, 2012-Present

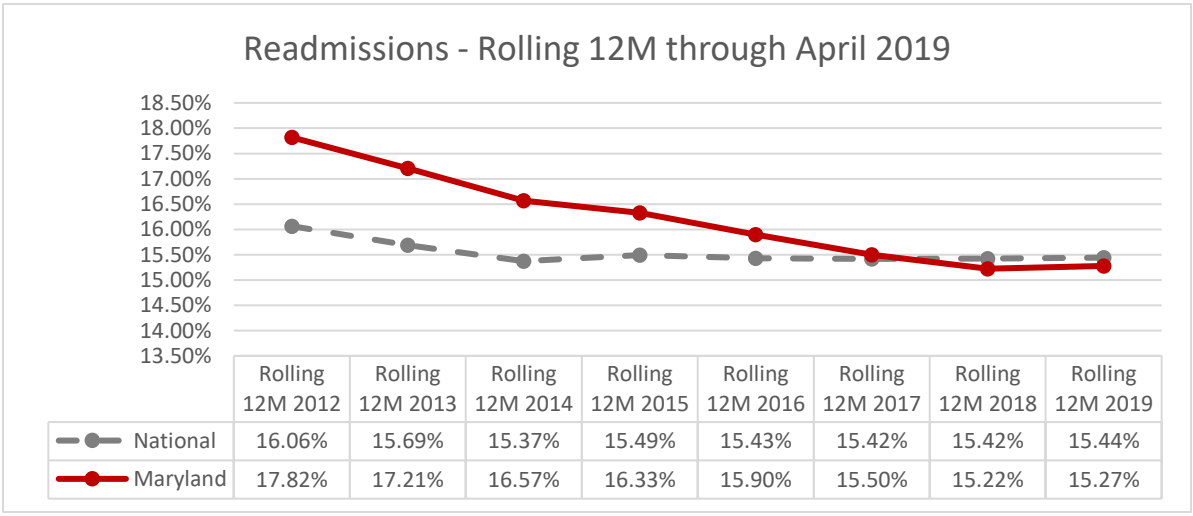


Source: CMS Hospital Compare Data

Readmission Reduction Incentive Program (RRIP)

The APM Agreement 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, Maryland is working to match or exceed any additional improvement that the nation experiences in order to maintain the State's achievements under the APM. Data through April 2019 suggest that Maryland has maintained its improvement relative to the Nation thus far in 2019, with Maryland readmissions at 15.27 percent compared to the national rate of 15.44 percent (Figure 8).

Figure 8. Medicare Readmissions - Rolling 12 Months Trend, Data through April 2019

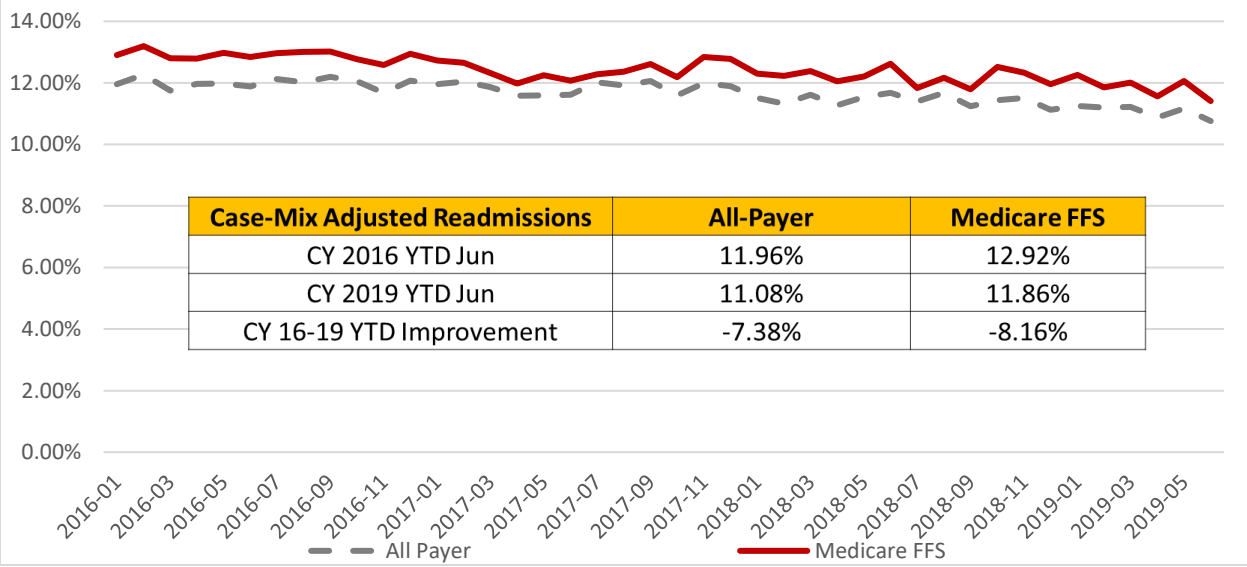


	Rolling 12M 2012	Rolling 12M 2013	Rolling 12M 2014	Rolling 12M 2015	Rolling 12M 2016	Rolling 12M 2017	Rolling 12M 2018	Rolling 12M 2019
National	16.06%	15.69%	15.37%	15.49%	15.43%	15.42%	15.42%	15.44%
Maryland	17.82%	17.21%	16.57%	16.33%	15.90%	15.50%	15.22%	15.27%

Source: CMS Monthly Data File

Additionally, HSCRC's hospital data show that the monthly case-mix adjusted readmission rate through June 2019 continues to improve when compared to CY 2016 (Figure 9). 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 2019 YTD through June was 11.08 percent, compared to 11.96 percent in CY 2016--a 7.38 percent reduction. The corresponding readmission reduction for Medicare FFS beneficiaries was slightly higher at 8.16 percent. This reduction is significant given the difficulty and time involved in reducing readmissions, as it requires sustained effort, investment, and coordination across providers.

Figure 9. Case-Mix Adjusted Readmissions in Maryland, CY 2016- CY2019 YTD Jun



Case-Mix Adjusted Readmissions	All-Payer	Medicare FFS
CY 2016 YTD Jun	11.96%	12.92%
CY 2019 YTD Jun	11.08%	11.86%
CY 16-19 YTD Improvement	-7.38%	-8.16%

Source: HSCRC Case-Mix Data

In the RY 2020 and 2021 policies, hospitals continue 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 Health Information Exchange (HIE) and providing timely, monthly, and patient-specific data to hospitals. During CY 2019, the State is working with hospital quality experts and other measurement subject-matter experts to update the readmission policy and monitor for unintended consequences in order to sustain hospital readmissions improvements.

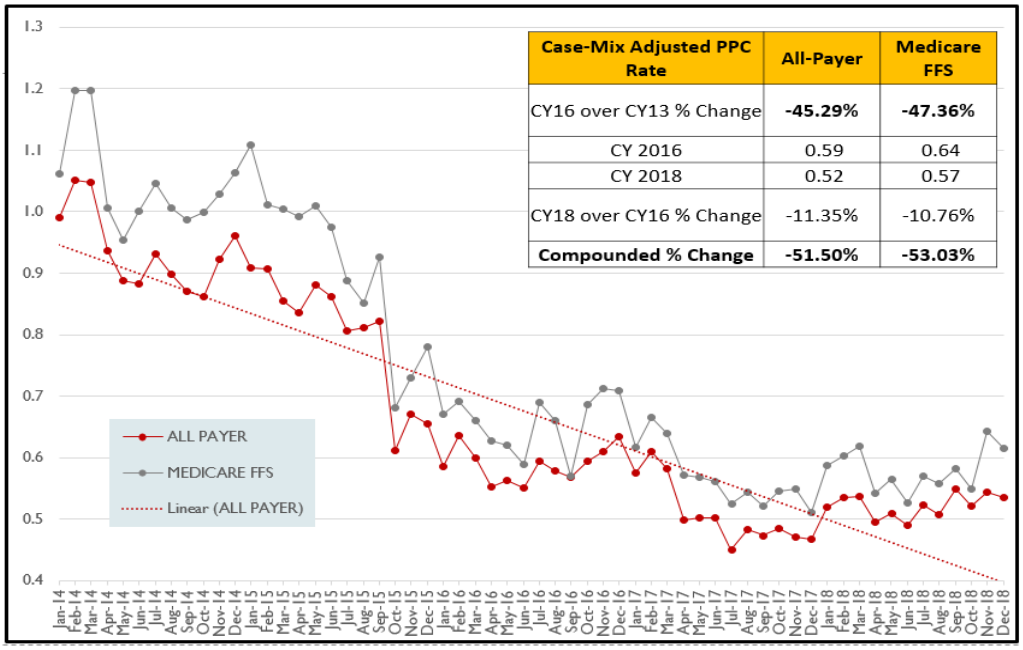
Maryland Hospital Acquired Conditions (MHAC) Program

Maryland measures Hospital Acquired Conditions (HACs) using a list of potentially preventable complications (PPCs). 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. Specifically, these calculations use observed-to-expected ratios as the basis of the measurement for all PPCs, converts the individual PPC performance into a standardized score, and then uses a preset scale to determine penalties and rewards.

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 reduction in the case-mix adjusted complication rate for Medicare FFS was slightly higher at 53.03 percent. (Figure 10). The HSCRC hopes to build on the State's commendable work under the APM by further incentivizing hospitals to reduce hospital-acquired infections and complications under the TCOC Model. In CY 2018, the HSCRC convened a subgroup of clinical and measurement experts to redesign the MHAC program under the TCOC Model (beginning CY 2019). Based on recommendations from the staff and subgroup, the Commission approved a revised policy that focuses on a narrowed down list of clinically recommended PPCs that in general have higher statewide rates and variation across hospitals. The updated policy also rewards hospitals for achieving low PPC rates rather than rewarding them for improving PPC rates over time. Based on CY 2019 YTD data through June, there has been an 18 percent reduction in the PPCs rates in CY 2019 compared to the same 6-month time period in CY 2018. Staff will continue to monitor the impacts of the revised MHAC policy as more data becomes available.

Figure 10. Case-Mix Adjusted PPC Rates in Maryland, CY 2014 – CY 2018



Case-Mix Adjusted PPC Rate	All-Payer	Medicare FFS
CY16 over CY13 % Change	**-45.29%**	**-47.36%**
CY 2016	0.59	0.64
CY 2018	0.52	0.57
CY18 over CY16 % Change	-11.35%	-10.76%
Compounded % Change	**-51.50%**	**-53.03%**

Note: Line graph based on v32 prior to October 2015; and v35 October 2015 to December 2018; all data are final, but are subject to validation.

Source: HSCRC Case-Mix Data

Potentially Avoidable Utilization (PAU) Savings Program

The HSCRC adopted a final PAU Savings policy for FY 2020 as part of the FY 2020 Update Factor at its June 2019 Commission meeting. The PAU Savings policy includes savings realized from readmissions reductions as well as savings that should be realized from reducing avoidable admissions as defined under the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicator (PQI) logic. For FY 2020, the Commission implemented an incremental prospective savings requirement of 0.30 percent of total hospital revenue, which is distributed based on a hospital's share of revenue deemed to be potentially avoidable.

Section IV: Population Health

Statewide Integrated Health Improvement Strategy

Under the TCOC Model, Maryland must propose population health priorities and improvement goals to CMS. To realize these substantive improvements in the identified population health areas, the HSCRC, in partnership with the Maryland Department of Health (MDH) and various other State agencies, are developing a Statewide Integrated Health Improvement Strategy (SIHIS). The SIHIS aims to align stakeholders across the State to address top population health goals through achieving consensus on priorities and developing a shared action plan to tackle these challenges. To date, the State has achieved alignment around two population health goals: diabetes and opioid use reduction. The third population health priority will be presented to CMS no later than December 2020.

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. Maryland is projected to spend $9.6 billion annually on diabetes-associated health care by 2020 and $11.1 billion by 2025.[1] Nearly 490,000 Maryland adults were estimated to have diagnosed diabetes in 2017.[2] [3]

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

[1] "Maryland Diabetes Data & Forecasts." *Diabetes 2030.* Institute for Alternative Futures, 2015, http://www.altfutures.org/pubs/diabetes2030/MARYLANDDataSheet.pdf

[2] 2017 Maryland Behavioral Risk Factor Surveillance System. Maryland Department of Health Dataset Query System. https://ibis.health.maryland.gov/query/selection/brfss/BRFSSSelection.html

[3] 2013-2017 American Community Survey. Department of Planning Maryland State Data Center. https://planning.maryland.gov/MSDC/Pages/american_community_survey/2013-2017ACS.aspx

In July 2019, Maryland received approval of an outcomes-based credit (OBC) for aversion of diabetes incidence, the first of at least three eventual OBC methodologies that will be submitted to CMS. Under the OBC methodology, if fewer Marylanders than expected are newly diagnosed with diabetes in a given year, the State will be eligible to receive a financial credit that will help the State meet its TCOC savings targets.

Opioids

Maryland continues a statewide focus on addressing the State's opioid epidemic. These efforts have led to promising results, with the first half of 2019 marking the State's first six-month decline in the total number of opioid-related fatalities in over a decade.[4] However, there are still thousands of Marylanders dying from opioid overdoses each year and thousands more suffering from opioid use disorder. The misuse and addiction to opioids is a public health crisis as well as an economic crisis, with increased costs in healthcare, lost productivity, and criminal justice involvement. Recognizing the impact of opioid misuse on the healthcare system, the HSCRC is evaluating approaches to calculate future health system savings that can be recognized with improvement in opioid use. Under this type of outcomes-based approach, CMS would credit the State with financial credit for federal TCOC Model investments if Maryland can make progress on an opioid-related metric. The credit will enable hospitals to invest additional dollars into opioid use prevention and treatment as part of their global budgets, which may be reinforced with additional pay-for-performance measures related to substance use.

Section V: Care Transformation

While the APM focused primarily on improving care and controlling costs within hospitals, the new 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 tools that incentivize providers to implement best practices and achieve savings and quality improvements for the system.

Provider Alignment Programs

A key strategy to achieving the goals of the TCOC Model is implementing care redesign strategies to provide hospitals and other providers with new tools and resources to better meet the needs of patients and improve population health. To achieve this, the HSCRC designs, operates, and supports various provider alignment programs to incentivize collaboration between providers, drive quality improvement throughout the system, and achieve cost savings.

[4] Unintentional Drug- and Alcohol-Related Intoxication Deaths in Maryland. Maryland Department of Health, 2019. https://health.maryland.gov/vsa/Documents/Overdose/2019_Q2_Drug_Intox_Report.pdf

Care Redesign Program (CRP)

The Maryland Care Redesign Program (CRP) aims to support effective care management and population health activities, deliver high quality, efficient, well-coordinated episodes of care, and improve care for high and rising-risk populations. The State currently operates three care redesign tracks: the Hospital Care Improvement Program (HCIP), the Complex and Chronic Care Improvement Program (CCIP), and Episode Care Improvement Program (ECIP). The Chesapeake Regional Information System for our Patients (CRISP) serves as the administrator of CRP.

