



STATEWIDE INTEGRATED HEALTH IMPROVEMENT STRATEGY (SIHIS): SIHIS DIRECTIONAL INDICATORS REPORT USER GUIDE

User Guide 2.1

July 29, 2022

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1 BACKGROUND & INTRODUCTION

In 2019, the State of Maryland collaborated with the Center for Medicare and Medicaid Innovation (CMMI) to establish the domains of health care quality and delivery that the State could impact under the Total Cost of Care (TCOC) Model. The collaboration also included an agreed upon process and timeline by which the State would submit proposed goals, measures, milestones, and targets to CMMI. As a result of the collaboration with CMMI, the State entered into a Memorandum of Understanding (MOU) that required Maryland to provide a proposal for the Statewide Integrated Health Improvement Strategy (SIHIS) to CMMI by December 31, 2020. The SIHIS aligns statewide efforts across three domains that are interrelated and, if addressed successfully, have the potential to make significant improvement in not just Maryland's healthcare system, but in the health outcomes of Marylanders. CMMI approved the State's SIHIS proposal in March 2021.

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

| Domain Area | Goal(s) |
|----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Domain 1 – Hospital Quality | Reduce avoidable admissions and readmissions |
| Domain 2 – Care Transformation Across the System | Increase the amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), Care Redesign Program, or successor payment model Improve care coordination for patients with chronic conditions |
| Domain 3 – Total Population Health "Diabetes" | Reduce the mean Body Mass Index (BMI) for adult Maryland residents |
| Domain 3 - Total Population Health "Opioid Use Disorder" | Improve overdose mortality |
| Domain 3 - Total Population Health "Maternal and Child Health" | Reduce severe maternal morbidity rate Decrease asthma-related emergency department visit rates for ages 2-17 |

Many of the data sources used for official SIHIS monitoring are calculated annually on delayed data sources. Therefore, when needed, CRISP and hMetrix partnered together with HSCRC and MDH to develop a series of reports using proxy measures and available data sources. As such, this reporting suite is referred to as "directional indicators" for the SIHIS measures.

The SIHIS Directional Indicator reports include either proxy or actual measures for all of the SIHIS goals. The SIHIS reporting suite has separate modules for each domain: Hospital Quality; Care Transformation across the System; and Population Health.

1.1 Software Requirements

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

1.2 Launching SIHIS Reports

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

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



Log in to CRISP Reporting Services (CRS) Portal

Email

Next

[Reset your password?](#)

Warning: CRISP policy prohibits username and password sharing. Violation could result in account termination.

Questions or Concerns? Please contact the [CRISP Customer Care Team](#) at support@crisphealth.org or 877-952-7477.

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Log in to CRISP Reporting Services (CRS) Portal

Password

Login

[Reset your password?](#)

Warning: CRISP policy prohibits username and password sharing. Violation could result in account termination.

Questions or Concerns? Please contact the [CRISP Customer Care Team](#) at support@crisphealth.org or 877-952-7477.

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

SIHIS Directional Indicator Dashboard



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

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



Step 5: Once the reporting suite opens, users can access reports across all domains using the left-side menu.

2 CARE TRANSFORMATION ACROSS THE SYSTEM

The Care Transformation Across the System module of the SIHIS Directional Indicators reports includes reporting for the following measures:

1. Medicare TCOC or beneficiaries under Care Transformation Program
2. Care coordination for patients with chronic conditions (timely follow-up after discharge)

In this section, we present the construct of the formal measure.

2.1 Care Transformation: Total Cost of Care

A description of the formal measure is presented in the table below.

| Element | Formal Measure |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure | Increase amount of Medicare TCOC or number of Medicare beneficiaries under Care Transformation Initiatives (CTIs), Care Redesign Programs, or successor payment models. |
| Comparison/Trend | Medicare payments and count of Medicare FFS beneficiaries enrolled in Care Transformation Initiatives (CTIs), Care Redesign Programs, or successor payment models compared to measure targets. Annual measure whereas completed calendar year is compared to measure targets. |
| Data Sources (Numerator & Denominator) | Medicare Claim and Claim Line Feed data (CCLF) |
| Time Period for Baseline | Statewide as of December 31, 2018 |
| Time Period for Measurement Period | Updated monthly for the full calendar year |
| Population | Maryland Medicare FFS beneficiaries |

2.1.1 Care Transformation Total Cost of Care Report Design and Function

The Total Cost of Care report is designed with the following features:

1. An introduction to the formal measure
2. Key findings related to overall measure performance and current racial/ethnicity disparities across the State
3. Tabular and graphic depiction of measure performance over time by year. Chart x-axis shows one calendar year (January through December); chart lines allow for comparison of performance year over year by selecting years of interest from drop down. Chart can be shown in counts (beneficiaries or dollars) or rates (percent of total beneficiaries or dollars)
4. Tabular and graphic depiction of measure performance by year, race/ethnicity.
5. Ability to print the report to PDF for distribution outside of the application
6. The figure below highlights key aspects of the report.