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, provide effective transitions of care, reduce potentially avoidable utilization, and encourage the effective management of inpatient resources.

CCIP, which will end December 2019, was initially developed to serve as a vehicle for hospitals to transition to the Maryland Primary Care Program (MDPCP). The track supports collaboration between hospitals and community physicians to improve care for complex and chronic patients. The track aims to strengthen primary care supports to reduce avoidable hospital utilization, enhance care management tools, and facilitate practice transformation towards person-centered that improves health outcomes.

The Episode Care Improvement Program (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 through better care management during episodes, eliminating unnecessary care, and reducing post-discharge emergency department visits and hospital readmissions.

As of July 2019, there was a total of 42 unique participants across all tracks, with 40 hospitals participating in HCIP, 16 hospitals participating in ECIP, and 2 hospitals participating in CCIP. Participation in CCIP declined significantly in 2019 as hospitals transitioned to the Maryland Primary Care Program (MDPCP). In February 2019, HSCRC notified CMMI of the intent to end CCIP at the end of 2019.

The HSCRC continues to explore options for additional CRP tracks to support hospital and provider alignment based on stakeholder interest and policy needs.

Episode Quality Improvement Program (EQIP)

The HSCRC is currently working on the design and scope of a new program under the TCOC Model, called the Episode Quality Improvement Program (EQIP). This program will engage non-hospital providers in a bundled payment program custom to Maryland. EQIP will offer Maryland providers the opportunity to coordinate care through clinical episodes focused on increasing accountability for patients throughout specific disease courses and treatments. Providers will elect to have their reimbursement altered by Medicare to reward or penalize performance on improving quality and reducing costs of care. HSCRC continues to work with CMS to move EQIP

through the approval process, with a targeted program start in January 2021. Throughout 2020, the HSCRC plans to disseminate information on EQIP and solicit provider and industry feedback through workgroups and other ad-hoc research.

Maryland Primary Care Program (MDPCP)

Maryland is also continuing efforts to implement the Maryland Primary Care Program, which is voluntary to all qualifying Maryland primary care providers 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. While the MDPCP Program Management Office (PMO) operates under MDH, the HSCRC provides support as needed.

Currently, there are 376 practices participating in the program with 220,000 attributed beneficiaries. These practices engage approximately 1,500 primary care providers across all 24 Maryland counties. An additional 150 practices have applied to participate in MDPCP in 2020.

A key component of the MDPCP are Care Transformation Organizations (CTOs) which formed to support physician practices. CTOs provide technical support and resources to physician practices, such as certified electronic health record technology (CEHRTs), data analytics, and care management staff. There are currently 21 CTOs, approximately six per county, 14 of which are hospital-based. An additional three CTOs have been preliminarily approved to participate in 2020.

Regional Partnerships Grant Program

The HSCRC Regional Partnership Grant Program[5] was created in 2016 to enable diverse hospitals and community stakeholders to work together on interventions designed to improve population health. In FY 2017, the Commission awarded $36.5 million to 14 hospital partnerships to focus on improving care coordination for high-utilizer and high-risk Medicare patients and reduce potentially avoidable hospital utilization. Regional partnerships include hospitals, local health departments, provider organizations, faith-based organizations, and other community-based organizations. The 14 Regional Partnerships are geographically dispersed across Maryland and serve both rural and urban areas of the State. Over the duration of the program, the most common interventions across Regional Partnerships have been care transitions and coordination, behavioral health integration, patient engagement and community education, and home-based care. The current Regional Partnership Program is scheduled to end June 30, 2020. A new version of the grant program called the Regional Partnership Catalyst Grants will begin on January 1, 2021.

As the State continues under the TCOC Model, the HSCRC continues to look for opportunities to build upon the successes of the current Regional Partnership structure and increase alignment

[5] In previous reports submitted by the HSCRC, this program was referenced as Transformation Implementation Awards.

with the goals of the TCOC Model. The future Regional Partnership Catalyst grants will be directed towards the two population health goals identified under the Statewide Integrated Health Improvement Strategy (SIHIS): diabetes and behavioral health crisis programs. Staff are currently designing a framework to encourage much needed investment in these areas and plan to conduct a competitive rebid process in CY 2020 in order to issue awards by January 2021.

Care Transformation Initiatives (CTIs)

Under the TCOC Model, HSCRC staff are beginning to evaluate hospital efforts to address specific patient population needs, defined as Care Transformation Initiatives (CTIs). CTIs will 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 will help to delineate the level of effort each hospital is undertaking in the correct investments for system success to inform revenue distribution and policy incentives. Successful CTIs will reward hospitals through the MPA Framework outlined in Section II of this report. HSCRC staff are currently soliciting industry feedback and further developing the policy which is set to begin July 2020.

Section VI: Stakeholder Engagement

Stakeholder engagement is key to the implementation and success of the TCOC Model. The HSCRC has made significant efforts to be as transparent as possible in its initiatives and policy developments by making these workgroup meetings open to the public and by posting the meeting materials online.

HSCRC Workgroup Activities

The HSCRC workgroup process is considered a model for stakeholder engagement in major policy endeavors. The HSCRC has made significant efforts to be as transparent as possible in its initiatives and policy developments by making these workgroup meetings open to the public and by posting the meeting materials and recordings on the HSCRC's website. HSCRC standing workgroup activities are provided below.

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. In September 2018, the group convened to vet new payment-related policies such as adjusting the public-payer differential, drug cost policies, and hospital rate modernization. The Workgroup met monthly from February to May 2019 to review the FY 2020 Annual Update Factor and other payment policies. Additionally, new subgroups convened in Fall 2018, focusing on rate modernization and volume measurements.

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 and calculations for TCOC. The TCOC Workgroup met monthly in 2019 to further refine methodologies related to the Year 3 MPA Traditional policy and provide feedback on the new MPA Framework policy. Commissioners approved both policies at the October and November 2019 Commission meetings. Additionally, the TCOC Workgroup discussed the source of cost drivers in Maryland and future benchmarking methodologies. Moving forward, the TCOC workgroup will also review the approach to determine savings from Care Transformation Initiatives (CTIs), discussed in Section V of this report.

Performance Measurement Workgroup

The Performance Measurement Workgroup develops recommendations for HSCRC consideration on measures that are important, reliable, informative, and feasible for assessing a number of important quality and efficiency issues. In the spring of 2019, the Workgroup considered the Readmission Reduction Incentive Program (RRIP) for RY 2021 and the Potentially Avoidable Utilization Savings Policy updates for RY 2020. Throughout the Fall of 2019 and into the Spring 2020, the Workgroup will review RY 2022 policies, including the Maryland Hospital Acquired Conditions (MHAC) Program, the Quality-Based Reimbursement (QBR) Program, and the Readmissions Reduction Incentive Program (RRIP).

Care Transformation Steering Committee

The Care Transformation Steering Committee is an industry-led group tasked with providing feedback on the Care Transformation Initiative (CTI) policy and Care Redesign Program (CRP). The Committee is comprised of healthcare industry representatives who meet monthly to prioritize, develop, and finalize submitted CTIs, provide feedback on CRP progress, and supply policy input as necessary. This Committee also comments on new, hospital-based programs that are developed to optimize performance under the TCOC Model.

Consumer Standing Advisory Committee

In addition to having consumers embedded in all standing HSCRC workgroups, the HSCRC, along with MDH, convenes a Consumer Standing Advisory Committee (CSAC). This Committee builds on existing consumer engagement and involvement across various HSCRC and MDH workgroups in an effort to bring together a diverse group of consumers, consumer advocates, relevant subject matter experts, and other stakeholders. Workgroup goals include ensuring that the consumer perspective is reflected in and remains central to the TCOC Model and ongoing modernization efforts; promoting understanding of the TCOC Model and its impact on improving healthcare for patients; and gathering input from consumers to ensure those perspectives are used to inform the policymaking process. In Fall 2018, the committee received updates on hospital transformation efforts, care redesign, and discussed consumer messaging and education strategies. The HSCRC plans to reconvene the group in 2020 to discuss current progress under the TCOC Model and analyze new initiatives to support the goals of the TCOC Model.

Stakeholder Innovation Group

Maryland's Secretary of Health directed Maryland stakeholders to convene an advisory group 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 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, Maryland Health Care Commission (MHCC), and Maryland Department of Health (MDH). The group met throughout 2018 and 2019 to collaborate on the development of new tools and make recommendations to the MDH that may be incorporated into the implementation strategy of the TCOC Model. 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.

Intensity Methodology

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

This economic behavior is particularly apparent for the State's two academic medical centers, the University of Maryland Medical Center and the Johns Hopkins Hospital. In order to ensure that the State's two national leaders in academic research and innovation continue to be at the forefront of quaternary care, the HSCRC is developing a standalone volume policy that will reimburse the academic medical centers for all growth deemed to be innovative. Innovation will be 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. In effect, the two academic medical centers will have a

partial cost-based reimbursement system for higher level acuity cases. Funding will be capped by the amount of revenue HSCRC Commissioners set aside in the Annual Update Factor. The activities to be covered by this policy cannot, in concert with the volume-based high-cost drug methodology, bring the percentage of statewide revenue evaluated by the GBR system to less than 95 percent, per the contract with CMS.

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 hospitals' continuing competitive interest in serving patients. The MSA does not currently address all volume changes, only those that can be quantified as shifts between hospitals. 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. 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 being about the same in the aggregate. The MSA does not currently address shifts to unregulated settings or other sources of volume growth and decline as this approach separates market shifts from collective changes in volume in the service area and removes incentives for driving up volume in the service area.

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 All-Payer/Total Cost of Care Model parameters. The Demographic Adjustment averages approximately 0.4 percent of net hospital revenue or approximately $60 million, with lower values in recent periods resulting from slower population growth.

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 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 been working to formalize and strengthen the review process to make timely reductions 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 three 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. A portion of the Update Factor for FY 2020 has been earmarked to continue funding of 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 total cost of care efficiency and then formulaically penalizes or rewards hospitals based on that performance. Overall, this policy will ensure that the limited resources of the GBR system are distributed to cost-efficient hospitals that are advancing the goals of the TCOC Model to reduce total cost of care.

The final policy on the Integrated Efficiency Policy will be released in the Spring of 2020 and will scale the FY 2021 Annual Update Factor for certain affected hospitals, using an equal weighting of hospital cost-per-case and total cost of care efficiency. In effect, inefficient hospitals will receive a reduced inflation factor for FY 2021 and this funding will be redistributed to efficient hospitals. Staff will also use this integrated efficiency policy to assess budget enhancement requests from efficient hospitals that seek additional funding. The criteria hospitals submit must demonstrate that they have been financially disadvantaged by a Commission methodology or will make population health investments that will further reduce total cost of care.

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 and instead must reduce avoidable utilization, which is not an opportunity that is spread evenly among all hospitals.

As such, the Commission has proposed a capital methodology that will utilize various evaluations of capital cost efficiency, hospital cost per case efficiency, total cost of care efficiency, presence of potentially avoidable utilization (or lack thereof) and excess capacity, to determine the reasonableness of a hospital's capital request. Capital funding will be restricted

to the most efficient hospitals to ensure that the best performing hospitals are recapitalized. Additionally, funding will be 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.

Full Rate Reviews

A hallmark of the Commission has been its full rate application methodology. A hospital is statutorily entitled to request a review of its entire rate structure if it believes it is a cost efficient hospital that cannot maintain solvency with current revenues. Similarly, the Commission is entitled to open up a review of a hospital if it believes a hospital's costs are unreasonable and/or charges are not reasonably related to costs.

To this end, the Commission has historically employed an Inter-hospital Cost Comparison (ICC) methodology that evaluates how cost efficient a hospital is relative to select peers (e.g. community teaching hospitals) and how related costs are to charges. The Commission must also employ methodologies to compare hospitals attributed total cost of care to similar national peers. Over the next several months the Commission will be refining these total cost of care benchmark analyses and working towards including them into the historical ICC methodology. The policy recommendation that will result from this work will enable the Commission to provide additional funding to hospitals that are cost efficient, efficient in terms of total cost of care, and potentially insolvent, while simultaneously allowing the Commission to negotiate revenue spend-downs for hospitals that are cost inefficient and inefficient in terms of total cost of care.

Section VIII: Reporting Requirements to CMS

Under the APM, the HSCRC was required to report to CMS on relevant policy and implementation developments. A final report on select measures, as agreed to by CMS, was submitted in May 2019. Please find the final report submitted to CMS attached to this report.

The HSCRC must continue to report to CMS on relevant policy and implementation developments during the TCOC Model. Because the TCOC Model began January 1, 2019, no reports are due to CMS until 2020.

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 APM or 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, developed the Transfer Adjustment Policy and a Market Shift Policy (discussed in Section VII) 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).

Additionally, the HSCRC continues to refine tools to monitor changes in patterns of service, particularly shifts in utilization and expenditures across all healthcare providers. One area that has been under considerable scrutiny is emergency department (ED) overcrowding and potential patient diversion between EDs. The HSCRC has been studying this issue since 2017 and recently produced a Joint Chairmen's Report on ED Overcrowding in partnership with the Maryland Institute for Emergency Medical Services Systems (MIEMSS). As part of the effort to identify causes for overcrowding and potential policy solutions, the HSCRC requested performance improvement plans from 13 hospitals with poor ED performance, which were due in January 2018. The HSCRC will determine the impact of the hospitals' plans once the applicable performance data becomes available for analysis. Additionally, the HSCRC incorporated ED performance measures into its QBR Policy for RY 2020 (discussed in Section III) to incentivize improvements in ED wait times.

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. In both the APM and 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. Maryland is currently performing within the established guardrails of the Model. More detail on TCOC performance is provided in Section I.

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 2018 and on an unaudited basis for FY 2019.

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 2018

Data for FY 2018 show an increase in profitability for total operating activities, however there is a decrease in profitability of 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 decreases in non-operating profitability may be attributed, in large part, to unrealized losses 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 3.35 percent.
- The total margin, i.e., the combined operating and non-operating margins, was 5.30 percent.
- The operating margin for services regulated by the HSCRC was 8.95 percent.

Unaudited Financial Data – FY 2019

Based on unaudited financial data for FY 2019, operating margins for both services regulated by the HSCRC and services not regulated by the HSCRC decreased over FY 2018. Total profit margins declined by 1.66 percentage points versus unaudited results for the same period last year.

Overall, hospital total margins decreased primarily due to decreases in investment income and unrealized investment losses. Profitability in FY 2019, based on unaudited data, is 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 2.53 percent.
- The total margin, i.e., the combined operating and non-operating margins, was 3.80 percent.
- The operating margin for services regulated by the HSCRC was 6.15 percent.

Uncompensated Care

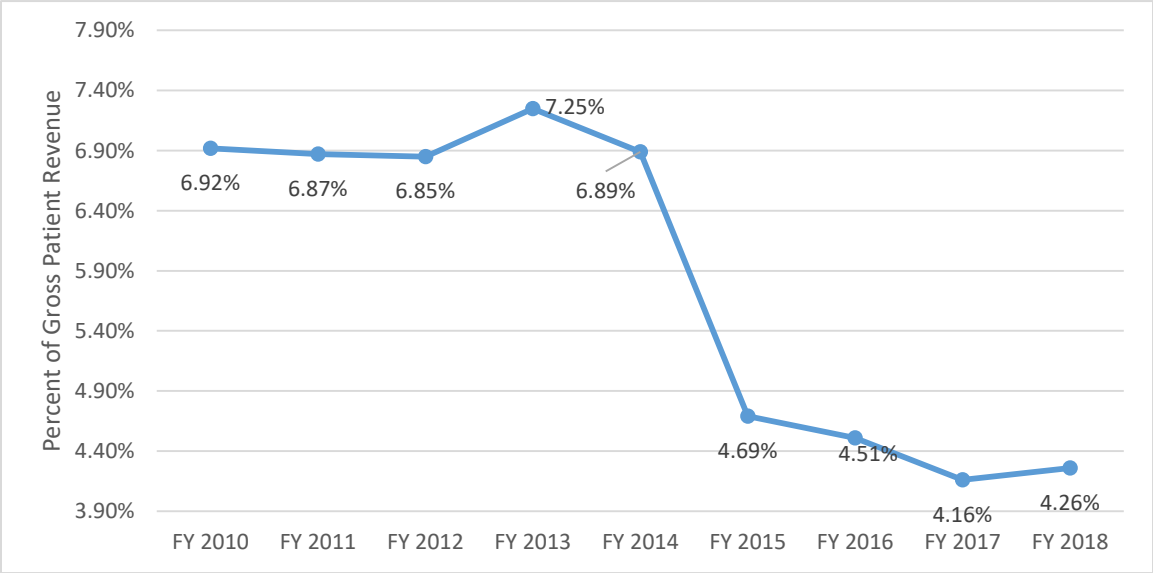
Uncompensated Care (UCC) is care provided for which no compensation is received (typically a combination of charity care and bad debt). Maryland recognizes the financial burden hospitals take on when providing quality care to patients who cannot readily pay for them. Unlike in other states, Maryland's 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 2018. Uncompensated care steadily declined between FY 2010 and FY 2012, however, FY 2013 saw a 0.4 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 where we experienced low uncompensated care rates occurred from FY 2014 and continued to FY 2016, driven by coverage expansions brought on with the implementation of the Affordable Care Act (ACA). FY 2018 shows a slight increase in uncompensated care rates as the effects of the ACA appear to have mitigated.

Figure 11. Uncompensated Care as a Percentage of Gross Patient Revenue, FY 2010-2018



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 other resources that contribute to a community priority
- Health care cost containment activities
- Health education screening and prevention services

The most recently available report from hospitals reflects community benefits for FY 2018. In that year, Maryland hospitals expended just over $1.75 billion in community benefits, or 10.8 percent of total hospital operating expenses. After offsetting expenditures related to amounts that are included in rates and not generated through hospital resources, the amount of community benefit spending is $1.08 billion or 6.7 percent of operating expenses.

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. Those reports may be found on the Commission's Community Benefits Program website page under Reports, 2018, Individual Hospitals' Narrative Reports: FY 2018, at http://hscrc.maryland.gov/Pages/init_cb.aspx.

Additionally, the Commission anticipates changing some of the reporting requirements for hospital community benefits to better incorporate local community and consumer groups and to tie more closely with local health needs.

Section XI. Statutory and Regulatory Updates

Statutory Updates

Although there were a number of bills passed during the legislative session that affect hospital and health system operations, only a few directly impacted the operations of the HSCRC.

The annual budget bill (HB 100/Chapter 565) and companion legislation (Budget Reconciliation and Financing Act, HB 1407/Chapter 16) set the parameters for initiatives and programs in the upcoming fiscal year for the HSCRC. In the FY 2020 budget, the Governor included sufficient appropriations to allow the HSCRC to access funds needed to fulfill statutory obligations and to continue health care delivery transformation efforts in the State. Highlights from the budget that was passed by the General Assembly as they relate to the HSCRC are below.

- Appropriation of $16 million to support the operations of the Commission, including work needed to continue implementing the Total Cost of Care Model which began January 1, 2019.

- Reduction of $25 million in the Medicaid Deficit Assessment from $334,825,000 in FY 2019 to $309,825,000 in FY 2020. This reduction will lower hospital rates and produce savings to all payers in the system, including Medicare.

- Transfer of MHIP Fund surplus to General Fund. The HSCRC was authorized to use MHIP funds from FY 2016 through FY 2019 to support care coordination and improve health outcomes for high-needs Maryland Medicare beneficiaries and dually eligible Medicare and Medicaid patients. The HSCRC sought an extension, which it did not receive, to continue using these funds to support the implementation of the Total Cost of Care Model, including the Maryland Primary Care Program and Care Redesign Program. The HSCRC has pursued other funding mechanisms to support operations for these programs.

HB1428/Chapter 19

This legislation updated the financial disclosure filing requirements for the University of Maryland Medical System (UMMS) Board of Directors. As part of this legislation, the HSCRC is required to make the submitted disclosure forms publicly available on the HSCRC website through an online registration program. Additionally, the HSCRC is required to send a summary of the financial disclosure statements to the Governor, Senate President, and Speaker of the House. The HSCRC is currently working to comply with these requirements. Financial disclosure forms from hospital trustees were due to the HSCRC on October 31, 2019.

SB 406/Chapter 662 – HB 520/Chapter 661

The HSCRC is required to staff, along with MDH and DHS, a task force to study opportunities to improve maternal and child health. The Task Force on Maryland Maternal and Child Health convenes a diverse group of stakeholders, including a representative from the HSCRC, to discuss strategies to improve care coordination and health outcomes for mothers and children. The Task Force will issue a formal report on its findings in early 2020.

HB768/Chapter 692

This legislation requires the HSCRC, in partnership with MHCC and the Prescription Drug Affordability Stakeholder Council, to monitor and assess the impact of policy decisions made by the newly established Prescription Drug Affordability Board. The HSCRC and partner authors are required to report finding and recommendations to the Maryland General Assembly on or before January 1, 2023.

Joint Chairmen's Report (JCR) – 2019 Reports

In addition to the budget bills and legislation listed above, the HSCRC, in partnership with other agencies, was requested to submit the following JCR Reports:

- Medicaid Cost-savings Targets (p. 248)
- Emergency Department Overcrowding Update (p. 36)
- Reimbursement for New Models of Care Delivery (p. 36)
- Behavioral Health Reporting in the Maryland Primary Care Program (p. 123)
- Funding Plan for the Maryland Primary Care Program (p. 124)

Regulatory Updates

Over the past fiscal year, the Commission completed its regulatory review and evaluation, as required by law, and proposed and adopted amendments to the following existing regulations:

COMAR 10.37.01

This regulation concerns the Commission's Accounting and Budget Manual for Fiscal and Operating Management (Manual). On July 11, 2018, the Commission adopted an amendment to COMAR 10.37.01.02. This amendment updated the Manual (August, 1987), which is incorporated by reference, including the addition of Supplement 24.

COMAR 10.37.10

This regulation concerns the Commission's Rate Application and Approval Procedures. During the past fiscal year, the Commission proposed and adopted the following amendment to this chapter.

- On April 10, 2019, the Commission adopted an amendment to Regulation .26 under COMAR 10.37.10. The purpose of the amendment was to require hospitals to better inform patients of facility fees and their right to request and receive a written estimate of the total charges for the non-emergency hospital services, procedures, and supplies that reasonably are expected to be incurred and billed to the patient by the hospital.

Regulatory Review and Evaluation

The Commission's statutorily mandated regulatory review and evaluation (Md. Code Ann., State Govt. §§ 10-130 et seq.) has been completed. The Commission submitted the final evaluation reports to the Joint Committee on Administrative, Executive, and Legislative Review (AELR Committee) for review. The final reports were approved October 4, 2018. The Commission will continue to review and act consistent with the work plan approved by the AELR Committee.

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.

Figure 12. Current HSCRC Commissioners

Commissioner	Recent Term Start Date	Term End Date
Nelson J. Sabatini, Chairman	July 1, 2018	June 30, 2022
Joseph Antos, Ph. D.	July 1, 2016	July 30, 2020
John M. Colmers	July 1, 2017	June 30, 2021
Victoria W. Bayless	July 1, 2019	June 30, 2023
Adam Kane	July 1, 2017	June 30, 2021

James N. Elliott, M.D.	July 1, 2018	June 30, 2022
Stacia Cohen	July 1, 2019	June 30, 2023

Staff

The State charges the HSCRC with regulating the rates and revenues of Maryland's 47 acute care and 4 specialty hospitals, an industry with annual revenues in excess of $17 billion. This responsibility is accomplished by a relatively small and highly skilled staff of 47 full-time equivalents and several contractual employees. To meet the demands of the TCOC, the Commission organized its staff structure under four centers:

1. Payment Reform and Provider Alignment
2. Medical Economics and Data Analytics
3. Revenue and Compliance
4. Population Based Methodologies

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 Maryland hospital rates 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 2019 was $12.2 million and the fund balance at the end of the fiscal year was $6.0 million. Although this balance is above the normal range, the HSCRC has taken on additional tasks related to the implementation of TCOC Model that require additional resources. This balance will be utilized in conjunction with the FY 2020 user fee assessment in order to implement the critical new tasks required by the TCOC Model and will bring the fund balance to a reasonable level at the end of FY 2020.

Section XIII. Future Outlook

The TCOC Model presents the State with a unique opportunity to improve the health and lives of Marylanders. Over the 10 years of the Model, the HSCRC will continue to lead efforts to meet the ambitious goals of the TCOC Model to constrain healthcare costs, improve quality of care, and promote population health. Maryland can meet these goals through supporting provider-led innovation efforts, leveraging the State's unique global budget system, and engaging stakeholders in a proactive and meaningful way. As the State continues under the Model, the HSCRC will search for a path forward that incorporates these policy solutions permanently into the State healthcare system and helps effectuate long-term health improvements and cost savings for Marylanders.

Maryland All-Payer Model
Transition Report

May 31, 2019

Health Services Cost Review Commission

This report containing performance year 2017, with historical 2013 through 2016 data, is respectfully submitted by the Maryland Health Services Cost Review Commission to the Centers for Medicare & Medicaid Services, as HSCRC and CMS transition to annual monitoring under the Total Cost of Care Model.

Table of Contents

1.0 Introduction

The State of Maryland is leading a transformative effort to improve care and lower the growth in health care spending. In 2014, the Centers for Medicare & Medicaid Services (CMS) approved the implementation of the Maryland All-Payer Model (Model). As the State's hospital rate-setting authority, the Maryland Health Services Cost Review Commission (HSCRC) plays a vital role in the implementation of an innovative approach to healthcare reform. The State's ultimate goal is to create a healthcare system that enhances patient care, improves health, and lowers total costs.

In the first year of the Model, the State was successful in shifting all acute care hospitals from volume-based reimbursement systems to global budgets, ahead of the required schedule of five years. The State successfully shifted nearly all revenue underneath the acute care hospitals within the allotted five years.

In the second year of the Model, the State implemented changes in its value-based and quality-based payment approaches to tie into the new Model and developed some additional tools for global budgets. Hospitals—along with other providers, community organizations, consumers, and the State—also focused extensive planning efforts on the care delivery transformations and improvements necessary to succeed under the Model. These delivery improvements include care coordination, incentive alignment, consumer engagement, and information technology and analytic infrastructure.

In the third year of the Model, the State continued to implement care redesign and infrastructure improvements as it focused on population health and outcomes improvement goals. The State also developed and submitted a proposal for the Total Cost of Care (TCOC) Model, the replacement of the Maryland All-Payer Model that builds on Maryland's hospital per capita model by expanding efforts to align hospitals, physicians, and other providers in delivery system reforms that improve outcomes, engage patients, and contain costs. This proposal, known as the "Progression Plan," was submitted to CMS on December 16, 2016.

Successes of the All-Payer Model – 4th Year

In the fourth year of the Maryland All-Payer Model, the State of Maryland expanded upon the first three years' successes and continued to improve cost savings and quality of care.

Final results for Calendar Year 2017 show that Maryland saved $330 million in Medicare hospital expenditures. Combined with savings efforts through the first three years, the State achieved $916 million in aggregate Medicare hospital savings. The cumulative Medicare Total Cost of Care savings is $599 million.

Maryland also continued to improve quality of care. The State lowered Potentially Preventable Conditions (PPCs) by an additional 10 percent (53 percent in aggregate, exceeding the Model goal of a 30 percent reduction in five years). Maryland also continued to reduce its all-cause readmissions, and is currently below the national readmission rate at the end of CY 2017.

In the fourth year of the Model, the State continued to limit all-payer hospital growth while developing the Total Cost of Care Model (TCOC Model), which aims to limit all-payer hospital growth on a per capita basis, as well as on Medicare total cost of care for Parts A and B. The TCOC Model will also expand efforts for delivery system transformation beyond hospitals by connecting health care providers across the health system. Included within the TCOC Model are the Care Redesign Program, Maryland Primary Care Program (MDPCP), population health incentives, and other alignment and engagement

opportunities to further promote patient-centered care in Maryland. Per the Progression Plan, Maryland engaged its stakeholders and worked closely with CMS throughout development of the TCOC Model.

In the fifth year of the All-Payer Model, the State obtained federal approval of the new TCOC Model and signed a TCOC Model Agreement with CMS in July 2018. The HSCRC solicited diverse internal and external stakeholder input throughout development of the TCOC Model through consumer and hospital work groups, discussions with non-hospital providers and non-acute care facilities, and meetings with Maryland General Assembly members and partner State agencies. The State continues robust stakeholder engagement to ensure design alignment and successful implementation of the TCOC Model, which began on January 1, 2019. The State is also continuing its monitoring and reporting activities for the final year of the All-Payer Model and the beginning of the TCOC Model.