SIHIS Directional Indicator Dashboard

Care Transformation Across the System

Introduction: Introduction to formal SIHIS measure

The official SIHIS measure aims to capture the percent of Maryland's fee for service beneficiaries and total cost of care (TCOC) covered by statewide care transformation programs. These programs include Care Transformation Initiatives (CTIs), Care Redesign Programs (ECIP, EQIP), or any successor payment models as they are developed. Maryland's success in the measure is defined as exceeding the measures target.

This report aligns with the specifications of the formal SIHIS measure.

Refer to the User Guide for information about the data sources, parameters, and condition-specific follow-up timeframes for this measure.

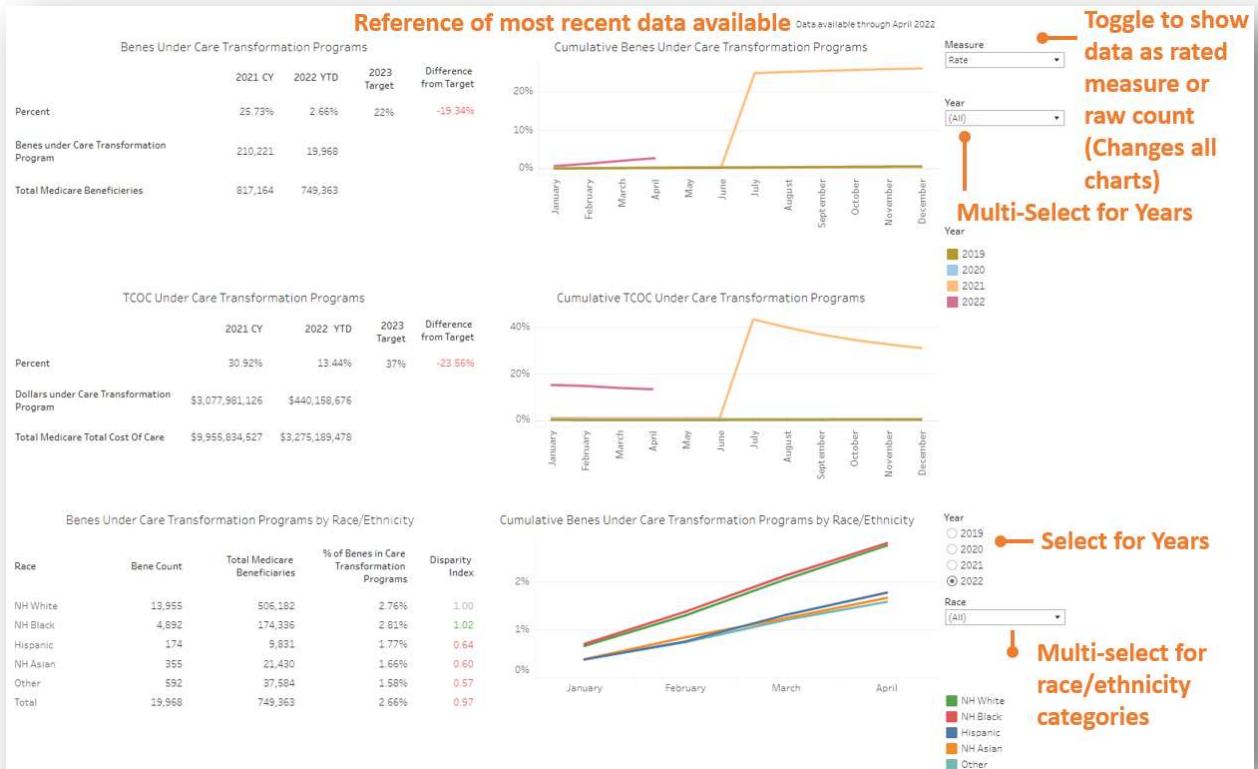
Reported Measure: Definition of reported measure presented in this report

The proportion of Medicare fee for service beneficiaries enrolled in a care transformation program and their associated total cost of care.