The All-Payer Model utilizes a payment system that holds hospitals accountable for the total cost of hospital care on a per capita basis. The Model continues to be successful by enhancing the quality of health care delivery, improving population health, and reducing costs. In contrast to the previous Maryland Medicare waiver from 1977, which focused on controlling growth in Medicare inpatient payments *per case*, the Maryland All-Payer Model focuses on controlling growth in total hospital revenue *per capita*. The Maryland All-Payer Model Agreement established a five-year period during which a series of key requirements must be met. These requirements include:

- All-payer per capita total hospital revenue growth is limited to 3.58 percent per year compounded over the Agreement;
- Five-year Medicare per beneficiary total hospital cost savings must equal or exceed $330 million;
- The aggregate Medicare 30-day all-cause readmission rate is reduced to at or below the national average; and
- The rate of hospital-acquired conditions (HACs) is reduced by 30 percent.

Table 1 (below) presents progress on these All-Payer Model Agreement goals through 2017. Per HSCRC data, Maryland is on track to meet all Model requirements through the fourth year of the Model.

Table 1. Maryland All-Payer Model Performance, 2014-2017

Performance Measures	*Targets*	*2014 Results*	*2015 Results*	*2016 Results*	*2017 Results*
All-Payer Hospital Revenue Growth	**≤ 3.58% per capita annually**	**1.47%** growth per capita	**2.31%** growth per capita	**0.80%** growth per capita[1]	**3.54%** growth per capita
Medicare Savings in Hospital Expenditures	**≥ $330m cumulative over 5 years** (Lower than national average growth rate from 2013 base year)	**$120m** (2.21% below national average growth)	**$155m** **$275 cumulative** (2.63% below national average growth since 2013)	**$311m** **$586m cumulative[2]** (5.50% below national average growth since 2013)	**$330m** **$916m cumulative** (5.63% below national average growth since 2013)
Medicare Savings in Total Cost of Care	**Lower than the national average growth rate for total cost of care from 2013 base year**	**$142m** (1.62% below national average growth)	**$121m** **$263m cumulative** (1.31% below national average growth since 2013)	**$198m** **$461m cumulative[3]** (2.08% below national average growth since 2013)	**$118m** **$599m cumulative** (1.36% below national average growth since 2013)
All-Payer Quality Improvement Reductions in PPCs under MHAC Program	**30% reduction over 5 years**	**25%** reduction	**34%** reduction since 2013	**44%** reduction since 2013	**53%** reduction since 2013
Readmissions Reductions for Medicare	**≤ National average over 5 years**	**19%** reduction in gap above nation	**58%** reduction in gap above nation since 2013	**79%** reduction in gap above nation since 2013	**116% reduction in gap above nation since 2013** (0.19% lower than nation)

[1] During the last six months of CY 2016 (July – December of 2016), Hospitals undercharged their Global Budget Revenue mid-year targets by approximately 1 percent ($25M dollars). The measures reported have been adjusted to 'add back' the undercharge to the period of July – December 2016 to offset the decline in savings for January – June 2017

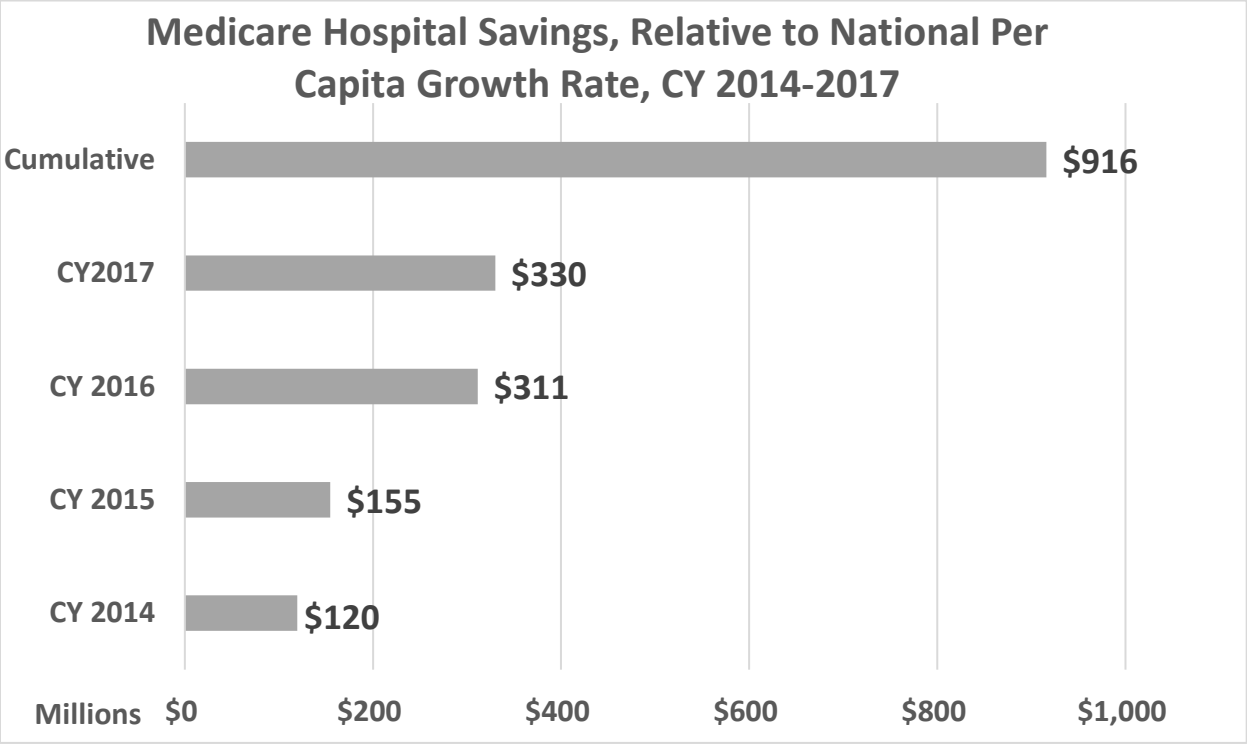
[2] Ibid.

[3] Ibid.

Hospital Revenue to Global or Population-Based	**≥ 80% by year 5**	**95%**	**96%**	**98%[4]**	**98%[5]**

Figure 1 (below) highlights the cumulative Medicare savings achieved under the All-Payer Model over the first four years. At the conclusion of 2017, Maryland had saved Medicare over $916 million across four years of the Model.

Figure 1. Medicare Hospital Savings, Relative to National per Capita Growth Rate, CY 2014-2017[6]



In addition to the goals listed above, the submission of this report partially fulfills the Maryland Model Agreement requirement that the State provide an annual monitoring report to CMS. This report is intended to catalogue State performance with respect to selected quality and financial goals as outlined in the All-Payer Model Agreement Appendices 7 and 8 under three domains: Patient Experience of Care, Population Health, and Costs and Efficiency.

[4] Previous reports indicated that 100% of regulated hospital revenue was governed by a global or population-based agreement. However, in FY17 the HSCRC began funding high-cost oncology and other infusion drugs on the basis of actual volumes. This policy change updates performance years' 2016 and 2017.

[5] Ibid.

[6] These numbers have been adjusted to reflect the hospital undercharge of approximately 1 percent that occurred in the second half of CY 2016, reducing the CY 2016 savings shown above.

2.0 Domains and Measures Included in Transition Report

Measures that were previously tracked in the Monitoring Report correspond to three domains: patient experience of care, population health, and health care costs.

- **Patient Experience of Care Measures**: Patient satisfaction, effectiveness of care transitions, physician participation in public programs, processes of care, high priority complication rates, prevention quality indicators, and readmissions;
- **Population Health Measures**: Life expectancy, hospitalizations for ambulatory care sensitive conditions, primary and secondary prevention for cardiovascular disease, and behavioral health emergencies; and
- **Health Care Cost Measures**: Overuse of diagnostic imaging, inpatient and outpatient cost trends, total cost of care for all residents and for specific payers including Medicare, Medicaid, and private insurance.

Of note, this report omits some Patient Experience of Care measures, nursing home quality measures and Population Health Measures — measures that were previously reported under the All-Payer Model. These omissions were discussed with the Center for Medicare and Medicaid Innovation (CMMI) staff as the Model transitions into the TCOC Model State Agreement. These data were excluded due to availability, progression to the TCOC Model where they are no longer required, and general usefulness for Model evaluation. For information on the historical performance on these measures, please refer to the Annual Monitoring Report submitted on January 18, 2018, containing information on Maryland performance compared to the nation through 2016.

The HSCRC will work with CMMI to enhance the utility of the data reported in fulfillment of Appendix D of the TCOC Model Agreement, by identifying more reliable data sources where available, and or adding meaningful measures to monitor under the TCOC Model.

Data for the measures were compiled from existing publicly available national and State sources (e.g., CMS Hospital and Home Health Compare). In addition, several measures were developed using utilization and financial data from claims-based files obtained from CMS (e.g., Research Identifiable Files) and Maryland (e.g., HSCRC Hospital Abstract Data). The monitoring report submitted August 16, 2018 presented available data through 2017 for the goals and measures outlined in Table 2. This transitional report with agreed-upon, available measures is submitted at this time.

Table 2. Goals and Measures included in the Transition Report

Goal	Description	Measures
Goal 1	Increase Patient Satisfaction – Hospital	1A – Patient's Rating of a Hospital 1B – Communication with Doctors 1C – Communication with Nurses
Goal 2	Increase Patient Satisfaction – Home Health	2A – Patient's Rating of Home Health Agency 2B – Communication with Home Health Team
Goal 3	Increase Patient Satisfaction – Nursing Homes	3A – Percentage of short-stay residents who improved in their ability to move around on their own 3B – Percentage of short-stay residents who got antipsychotic medication for the first time 3C – Percentage of long-stay residents experiencing one or more falls with major injury 3D – Percentage of long-stay residents with a urinary tract infection 3E – Percentage of long-stay high-risk residents with pressure ulcers 3F – Percentage of long-stay residents who got an antianxiety or hypnotic medication 3G – Percentage of long-stay residents who needed and got a flu shot for the current flu season 3H – Percentage of long-stay residents who needed and got a vaccine to prevent pneumonia 3I – Percentage of long-stay residents who got an antipsychotic medication
Goal 5	Enhance Care Transitions – Patient Experience – Hospital	5 – CTM-3 – Three-item care transition measure
Goal 7	Enhance Care Transitions – Coordination with Primary Care	7A – Rate of Physician Follow-Up After Discharge 7B – Discharges with Principal Provider Notified
Goal 12	Reduce high priority hospital complications	12A – Potentially Preventable Complications 12B – Central-Line Associated Bloodstream Infections
Goal 13	Reduce Readmissions – Home Health	13A – Admission rate from home health agencies to acute inpatient hospital 13B – Unplanned urgent visits to the emergency department for patients receiving home health
Goal 14	Reduce Readmissions – Nursing Homes	14 – Readmission Rates for Inpatient Discharges to Nursing Homes

Goal 15	Reduce Readmissions – Hospital	15A – 30-Day, All Hospital, All-Cause Readmission Rate 15B – Readmissions Per 1,000 Maryland Residents 15C – Heart Failure Readmission Rate 15D – Pneumonia Readmission Rate 15E – Acute Myocardial Infarction 15F – Chronic Obstructive Pulmonary Disease readmission rate 15G – Hip/Total Knee Arthoplasty readmission rate
Goal 25	Control Expenditure Growth – Hospital	25A – All-Payer Maryland Hospital Charges per Capita 25B – Medicare Maryland Hospital Charges per Capita 25C – Medicaid Maryland Hospital Charges per Capita 25D – Private Payer Maryland Hospital Charges per Capita 25E – Dual Eligibles Maryland Hospital Charges per Capita
Goal 25a	Control Expenditure Growth – Specialty Hospital	25aA – All-Payer Maryland Specialty Hospital Charges 25aB – Medicare Maryland Specialty Hospital Charges 25aC – Medicaid Maryland Specialty Hospital Charges
Goal 26	Control Expenditure Growth – All Services	26A – All-Payer Maryland Total Expenditure 26B – Medicare Maryland Total Expenditure 26C – Medicaid Maryland Total Expenditure 26D – Private Payer Maryland Total Expenditure 26E – Dual Eligibles Maryland Total Expenditure

Performance on several of the above-listed goals is tracked using more than one measure, as itemized in Table 2. Due to International Classification of Diseases, 10th edition (ICD-10) implementation, some measures in this report present interim measures because an ICD-10 version is not yet available (e.g., unadjusted prevention quality indicators), and some charts do not trend the data across the ICD-9 and ICD-10 time periods.

Further measure development and reporting may also take place as the HSCRC works with CMS to adapt and enhance this monitoring plan for Total Cost of Care Model. The HSCRC aims to ensure that CMS has the data it needs to show that the Maryland Model continues to be effective at achieving the goals of delivering better care and better health at lower cost. 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 under the TCOC Model.

3.0 Key Findings

This report presents results for each of the measures identified in Section 2.0. Along with the results, this section includes a brief description of each measure and a summary of the methods used to estimate each measure. Appendix A provides a table with results for all measures and the values of the numerators and denominators used to calculate these results, as applicable, organized by goal and year. Appendix B provides additional detail to support the methodology descriptions in the main report, where necessary.

3.1 Patient Experience of Care

Maryland believes that an All-Payer Model that holds providers accountable for the total cost of care can improve the quality of care and the patient's experience of care. Through the All-Payer 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. Through these efforts, as well as ongoing initiatives to reduce complications and readmissions, Maryland will improve both quality outcomes and patient satisfaction. Although patient satisfaction is identified in the goal names under this section, HSCRC recognizes that satisfaction is but one dimension of quality reflected in the CAHPS survey measures and other measures reported in this section.

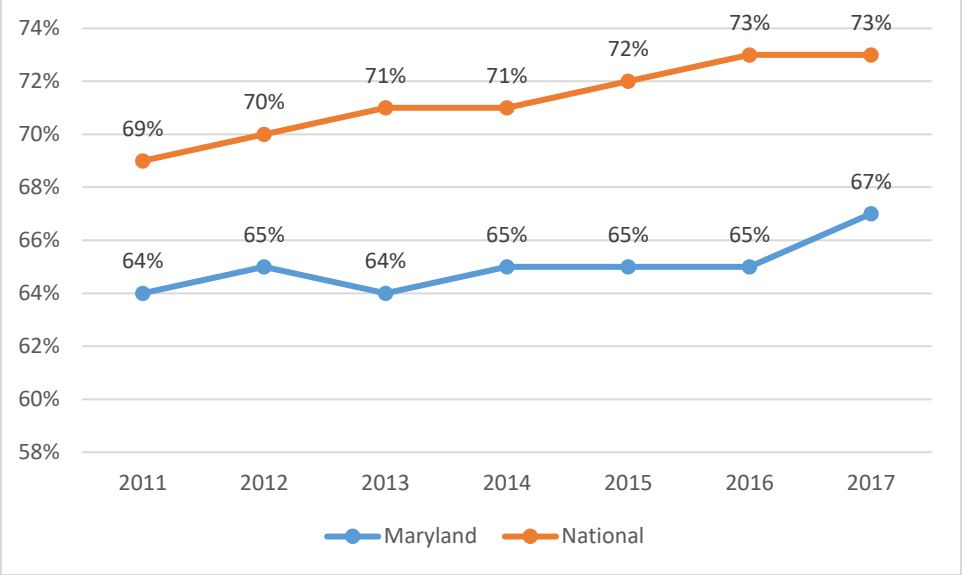
3.1.1 Goal 1: Increase Patient Satisfaction with Hospital

Goal 1. Increase Patient Satisfaction with Hospital	
Goal Summary	Patient experience with 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) program. The HSCRC also uses the HCAHPS results to reward or penalize hospitals based on patient experience as part of its state-level Quality-Based Reimbursement (QBR) program. For fiscal year (FY) 2020 rates, 2 percent of revenue for the QBR program is at-risk, and the HCAHPS domain weighting remains at 50 percent due to concerns about Maryland lagging behind the nation on patient experience. The HSCRC has finalized its FY 2021 QBR policy, which continues to weigh the Person and Community Engagement domain at 50 percent. 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** Overall patient satisfaction 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: http://www.hcahpsonline.org/home.aspx.
Monitoring Results ***See below -*** Figure 2 Table 3	▪ Across all years (2011–2017), patients in Maryland indicated lower levels of hospital satisfaction than patients across the United States. In 2017, approximately 67 percent of Maryland patients rated their hospital experience as a "9" or "10", compared to 73 percent of patients nationwide. (Figure 2). The Maryland performance represents a 2 percent improvement when compared to 2016 survey responses. ▪ Patient experience with physician communication was also rated higher in the United States than in Maryland. In 2017, about 78 percent of Maryland patients expressed a high level of satisfaction with the way their physician communicated; this compares to 82 percent of patients nationally. Experience

	with physician communication changed little between 2011 and 2017 for either Maryland or U.S. patients (Table 3). ▪ Experience with nurse communication also changed little between 2011 and 2017, increasing by only two percentage points for patients in Maryland (from 74 percent to 76 percent) and for patients across the United States (78 percent to 80 percent) (Table 3).

Figure 2. Overall Patient Experience with Hospital - Maryland and the Nation, 2011-2017



Source: Centers for Medicare & Medicaid Services, Hospital Compare, 2011-2017

Table 3. Hospital Patient Experience Results, 2011-2017

Measures	Population	2011	2012	2013	2014	2015	2016	2017
Patient's rating of hospital: Percentage of survey respondents reporting a 9 or 10 (10 being best)	Maryland	64%	65%	64%	65%	65%	65%	67%
	National	69%	70%	71%	71%	72%	73%	73%
Communication with doctors: Percentage of survey respondents reporting "always" on three questions (composite measure)	Maryland	78%	78%	77%	78%	78%	77%	78%
	National	81%	81%	82%	82%	82%	82%	82%
Communication with nurses: Percentage of survey respondents reporting "always" on six questions (composite measure)	Maryland	74%	75%	75%	76%	76%	75%	76%
	National	78%	78%	79%	79%	80%	80%	80%

Source: Centers for Medicare & Medicaid Services, Hospital Compare, 2011-2017

3.1.2 Goal 2: Increase Patient Satisfaction with Home Health

Goal 2. Increase Patient Satisfaction with Home Health	
Goal Summary	Patient experience with home health care is assessed using the Home Health CAHPS (HHCAHPS). 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, as well as the composite score for communication with the home health team.
Measurement Methodology	**HHCAHPS Survey Questions** Overall patient experience with home health agency 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?" Home health team always communicated well 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? ▪ 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 listen carefully 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? 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.
Monitoring Results ***See below:*** Table 4	▪ In 2016, 82 percent of Maryland residents indicated that they received the best home health care possible (up one percent from 2016) compared to 84 percent nationwide (nationwide score remains unchanged since 2011). ▪ Maryland and national experience ratings of the home health team's communication were identical in 2017. Approximately 85 percent of both Maryland and United States residents reported a high level of satisfaction with their home health care providers' communication.

Table 4. Home Health Patient Experience Results, 2011-2017

Measures	Population	2011	2012	2013	2014	2015	2016	2017
Patient's rating of home health agency: percentage of survey respondents reporting a 9 or 10 (10 being the best)	Maryland	83%	83%	82%	82%	83%	81%	82%
	National	84%	84%	84%	84%	84%	84%	84%
Communication with home health team: percentage of survey respondents reporting "always" on six questions	Maryland	86%	86%	85%	85%	85%	85%	85%
	National	85%	85%	85%	85%	85%	85%	85%

Source: Home Health CAHPS

3.1.5 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 educating patients on the care they will need post-hospitalization to reduce future potentially avoidable hospital utilization.
Measurement Methodology	This is a composite measure combining responses from three questions on the HCAHPS survey. The measure is the linear transformation score of survey respondents reporting "Strongly Agree" for each of the following questions: ○ During this hospital stay, the hospital staff took my preferences and those of my family or caregiver into account in deciding what my health care needs would be when I left. ○ When I left the hospital, I had a good understanding of the things I was responsible for in managing my health. ○ 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: http://www.hcahpsonline.org/home.aspx.
Monitoring Results ***See below*** Table 5	▪ The CTM-3 linear transition scores for Maryland of respondents who "Strongly Agree" are four percent below national scores (49 v. 53 percent), and have increased two percent since 2016.

Table 5. CTM-3 Scores, 2014-2017

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

Source: CMS Hospital Compare

3.1.7 Goal 7: Enhance Care Transitions – Coordination with Primary Care

Measures used to assess the improvement of care transitions consist of (A) the rate of physician follow-up after discharge and (B) the rate of discharges in which the principal provider was notified.

Goal 7. Enhance Care Transitions – Coordination with Primary Care	
Goal Summary	Management of transitions of care—from the hospital to a post-acute care provider or to home—including appropriate and timely outpatient physician follow-up is a key strategy to reduce hospital readmissions. 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.
Measurement Methodology	Follow-Up after Discharge The measure of post-hospitalization follow-up visit within 14 days is calculated using specifications developed by Mathematica Policy Research (MPR), which are based upon a methodology provided by RTI International. Post-discharge visits are included in the **numerator** if an eligible face-to-face visit procedure or revenue code is found on one or more outpatient claims with a service date 14 days post-discharge. Inpatient discharges are included in the **denominator** if they are billed for Maryland residents who: (1) are eligible for Medicare Part B in the month of the discharge, (2) have at least one fee-for-service (FFS) claim in the month of the

discharge, and (3) are alive for 14 days post-discharge. Any discharge with a subsequent inpatient admission within 14 days is excluded.

The percentage of inpatient discharge having a face-to-face follow-up visit within 14 days is calculated as proportion of the total eligible discharges.

Historical data (2013-2016) have been refreshed with the methodology refined by MPR. In addition, national rates are now provided based upon the 5% Medicare sample of the CCW.

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 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 in Maryland as well as nationally. CRISP encourages 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 now receives panels from long-term care facilities, care coordination entities, behavioral health organizations, and payers.

HSCRC staff use data from CRISP to calculate the percentage of inpatient discharges for which there is any associated ENS alert sent to a provider. Measuring discharges with the provider notified via ENS is not exactly consistent with the original CMS requirement of simply identifying a primary care provider. However, HSCRC makes a strong case that this measure is a better indicator of supporting transitions in care and more consistent with meaningful use requirements.

In addition to the ENS notification, CRISP also sends providers the patient's most recent contact information; providers find this to be extremely valuable in connecting with patients post discharge. CRISP is also looking at additional ways to engage ambulatory providers in ENS. As CRISP builds the volume of ambulatory connectivity with providers submitting Consolidated Clinical Document Architecture, the CRISP team is developing attribution methods for providers to auto-populate ENS panels.

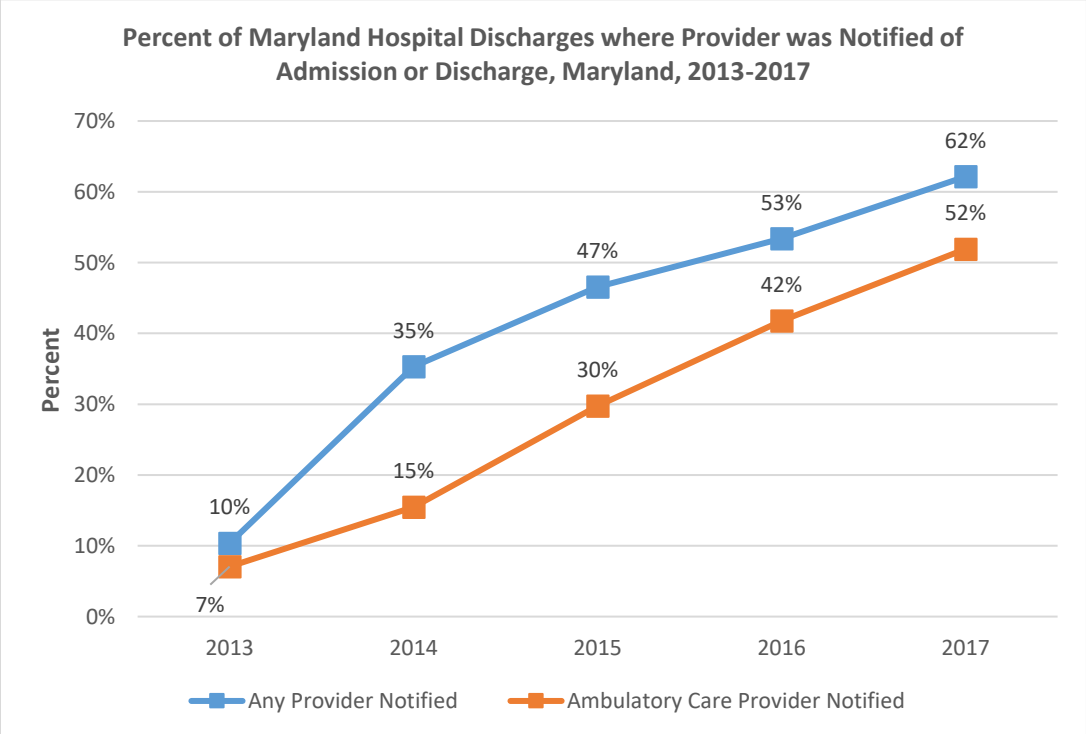
Monitoring Results ***See below*** Table 6 Figure 3	Follow-up After Discharge within 14 Days ▪ Using the MPR measure of Follow-up after Discharge within 14 days, Maryland has maintained a rate of physician follow-up after discharge for Maryland Medicare beneficiaries of between 65-69 percent from 2013 to 2017. In each year, Maryland had a higher rate compared to the nation. Maryland achieved a 69 percent rate of follow-up in 2017, compared to a rate of 67 percent at the national level. ▪ Care managers and community health workers have been deployed to enhance care transitions and broader care coordination efforts, which will further improve follow-up rates following a hospital discharge. Discharges with Principal Provider Notified in Maryland ▪ Between 2013 and 2017, there was an approximately six-fold increase in the discharges for which any provider received an ENS notification, from 10.36 percent to 62.15 percent. ▪ During the same time period, the proportion of discharges for which an ambulatory care provider received an ENS notification also increased sevenfold, from 7.07 percent to 51.92 percent.

Table 6. Care Coordination with Primary Care, 2013-2017

Measures	Population	2013	2014	2015	2016	2017
Rate of physician follow-up after discharge for Medicare beneficiaries	Maryland	67%	65%	66%	68%	69%
	National, an enhanced 5% Medicare Sample of the CCW	65%	64%	65%	67%	67%
Discharges with principal provider notified in Maryland	Any Provider Notified	10%	35%	47%	53%	62%
	Ambulatory Care Provider Notified	7%	15%	30%	42%	52%

Source: MPR Analysis of CCW; CRISP ENS Notification Reports, 2017.

Figure 3. Percent of Maryland Hospital Discharges where Provider was Notified of Admission or Discharge, Maryland, 2013-2017



Source: CRISP ENS Notification Reports, 2018. Notification provider types include: ambulatory, behavioral health, care coordinators, long-term care, payers, and other.

3.1.12 Goal 12: Reduce High-Priority Hospital Complications

Measures used to assess the reduction of high-priority hospital complications are: (A) the Standardized Infection Ratio (SIR) of Central-Line Associated Blood Stream Infections (CLABSI); and (B) the rate of Potentially Preventable Complications (PPCs). The June 2018 report will present measure B, the incidence of PPCs under the All-Payer Model to-date.

Goal 12: Reduce High-Priority Hospital Complications	
Goal Summary	Progress in reducing high-priority hospital complications is assessed using the rate of 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 All-Payer Model, Maryland is expected to achieve an aggregate 30 percent reduction across an aggregated set of potentially preventable complications.
Measurement Methodology	PPC Rate per 1,000 At-Risk Discharges 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 fluctuations in case-mix that may occur over time. Case-Mix Adjusted PPC Rate For 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 RY 2019 MHAC Policy on the HSCRC Quality – MHAC website, http://hscrc.maryland.gov/Pages/init_qi_MHAC.aspx. Data have been re-stated under the Rate Year 2018 logic (through 2016), and then compounded with data re-stated under the Rate Year 2019 logic (2016-2017) – this is done to accommodate the transition from ICD-9 to ICD-10.
Monitoring Results	▪ Between 2013 and 2017, the unadjusted all-payer PPC rate for the state of Maryland declined from 0.92 per 1,000 at-risk discharges under RY 2018 logic to

See below Table 7	0.49 per 1,000 at-risk discharges under RY 2019 logic. Compounded, this represents a reduction of 45.27 percent. ▪ Over the same time period, the case-mix adjusted all-payer PPC rate had a reduction of 52.72 percent. ▪ Between 2013 and 2017, the unadjusted Medicare FFS PPC rate per 1,000 at-risk discharges declined by 47.45 percent. The unadjusted Medicaid PPC rate declined by 41.78 percent during the same period. ▪ Similarly, the case-mix adjusted rate for Medicare and Medicaid was reduced by 48.01 percent and 63.25 percent, respectively.

Table 7. High-Priority Hospital Complications, 2013-2017

Measures	Population	2013	2014	2015	2016 (RY 2018 Logic)	2016 (RY 2019 Logic)	2017	Compounded Cumulative PPC Change[7]
All Payer Potentially preventable complications per 1,000 at-risk discharges	Maryland	0.92	0.70	0.64	0.56	0.54	0.49	
Change from 2013 (%).			-23.78%	-31.03%	-39.14%		-10.07%	-45.27%
Medicare Potentially preventable complications per 1,000 at-risk discharges	Maryland	1.35	0.99	0.91	0.78	0.78	0.71	
Change from 2013 (%).			-26.44%	-32.36%	-42.22%		-9.05%	-47.45%
Medicaid Potentially preventable complications per 1,000 at-risk discharges	Maryland	0.56	0.43	0.38	0.36	0.34	0.30	
Change from 2013 (%).			-23.33%	-31.66%	-35.18%		-10.18%	-41.78%
All Payer Case-mix Adjusted PPC rate	Maryland	1.00	0.74	0.65	0.55	0.59	0.51	
Change from 2013 (%).			-25.42%	-35.17%	-45.29%		-13.58%	-52.72%

[7] Replication of some of these calculations may not be possible due to rounding; % Change in 2017 is compounded to evaluate performance under RY 2018 and RY 2019 logic.

Medicare Case-mix Adjusted PPC rate	Maryland	1.14	0.83	0.73	0.60	0.66	0.57	
Change from 2013 (%).			-17.24%	-26.81%	-39.97%		-13.39%	-48.01%
Medicaid Case-mix Adjusted PPC rate	Maryland	0.90	0.66	0.57	0.50	0.63	0.46	
Change from 2013 (%).			-33.97%	-42.47%	-49.90%		-26.64%	-63.25%

Source: HSCRC Inpatient Discharge Abstract Data, 2013-2016.

3.1.13 Goal 13: Reduce Readmissions – Home Health

Goal 13. Reduce Readmissions – Home Health	
Goal Summary	Home health agencies may be able to assist hospitals in reducing potentially avoidable inpatient and ED utilization. For example, hospitals could collaborate with home health agencies to avoid unnecessary care by having home health staff remind patients to call the agency first for non-life threatening emergencies. In addition, it is important to monitor admissions from home health agencies to identify potential quality of care/care coordination issues. 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.
Measurement Methodology	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.
Monitoring Results ***See below*** Table 8	▪ Between 2013 and 2017, the Maryland admission rate from home health agencies to hospitals decreased from 17 percent to 15.3 percent. The national admission rate decreased slightly from 16 percent to 15.8 percent from 2013 to 2017. ▪ Maryland home health patients' rate of unplanned urgent care visits to the ED rose from 11 percent in 2013 to 13 percent in 2017. The national rate also from 12 percent to 13 percent during the same time period.

Table 8. Hospital Utilization from Home Health Services, 2012-2017

Measures	Population	2012	2013	2014	2015	2016	2017
Admission rate from home health agencies to acute inpatient hospital	Maryland	17%	17%	16.4%	16.0%	16.3%	15.3%
	National	17%	16%	15.9%	16.2%	16.4%	15.8%
Unplanned urgent visits to the ED for patients receiving home health	Maryland	11%	11%	11.7%	12.4%	12.3%	13.0%
	National	12%	12%	12.2%	12.5%	12.7%	13.0%

Source: Home Health Compare.

3.1.14 Goal 14: Reduce Readmissions – Nursing Home

The goal of reducing readmissions among patients discharged to nursing homes is assessed by monitoring the current rates for patients discharged to a long-term care facility or skilled nursing facility.

Measure 14: Readmission Rate Among Patients Discharged to Nursing Home	
Goal Summary	Readmissions among patients discharged to a nursing home may be high, due in part to the medical complexity of these patients; many nursing home patients are elderly and have multiple chronic conditions and physical limitations. In addition to their medical complexity, however, readmissions may increase due to hospital complications that develop post-discharge, deficiencies in quality of care, or patients being discharged from the hospital earlier than recommended by best practices. Coordination between the hospital and nursing home prior to and after discharge or transfer should reduce potentially avoidable readmissions.
Measurement Methodology	Percent Readmissions: **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 abstract data with CRISP unique patient enterprise identifiers (EIDs) for 2012-2017.
Monitoring Results ***See below***	There was a steady decline in readmissions from nursing homes from 2012 to 2016 (11.46% reduction). However, there was a slight increase in readmissions from SNFs between 2016 and 2017 (1.52% increase). When compared to the 2013 base year of the All-Payer Model, the 2017 readmission rate for inpatient discharges to nursing homes decreased by 10.12 percent. The observed reduction in

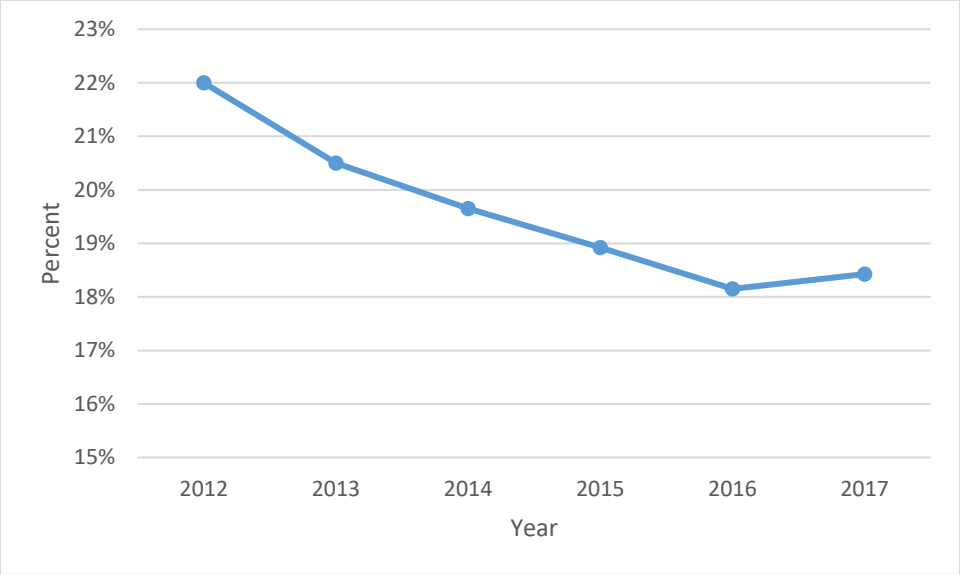
Table 9 Figure 4	readmissions may be partially attributable to an enhanced level of care coordination between Maryland hospitals and nursing facilities.

Table 9. Readmission Rates from Nursing Homes, 2012-2017

Measures	Population	2012	2013	2014	2015	2016	2017
Readmission rates for inpatient discharges to nursing homes	Maryland	22.00%	20.50%	19.65%	18.92%	18.15%	18.43%

Source: Analysis of HSCRC IP Data.

Figure 4. Hospital Readmissions among Patients Discharged to a Nursing Facility, 2012-2017



Source: HSCRC IP discharge abstract data, 2012-2017.

3.1.15 Goal 15: Reduce Readmissions – Hospital

This report evaluates hospital readmissions in two statewide measures and five condition-specific measures, including (A) 30-day all-hospital, all-cause readmission rates; (B) readmissions per 1,000 Maryland residents; (C) heart failure readmission rates; (D) pneumonia readmission rates; (E) acute myocardial infarction readmission rate; (F) chronic obstructive pulmonary disease readmission rates; and (G) hip/total knee arthroplasty readmission rates.

Goal 15. 30-Day All Cause and Condition-Specific Hospital Readmissions

Goal Summary	Hospital readmissions rates for Medicare beneficiaries are higher in Maryland than in the rest of the nation. The new All-Payer Model is required to reduce Medicare readmissions in Maryland to at or below the national rate by 2018. The costs of 30-day readmissions at the receiving hospital are also included in the HSCRC measure of potentially avoidable utilization, which is used to adjust global budgets. The HSCRC has a Readmission/Potentially Avoidable Utilization Savings program and a Readmission Reduction Incentive program designed to incentivize hospitals to invest resources to reduce readmissions. In addition to the case-mix adjusted all-payer measures reported below, CMS provides the HSCRC with the unadjusted Medicare-specific readmission rate for Maryland that includes readmissions that occur outside of the state. Based on CMMI data from 2017, the state has closed the 2013 gap in the Medicare FFS readmission rates compared to the nation and anticipates achieving the waiver test. Reducing readmissions is an important quality improvement goal under the All-Payer Model, and as such, we measure and monitor our progress under several different payer sources and with slightly different measure definitions and adjustments.
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. **Readmissions per 1,000 Maryland Residents** = (Number of 30-Day Readmissions ÷ Total Maryland Resident Population) x 1,000. **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 CY2012-2017 data. Data under ICD-10 (October 2015 – Present) use diagnosis and procedure codes from the 2018 CMS condition-specific readmission measures and may not match previously submitted data. Furthermore, these rates may not match results calculated by a separate entity, as they are calculated using HSCRC all-payer data, are not risk-adjusted, and HSCRC interpreted the CMS measurement specifications to approximate these rates. Last, numbers for condition specific readmissions trended over ICD-9 and ICD-10 should be interpreted with caution. **Data:** Population estimates for 2012-2017, which were used in estimating readmissions per 1,000 population, were obtained from the Maryland Department of Planning.
Monitoring Results ***See below*** Table 10	▪ The Maryland 30-day case-mix adjusted, all-cause readmission rate fell from 12.93 percent in 2013 to 11.54 percent in 2016, a reduction of 10.74 percent. Under the latest logic, the readmission rate in 2016 is 11.72% and fell to 11.65% in 2017, which is a compounded reduction of 11.36% since 2013. ▪ Readmissions per 1,000 Maryland residents fell by 17.08 percent from 11.74 per thousand in 2013 to 9.73 per thousand in 2016. Using the latest logic, the readmissions per 1,000 Maryland residents in 2016 is 9.68, and fell to 9.63 in 2017, a compounded 17.50 percent reduction since 2013. ▪ Between 2013 and 2017, readmission rates for all the specific conditions decreased: heart failure by 6.15 percent; pneumonia by 0.51 percent; AMI by 9.54 percent; COPD by 4.81 percent; and Hip/Knee arthroplasty by 27.45 percent.

Table 10. Readmission Rates, including Condition-Specific Readmission Rates, 2012-2017

Measures	Population	2012	2013	2014	2015	2016 (RY2018)	2016 (RY2019)	2017	Compounded Cumulative Readmission Rate Change
30-day all-hospital, all-cause readmission	Maryland	12.49%	12.93%	12.43%	12.02%	11.54%	11.72%	11.65%	
	Change from 2013			-3.90%	-7.07%	-10.79%		-0.64%	-11.36%
Readmissions per 1,000 Maryland residents	Maryland	12.65	11.74	10.84	10.24	9.73	9.68	9.63	
	Change from 2013			-7.68%	-12.72%	-17.08%		-0.50%	-17.50%

Measures	Population	2012	2013	2014	2015	2016	2017
Heart failure readmission rate	Maryland	24.70%	23.12%	22.68%	22.14%	20.82%	21.69%
	Change from 2013			-1.90%	-4.22%	-9.92%	-6.15%
Acute myocardial infarction readmission rate	Maryland	13.42%	13.04%	12.06%	11.98%	11.94%	11.80%
	Change from 2013			-7.57%	-8.19%	-8.44%	-9.54%
Pneumonia readmission rate	Maryland	15.29%	14.37%	14.31%	13.72%	14.23%	14.29%
	Change from 2013			-0.40%	-4.47%	-0.95%	-0.51%
Chronic obstructive pulmonary disease readmission rate	Maryland	21.62%	20.76%	20.32%	19.78%	19.79%	19.76%
	Change from 2013			-2.10%	-4.69%	-4.65%	-4.81%
Hip/total knee arthroplasty readmission rate	Maryland	4.26%	3.80%	3.38%	3.08%	3.06%	2.76%
	Change from 2013			-11.12%	-18.98%	-19.54%	-27.45%

Source: Derived from HSCRC Inpatient Discharge Abstract Data, 2012-2017.

3.2 Population Health

Maryland believes that an all-payer model that is accountable for the total cost of care 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.

As stated in Section 2, this transition report does not include population health measures. For population health measures reported under the first three years of the All-Payer Model, please see the Annual Monitoring Report submitted on January 13, 2018, or the interim report submitted on August 16, 2018. The HSCRC intends to present more meaningful population health measures and data as specified in Appendix D of the TCOC Model State Agreement.

3.3 Costs and Efficiency

Maryland believes that an all-payer model accountable for the total cost of care can control the growth in health care expenditures at a reasonable level. The goal is to achieve meaningful savings for all payers, including to Medicare, Medicaid, and the Children's Health Insurance Program (CHIP).

3.3.2 Goal 25: Control Expenditure Growth – Hospitals

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

Measure 25. Hospital Per Capita Total Charges	
Goal Summary	Controlling hospital expenditure growth is one of the primary metrics on which the Maryland All-Payer Model is to be assessed. Data on hospital expenditure growth 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 recipients) ÷ (Total number of Medicaid beneficiaries with at least one day of enrollment) Medicare/Medicaid Dually Eligible Maryland Hospital Per Beneficiary Charges for Maryland Residents*:* (Total inpatient and outpatient hospital expenditures for dual eligible beneficiaries) ÷ (Number of Maryland residents with dual eligibility status) 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) **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 11	▪ Between 2013 and 2017, all-payer per capita hospital charges grew by 8.74 percent. ▪ Medicare per beneficiary hospital charges increased by almost 3 percent between 2013 and 2017, from $6,979 to $7,183. ▪ During the same time period, per beneficiary hospital charges increased for Medicaid by 6.70 percent. ▪ Between 2013 and 2017, per beneficiary hospital charge for Medicare/Medicaid dually eligible beneficiaries increased by 8.35 percent. ▪ Per beneficiary hospital charges for private payers decreased 2.41 percent between 2013 and 2016. The per beneficiary hospital charge for 2017 are not yet available, as an estimated number of private payer beneficiaries has not yet been released.

Table 11. Total Maryland Hospital per Capita Charges (Inpatient and Outpatient) and Growth, by Payer, Maryland, 2013-2017

Measures		2013	2014	2015	2016	2017
All-payer per capita Maryland Hospital charges for MD residents	Charges ($)	2,372	2,416	2,472	2,491[8]	2,579
	Change from 2013 (%)		1.86%	4.22%	5.02%	8.74%
Medicare FFS Maryland hospital per beneficiary charges for MD Medicare Beneficiaries	Charges ($)	6,979	6,980	7,071	7,017[9]	7,183
	Change from 2013 (%)		0.00%	1.31%	0.03%	2.92%
	Charges ($)	2,069	2,126	2,099	2,156	2,208

[8] For 2016, hospitals undercharged their global budget revenues in the second half of CY 2016. The all payer per capita figure reflects an adjustment to all payer hospital charges of approximately $75.5m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016.

[9] The Medicare FFS inpatient figure reflects an adjustment to hospital Medicare FFS charges of approximately $18.5 million to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. The Medicare FFS outpatient figure reflects an adjustment to hospital Medicare FFS charges of approximately $10.1 million to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016.

Medicaid Maryland hospital per beneficiary charges for MD Medicaid Beneficiaries (includes Medicaid Expansion beneficiaries)[10]	Change from 2013 (%)		2.73%	1.44%	4.17%	6.70%
Medicare/Medicaid dually eligible Maryland per beneficiary hospital charges for MD Dual Beneficiaries[3]	Charges ($)	7,280	7,156	7,349	7,399	7,888
	Change from 2013 (%)		-1.70%	0.95%	1.64%	8.35%
Private payer Maryland hospital per beneficiary charges for MD Privately insured residents	Charges ($)	1,288	1,266	1,264	1,257	
	Change from 2013 (%)		-1.71%	-1.94%	-2.41%	

3.3.2 Goal 25a: Control Expenditure Growth – Specialty Hospitals

This report also evaluates specialty hospital expenditure growth by tracking per-capita Maryland specialty hospital charges in three payer categories, including (A) all-payer Maryland specialty hospital charges, (B) Medicare FF Maryland specialty hospital charges, and (C) Medicaid Maryland specialty hospital charges.

Goal 25a. Specialty Hospitals Per Capita Total Charges	
Goal Summary	Maryland is required to monitor expenditure growth for hospitals where the HSCRC regulates the non-governmental payer rates, such as for specialty care hospitals. Data on specialty care hospital expenditure growth are available across all payers, as well as for Medicaid (including dually eligible) and Medicare FFS (including dually eligible). The data for each category capture in-state spending on Maryland residents.
Measurement Methodology	All-Payer Maryland Specialty Hospital Per Capita Charges for Maryland Residents: (Total inpatient and outpatient specialty hospital charges for all Maryland residents) ÷ (Total Maryland resident population). Medicare Maryland Specialty Hospital Per Beneficiary Charges for Maryland Residents: (Inpatient per capita specialty charges for Medicare beneficiaries with Part A) + (Outpatient per capita specialty charges for Medicare beneficiaries with Part B). Medicaid Maryland Specialty Hospital Per Beneficiary Charges for Maryland Residents: (Total FFS and managed care specialty charges for Maryland Medicaid recipients) ÷ (Total average Medicaid annual enrollment). **Data Sources:**

[10] The enrollment data for MD Medicaid and Medicare/Medicaid dually eligible excludes limited benefit coverage groups, such as individuals who are only eligible for family planning services. Dually eligible beneficiaries are included in the calculation for Maryland Medicaid beneficiaries and dually eligible beneficiaries. The Medicaid Expansion was implemented in 2014; 2013 figures include the enrollees of the limited-benefit Primary Adult Care program.

	Hospital Charges: HSCRC Financial Data (all-payer and Medicare FFS) and Inpatient and Outpatient Abstract data (Medicaid); **Population Estimates:** All-Payer (Maryland Dept. of Planning), Medicare (CMS), and Medicaid (Maryland Medicaid).
Monitoring Results ***See below*** Table 12	▪ Maryland all-payer specialty per capita charges decreased from $59.86 in 2013 to $58.68 in 2017, a decline of 1.98 percent. ▪ Medicare per beneficiary specialty hospital charges also decreased by 38.99% percent between 2013 and 2017, from $162.62 to $99.21. ▪ Medicaid per beneficiary charges also declined from $90.11 to $75.22 from 2013 to 2017, a decrease of 16.52 percent.

Table 12. Specialty Hospital per Capita Charges and Growth, by Payer, Maryland, 2013-2017[11]

Measures		2013	2014	2015	2016	2017
All-payer Maryland specialty hospital per capita total charges for MD residents	Charges	$59.86	$52.96	$54.79	$57.36	$58.68
	% Change since 2013		-11.53%	-8.47%	-4.17%	-1.98%
Medicare Maryland specialty hospital per beneficiary total charges for MD residents	Charges	162.62	109.92	110.39	100.57	99.21
	% Change since 2013		-32.41%	-32.12%	-13.91%	-38.99%
Medicaid Maryland specialty hospital per beneficiary total charges for MD residents[12]	Charges	90.11	82.88	67.21	77.68	75.22
	% Change since 2013		-8.02%	-25.42%	-13.80%	-16.52%

3.3.3 Goal 26: Control Expenditure Growth – All Health Services

This report evaluates the expenditure growth of all health services by tracking per-capita Maryland health services charges in five payer categories: (A) All-payer total expenditures, (B) Medicare total expenditures, (C) Medicaid total expenditures, (D) Dually Eligible Medicaid-only total expenditures, and (E) Private payer Maryland total expenditures.

Measure 26: Per Capita Total Expenditures for 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.

[11] Specialty hospital charges in 2013 includes Levindale. Beginning in 2014, Levindale became an acute facility and was excluded from the specialty hospital charges.

[12] The enrollment data for MD Medicaid and Medicare/Medicaid Dually eligible excludes limited benefit coverage groups, such as individuals who are only eligible for family planning services.

Measurement Methodology	All-payer Per Capita Health Expenditures: (Total health care expenditures for all Maryland residents) ÷ (Total Maryland resident population) This data is currently not available. Separate estimates are generated for the following populations: Medicare Per Beneficiary Health Expenditures: The sum of inpatient per capita expenditures for Medicare beneficiaries with Part A and outpatient 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 beneficiaries with at least one day of enrollment)) Dually Eligible Medicaid/Medicare per Beneficiary Health Expenditures: (Total Medicaid costs for dually eligible beneficiaries) ÷ (Total number of Dually eligible Maryland beneficiaries) Private Payer per Beneficiary Health Expenditures: (Total Costs for private payer Maryland residents) ÷ (Total member insured months) , annualized to reflect a 12 month period) **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 13	▪ Maryland Medicare per capita health expenditures increased by 4.89 percent between 2013 and 2017, compared to an increase of 6.25 percent for the U.S. ▪ Total Maryland Medicaid per beneficiary health expenditure increased by 3.56% between 2013 and 2015. Health expenditure data for 2016 and 2017 are not yet available. ▪ Conversely, Medicare/Medicaid dually eligible health expenditures per beneficiary has declined by 4.82%, from $14,572 to $13,870. ▪ Per beneficiary health expenditures for private payer beneficiaries increased from 3,132 in 2013 to 3,504 in 2016 – an 11.88% increase.

Table 13. Per Capita Annual Health Expenditures by Payer, 2013-2017

Measures	Population	2013	2014	2015	2016	2017
	Maryland ($)	11,142	11,079	11,337	11,351[13]	11,687

[13]The CY 2016 Medicare FFS Part A expenditures reflect an adjustment of approximately $17.2m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted inpatient charges

Medicare per beneficiary health expenditure	MD change from 2013 (%)		-0.56%	1.75%	1.60%	4.89%
	National ($)	9,540	9,640	9,832	9,917	10,136
	National change from 2013 (%)		1.05%	3.06%	3.95%	6.25%
Medicaid per beneficiary health expenditure (includes dually eligible) [14]	Maryland ($)	5,937	5,974	6,149		
	MD change from 2013 (%)		0.61%	3.56%		
Medicare/Medicaid dually eligible per beneficiary health expenditure (Medicaid expenditures only) [15]	Maryland	14,572	14,169	13,870		
	MD change from 2013 (%)		-2.77%	-4.82%		
Private payer per beneficiary health expenditure	Maryland ($)	3,132	3,240	3,444	3,504	
	MD change from 2013 (%)		3.45%	9.96%	11.88%	

4.0 Conclusions

The All-Payer Model encouraged collaboration among hospitals and non-hospital providers to increase patient satisfaction, improve health outcomes and population health, and slow growth in healthcare spending. Although more incremental, progress on broader population health will accelerate alongside the transition from the All-Payer Model to the TCOC Model, as it broadens stakeholder engagement in improving quality outcomes and containing the growth of the total cost of care.

are $6.626 billion. The CY 2016 Medicare FFS Part B expenditures reflects an adjustment of approximately $7.7m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted outpatient charges are $4.407 billion.

[14] Please note that this row represents total Medicaid enrollment, including those eligible for both full and partial benefits.

[15] These numbers reflect the Medicaid-only portion of expenditures for services for the dually eligible. This includes individuals for which Medicaid pays the Part B premiums only. Medicaid expenditures reflect payments for services only and do not include premiums.

Appendix A: Summary Results for All Goals and Measures, Maryland 2011-2017 (including Numerators and Denominators Used to Estimate Measures, as appropriate)

Goal 1									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
Patient's rating of hospital: Percentage of survey respondents reporting a 9 or 10 (10 being best)	Maryland		64%	65%	64%	65%	65%	65%	67%
	National		69%	70%	71%	71%	72%	73%	73%
Communication with doctors: Percentage of survey respondents reporting "always" on three questions (composite measure)	Maryland		78%	78%	77%	78%	78%	77%	78%
	National		81%	81%	82%	82%	82%	82%	82%
Communication with nurses: Percentage of survey respondents reporting "always" on six questions (composite measure)	Maryland		74%	75%	75%	76%	76%	75%	76%
	National		78%	78%	79%	79%	80%	80%	80%

Goal 2									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
Patient's rating of home health agency: percentage of survey respondents reporting a 9 or 10 (10 being the best)	Maryland		83%	83%	82%	82%	83%	81%	82%
	National		84%	84%	84%	84%	84%	84%	84%
Communication with home health team: percentage of survey respondents reporting "always" on six questions	Maryland		86%	86%	85%	85%	85%	85%	85%
	National		85%	85%	85%	85%	85%	85%	85%

Goal 5									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
Three Item Care Transition Measure - Strongly Agree	Maryland					48%	48%	47%	49%
	National					52%	52%	52%	53%

Goal 7									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
Rate of Physician Follow-up after discharge	Maryland Medicare	Discharges with Visits within 14 Days			113,674	107,953	109,687	110,263	108,139
		Eligible Discharges			169,306	166,080	165,025	161,603	156,273
		Percent with Follow-up After Discharge			67%	65%	66%	68%	69%
	National 5% Medicare Sample of the CCW	Discharges with Visits within 14 Days			283,238	270,485	273,273	279,243	280,724
		Eligible Discharges			434,510	421,579	421,624	419,839	419,161
		Percent with Follow-up After Discharge			65%	64%	65%	67%	67%
Discharges with Principal Provider Notified, Any Provider	Maryland	Discharges with Notification			63,207	228,568	293,113	331,816	380,311
		Total Discharges			609,853	647,229	629,672	621,604	611,959
		Rate of Notification			10.36%	35.31%	46.55%	53.38%	62.15%
Discharges with Principal Provider Notified, Ambulatory Care Provider	Maryland	Discharges with Notification			43,099	100,154	187,277	259,750	317,729
		Total Discharges			609,853	647,229	629,672	621,604	611,959
		Rate of Notification			7.07%	15.47%	29.74%	41.79%	51.92%

Goal 12

Measures	Population	2011	2012	2013	2014	2015	2016
Central-line Acquired Bloodstream Infection (CLABSI) Standardized Infection Ratio (1=National Average)	Maryland	0.750	0.532	0.474	0.492	0.566	
	National	1	1	1	1	1	
Central-line Acquired Bloodstream Infection (CLABSI) Standardized Infection Ratio (1=National Average) Re-Based	Maryland					1.15	1.125
	National					1	1

Goal 12 (Continued)

Measures	Population		2011	2012	2013	2014	2015	2016 (RY2018)	2016 (RY2019)	2017
Potentially Preventable Complications Rate per 1,000 discharges (by-Payer PPCs)	Maryland All-Payer	Total Number of Observed PPCs			20,597	14,944	12,992	11,356	10,774	9,482
		Number at-risk Discharges			22,310,634	21,236,295	20,402,945	20,210,813	19,831,893	19,408,501
		PPCs per 1,000 at-risk Discharges			0.92	0.70	0.64	0.56	0.54	0.49
Potentially Preventable Complications Rate per 1,000 discharges (by-Payer PPCs)	Maryland Medicare FFS	Total Number of Observed PPCs			11,529	8,171	7,318	6,128	6,050	5,309
		Number at-risk Discharges			8,552,500	8,240,316	8,025,624	7,868,200	7,801,003	7,526,311
		PPCs per 1,000 at-risk Discharges			1.35	0.99	0.91	0.78	0.78	0.71
Potentially Preventable Complications Rate per 1,000 discharges (by Payer PPCs)	Maryland Medicaid	Total Number of Observed PPCs			2,229	2,010	1,749	1,650	1,502	1,370
		Number at-risk Discharges			3,978,778	4,679,600	4,568,289	4,543,790	4,441,547	4,510,517

		PPCs per 1,000 at-risk Discharges			0.56	0.43	0.38	0.36	0.34	0.30
Casemix-Adjusted PPC Rate	Maryland All-Payer				1.00	0.74	0.65	0.55	0.59	0.51
	Maryland Medicare FFS				1.14	0.83	0.73	0.60	0.66	0.57
	Maryland Medicaid				0.90	0.66	0.57	0.50	0.63	0.46

Goal 13

Measures	Population	2011	2012	2013	2014	2015	2016	2017
Admission rate from home health agencies to acute inpatient hospital	Maryland		17%	17%	16.4%	16.0%	16.3%	15.3%
	National		17%	16%	15.9%	16.2%	16.4%	15.8%
Unplanned urgent visits to the ED for patients receiving home health	Maryland		11%	11%	11.7%	12.4%	12.3%	13.0%
	National		12%	12%	12.2%	12.5%	12.7%	13.0%

Goal 14

Measures	Population		2011	2012	2013	2014	2015	2016	2017
Readmission rates for inpatient discharges to nursing homes	Maryland	Readmissions		9,969	9,523	8,880	9,611	8,930	9,474
		Eligible Discharges		45,310	46,464	45,194	50,806	49,197	51,418
		Readmission Rate		22.00%	20.50%	19.65%	18.92%	18.15%	18.43%

Goal 15

Measures	Population		2011	2012	2013	2014	2015	2016 (RY2018)	2016 (RY2019)	2017

30-day All-Hospital, All-Cause readmission (Case-mix Adjusted)	Maryland	Readmissions		74,518	69,640	64,701	61,474	58,643	58,341	58,311
		Expected Readmissions		77,132	69,627	67,315	66,140	65,723	58,628	58,977
		Readmission Rate		12.49%	12.93%	12.43%	12.02%	11.54%	11.72%	11.65%
Readmissions per 1,000 Maryland residents	Maryland	Readmissions		74,518	69,640	64,701	61,474	58,643	58,341	58,311
		Population		5,891,680	5,932,654	5,970,245	6,000,561	6,024,752	6,024,752	6,052,177
		Readmission Rate		12.65	11.74	10.84	10.24	9.73	9.68	9.63

Goal 15 (continued)

Measures	Population		2011	2012	2013	2014	2015	2016	2017
Heart failure readmission rate	Maryland	Readmissions		4,333	3,949	3,926	4,039	3,747	3,900
		Eligible Discharges		17,544	17,084	17,314	18,244	17,996	17,978
		Readmission Rate		24.70%	23.12%	22.68%	22.14%	20.82%	21.69%
Acute myocardial infarction readmission rate	Maryland	Readmissions		1,059	1,003	959	1,004	969	975
		Eligible Discharges		7,890	7,689	7,954	8,383	8,113	8,263
		Readmission Rate		13.42%	13.04%	12.06%	11.98%	11.94%	11.80%
Pneumonia readmission rate	Maryland	Readmissions		2,323	2,096	2,004	2,128	3,023	2,669
		Eligible Discharges		15,194	14,589	14,004	15,505	21,243	18,672
		Readmission Rate		15.29%	14.37%	14.31%	13.72%	14.23%	14.29%
	Maryland	Readmissions		3,486	3,265	2,957	2,841	2,835	3,308
		Eligible Discharges		16,122	15,731	14,552	14,362	14,325	16,743

Chronic obstructive pulmonary disease readmission rate		Readmission Rate		21.62%	20.76%	20.32%	19.78%	19.79%	19.76%
Hip/total knee arthroplasty readmission rate	Maryland	Readmissions		664	608	576	548	570	517
		Eligible Discharges		15,601	15,986	17,040	17,783	18,627	18,737
		Readmission Rate		4.25%	3.80%	3.38%	3.08%	3.06%	2.76%

Goal 25

Measures	Population		2011	2012	2013	2014	2015	2016	2017
All-payer Maryland Hospital per capita total charges for MD residents	Maryland	Total Hospital Charges ($)			14,070,827,137	14,423,877,798	14,831,869,496	15,006,289,824[16]	15,609,318,168
		Population			5,932,654	5,970,245	6,000,561	6,024,752	6,052,177
		Per capita charges ($)			2,372	2,416	2,472	2,491	2,579
		% Change from 2013				1.86%	4.22%	5.02%	8.74%
Medicare FFS Maryland hospital per capita total charges per Beneficiary		Total Inpatient Charges ($)			3,577,606,896	3,644,282,856	3,738,655,187	3,722,621,740[17]	3,811,938,681
		Part A Beneficiaries			792,589	818,030	843,204	857,336	866,356
		Part A Per capita charges ($)			4,514	4,455	4,434	4,342	4,400
		Total Outpatient Charges ($)			1,704,310,983	1,800,667,592	1,938,206,962	1,989,608,507[18]	2,078,424,354

[16] This CY 2016 all payer number reflects an adjustment of approximately $75.5m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted charges are $14.93 billion.

[17] This CY 2016 Medicare FFS inpatient number reflects an adjustment of approximately $18.5m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted charges are $3.704 billion.

[18] This CY 2016 Medicare FFS outpatient number reflects an adjustment of approximately $10.1m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted charges are $1.979 billion.

Goal 25									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
		Part B Beneficiaries			691,255	713,229	734,983	743,868	746,712
		Part B Per capita charges ($)			2,466	2,525	2,637	2,675	2,783
		Total Hospital Per capita charges ($)			6,979	6,980	7,071	7,017	7,183
		% Change from 2013				0.00%	1.31%	0.03%	2.92%
Medicaid Maryland hospital per capita total charges per Beneficiary[19]	Maryland	Total Charges ($)			2,595,383,354	3,158,443,053	3,255,818,344	3,276,406,945	3,489,724,898
		Total Enrollees			1,254,123	1,485,688	1,550,967	1,519,812	1,580,403
		Per capita charges ($)			2,069	2,126	2,099	2,156	2,208
		% Change from 2013				2.73%	1.44%	4.17%	6.70%
Medicare/Medicaid dual eligible Maryland hospital per capita total charges per Beneficiary	Maryland	Total Charges ($)			1,047,382,694	1,099,859,606	1,179,437,379	1,216,794,880	1,327,513,600
		Total Enrollees			143,874	153,695	160,482	164,450	168,300
		Per capita charges ($)			7,280	7,156	7,349	7,399	7,888
		% Change from 2013				-1.70%	0.95%	1.64%	8.35%
Private Payer (SHADAC)	Maryland	Total Charges ($)			4,844,844,194	4,778,551,032	4,853,940,314	4,835,010,444	
		Total Enrollees			3,762,456	3,775,719	3,841,538	3,847,557	
		Per capita charges ($)			1,288	1,266	1,264	1,257	
		% Change from 2013				-1.71%	-1.87%	-2.41%	

[19] Medicaid and Dual Enrollment excludes limited benefit coverage groups, such as individuals who are only eligible for family planning services

Goal 25a									
Measures	Population		2011	2012	2013[20]	2014[21]	2015	2016	2017
All-payer Maryland specialty hospital total charges per capita for MD residents	Maryland	Total Charges ($)			355,140,844	316,174,501	328,786,950	345,598,234	355,130,840
		Population			5,932,654	5,970,245	6,000,561	6,024,752	6,052,177
		Per capita charges ($)			59.86	52.96	54.79	57.36	58.68
		% Change from 2013				-11.53%	-8.47%	-4.17%	-1.98%
Medicare Maryland specialty hospital total charges per beneficiary for MD Medicare Beneficiaries	Maryland	Total Inpatient Charges ($)			119,603,089	83,078,192	84,948,145	77,592,830	77,217,351
		Part A Beneficiaries			792,589	818,030	843,204	857,336	866,356
		Inpatient Per capita charges ($)			150.90	101.56	100.74	90.50	89.13
		Total Outpatient Charges ($)			8,101,643	5,961,383	7,085,633	7,483,637	7,529,162
		Part B Beneficiaries			691,255	713,229	734,983	743,868	746,712
		Outpatient Per capita charges ($)			11.72	8.36	9.64	10.06	10.08
		Total Hospital Per capita charges ($)			162.62	109.92	110.39	100.57	99.21
		% Change from 2013				-32.41%	-32.12%	-13.80%	-38.99%
	Maryland	Total Charges ($)			113,012,939	123,136,211	104,238,495	118,053,890	118,883,520

[20] Specialty hospital charges in 2013 include Levindale.

[21] Beginning in 2014, Levindale became an acute facility and was excluded from the specialty hospital charges.

Medicaid Maryland specialty hospital total charges per beneficiary for MD Medicaid Beneficiaries[22]		Total Enrollees			1,254,123	1,485,688	1,550,967	1,519,812	1,580,403
		Per capita charges ($)			90.11	82.88	67.21	77.68	75.22
		% Change from 2013				-8.02%	-25.42%	-13.80%	-16.52%

Goal 26

Measures	Population		2011	2012	2013	2014	2015	2016	2017
All-payer per capita total expenditure	Maryland	Expenditures ($)							
		Population							
		Per capita expenditures ($)							
		% Change from 2013							
Medicare per capita total expenditure	Maryland	Total Part A Expenditures ($)			4,419,176,140	4,453,864,493	4,647,893,548	4,643,279,641[23]	4,760,107,623
		Part A Beneficiaries			792,589	818,030	843,204	857,336	866,356
		Part A Per capita expenditures ($)			5,576	5,445	5,512	5,416	5,494
		Total Part B Expenditures ($)			3,847,620,277	4,018,654,324	4,281,147,173	4,414,866,281[24]	4,624,152,783

[22] The enrollment data for MD Medicaid and Medicare/Medicaid Dually eligible excludes limited benefit coverage groups, such as individuals who are only eligible for family planning services.

[23] This CY 2016 Medicare FFS Part A expenditures reflect an adjustment of approximately $17.2m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted charges are $4.626 billion.

[24] This CY 2016 Medicare FFS Part B expenditures reflect an adjustment of approximately $7.7m to account for Maryland hospitals' undercharge of their Global Budgets which occurred from July -December 2016. Total unadjusted charges are $4.407 billion.

Goal 26									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
		Part B Beneficiaries			691,255	713,229	734,983	743,868	746,712
		Part B Per capita expenditures ($)			5,566	5,634	5,825	5,935	6,193
		Total Per capita expenditures ($)			11,142	11,079	11,337	11,351	11,687
		% Change from 2013				-0.56%	1.75%	1.60%	4.89%
	National	Total Part A Expenditures ($)			178,838,635,359	178,178,351,596	180,373,125,394	182,814,719,396	183,888,260,472
		Part A Beneficiaries			36,435,042	36,595,134	36,808,487	37,408,582	37,439,857
		Part A Per capita expenditures ($)			4,908	4,869	4,900	4,887	4,912
		Total Part B Expenditures ($)			152,511,071,263	157,348,954,987	163,143,031,967	168,597,171,080	174,312,716,496
		Part B Beneficiaries			32,927,792	32,978,847	33,080,477	33,520,460	33,362,852
		Part B Per capita expenditures ($)			4,632	4,771	4,932	5,030	5,225
		Total Per capita expenditures ($)			9,540	9,640	9,832	9,917	10,136
		% Change from 2013				1.05%	3.06%	3.95%	6.25%
	Maryland	Expenditures ($)			7,575,448,645	8,982,202,145	9,636,095,863		
		Yearly Average Total Member Months			1,275,913	1,503,627	1,567,154		

Goal 26									
Measures	Population		2011	2012	2013	2014	2015	2016	2017
Medicaid per capita total expenditure (includes Dually eligible)[25]		Per capita expenditures ($)			5,937	5,974	6,149		
		% Change from 2013				0.61%	3.56%		
Medicare/Medicaid dual eligibles per capita total expenditure (Medicaid expenditures only)[26]	Maryland	Expenditures ($)			2,055,772,516	2,118,602,765	2,151,976,525		
		Yearly Average Total Member Months			141,075	149,522	155,156		
		Per capita expenditures ($)			14,572	14,169	13,870		
		% Change from 2013				-2.77%	-4.82%		
Private Payer per capita total expenditure	Maryland	Expenditures ($)			7,760,817,042	7,753,726,521	7,817,319,646	7,878,377,510	
		Yearly Average Total Member Months			29,722,861	28,716,584	27,252,709	26,944,898	
		Per capita expenditures ($)			3,132	3,240	3,444	3,504	
		% Change from 2013				3.45%	9.96%	11.88%	

[25] Please note that this row represents total Medicaid enrollment, including those eligible for both full and partial benefits.

[26] These numbers reflect the Medicaid-only portion of expenditures for services for the dually eligible. This includes individuals for which Medicaid pays the Part B premiums only. Medicaid expenditures reflect payments for services only and do not include premiums

Appendix B: Measure Methodology – Supplemental Information

Goal 7. Enhance Care Transitions – Coordination with Primary Care

Follow-Up after Discharge

The measure of post-hospitalization follow-up visit within 14 days is calculated using specifications developed by Mathematica Policy Research (MPR), which are based upon a methodology provided by RTI International.

Post-discharge visits are included in the numerator if the following codes are listed on the carrier line or outpatient revenue files within 14 days of the discharge:

1) Current Procedural Terminology (CPT) codes (HCPCS_CD variable):
99201, 99202, 99203, 99204, 99205, 99211, 99212, 99213, 99214, 99215, 99241, 99242, 99243, 99244, 99245, 99304, 99305, 99306, 99307, 99308, 99309, 99310, 99315, 99316, 99318, 99324, 99325, 99326, 99327, 99328, 99334, 99335, 99336, 99337, 99339, 99340, 99341, 99342, 99343, 99344, 99345, 99347, 99348, 99349, 99350, 99411, 99442, 99443, 99374, 99375, 99376, 99377, 99378, 99379, 99380, 99495, 99496,

2) Revenue center codes 521 or 522 (Outpatient revenue file only- not applicable to Carrier Part B Line file)

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 12. Reduce High-Priority Complications

Central Line-associated Blood Stream Infections

Measure calculation: SIR of healthcare-associated CLABSIs calculated among patients in the ICU.

- Numerator: Total number of observed healthcare-associated CLABSI among patients in ICUs, NICUs, SCAs, and other acute care hospital locations where patients reside overnight.
- Denominator: Total number of expected CLABSIs, calculated by multiplying the number of central line device days for each location under surveillance for CLABSI during the period by the CLABSI rate for the same types of locations obtained from the standard population. Central line device day denominator data that are collected differ according to the location of the patients being monitored.

An SIR greater than 1.0 means that more healthcare-associated infections were observed in a facility or state than predicted, and a SIR less than 1.0 means there were fewer healthcare-associated infections observed than predicted.

Goal 13. Readmissions from Home Health

Home Health Population in these measures excludes:

- Pediatric home health patients.
- Home health patients receiving maternity care only.
- Home health clients receiving non-skilled care only.
- Home health patients for whom the payment source is neither Medicare nor Medicaid.
- Medicare beneficiaries enrolled in a Part C (Medicare Advantage) plan.
- Medicaid beneficiaries who are not also enrolled in Medicare.

Measure Calculation: Percent of home health patients who had to be admitted to the hospital:

Numerator: Number of home health episodes of care for which the assessment completed at the conclusion of the episode indicates the patient was admitted to a hospital for a reason other than a scheduled treatment or procedure.
Denominator: Number of home health episodes of care ending with a discharge or transfer to inpatient facility during the reporting period, other than those covered by generic or measure-specific exclusions.
Exclusions: Home health episodes of care that end in patient death.

Percent of home health patients who had an unplanned urgent visit to an ED:

Numerator: Number of home health episodes of care where Medicare claims indicate the patient required emergency medical treatment from a hospital emergency department during the first 60 days of home health care, but that the patient was not admitted to the hospital as an inpatient.

Denominator: Number of home health episodes of care beginning during the reporting period, other than those covered by generic or measure-specific exclusions.

Exclusions: 1) Home health stays for patients who are not continuously enrolled in fee-for-service Medicare for the 6 months before or 60 days after the start of the home health stay or until death; 2) Home health stays that begin with a Low Utilization Payment Adjustment (LUPA) claim; 3) Home health stays in which the patient receives service from multiple agencies during the first 60 days.

Source: https://data.medicare.gov/data/archives/home-health-compare
NOTE: These data present Calendar Year data for the specified years in the table. For more information, please see: https://www.medicare.gov/HomeHealthCompare/Data/Current-Data-Collection-Periods.html#.

Goal 14. 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.

Data Source: HSCRC inpatient discharge abstract data with CRISP unique patient enterprise identifiers

(EIDs) for 2012-2016. Discharge disposition to a nursing home (code 71) is self-reported by hospitals.

Goal 15. Reduce Readmissions from Hospital

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 26. Control Expenditure Growth – All Health Services

Per Capita Total Expenditures for Medicaid Enrollees

The Medicaid Total Cost of Care report consists of three main parts:

- **Enrollment**: Beneficiaries
- **Institutional Claims:** Claims submitted as Universal Billing (UB) forms
- **Professional Claims:** Claims submitted as CMS 1500 forms

Each part of the TCOC report is stratified by geography, market segment, and age categories. This stratification varies depending upon the submitting entity. The goal of this report is to classify every Maryland resident claim into exactly one of the TCOC categories with no duplication of claims and no splitting of claims.

Table of Tables

Table of Figures