Key Findings: Key findings based on the overall state

- Maryland has enrolled 2.66% of its Medicare fee-for-service beneficiaries in a Care Transformation Program year to date. This is -19.34% percentage points below the 2023 target of 22%.
- Beneficiaries enrolled in a Care Transformation Program account for 6.72% of Maryland's Medicare Total Cost of Care year to date. This is 30.26% percentage points lower than the 2023 target of 37%.
- By Race/Ethnicity, 1.58% of Other are enrolled in a Care Transformation Program, which is the lowest proportion among all race/ethnicities.

Some Care Redesign programs allow for panel-based episodes that begin on the first day of the performance period. Therefore, all beneficiaries included in these panel-based episodes will be included in January or July (depending on whether the program runs on a calendar or fiscal year basis), the first month of each new performance period, and will produce significant spikes in enrollment. As measures are calculated on a calendar year to date basis, state performance is understated until July data are available.



Care Transformation: Timely Follow Up After Discharge

A description of the formal measure is presented in the table below.

| Element | Formal Measure |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure | Timely follow up (within the timeframe recommended by clinical practice guidelines) after an acute exacerbation of chronic conditions ¹ <ul style="list-style-type: none"> Acute exacerbation is defined as an emergency Room [ED], observation hospital stay or inpatient hospital stay Chronic conditions include hypertension, asthma, heart failure (HF), coronary artery disease (CAD), chronic obstructive pulmonary disease (COPD), or diabetes |
| Comparison/Trend | Change in rate from 2018 baseline compared to national measure targets |
| Data Sources (Numerator & Denominator) | Medicare Claim and Claim Line Feed data (CCLF) |
| Time Period for Baseline | Statewide cumulative annual average timely follow-up rate across all conditions as of December 31, 2018 |
| Time Period for Measurement Period | Updated annually for the full calendar year |
| Population | Maryland Medicare beneficiaries with an inpatient admission, ER visit or observation hospital stay for an acute exacerbation of one of the chronic conditions of interest. |

The recommended follow-up times following an acute exacerbation of an event are:

| Chronic Condition | Recommended Follow-up after Discharge |
|---------------------------------------|---------------------------------------|
| Hypertension | 7 days |
| Asthma | 14 days |
| Heart Failure | 14 days |
| Coronary Artery Disease | 14 days |
| Chronic Obstructive Pulmonary Disease | 30 days |
| Diabetes | 30 days |

The Timely Follow Up After Discharge measure was developed according to a health plan measure designed by IMPAQ International on behalf of CMS. According to IMPAQ specifications, acute events for which the calendar year ends before the follow-up window ends are excluded from the measure.

More detail on the measure specifications can be found here: <https://impaqint.com/measure-information-timely-follow-after-acute-exacerbations-chronic-conditions>

2.2.1 Care Transformation Timely Follow-Up Report Design and Function

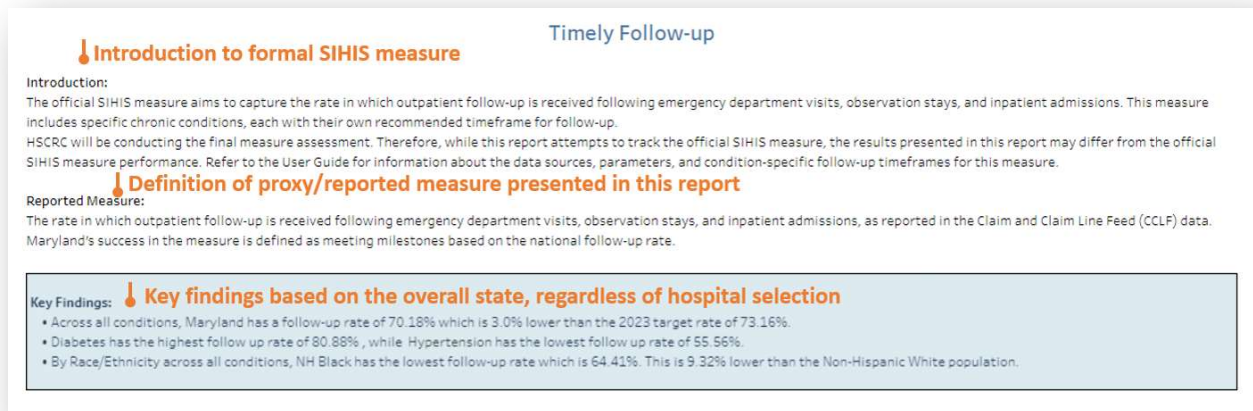
¹ Final Recommendation for QBR Policy, from which the measure is developed:

https://hsrc.maryland.gov/Documents/Quality_Documents/QBR/R2023/QBR%20R23%20FINAL%202020-12-02%20FINAL%20Final_%20For%20Web.pdf

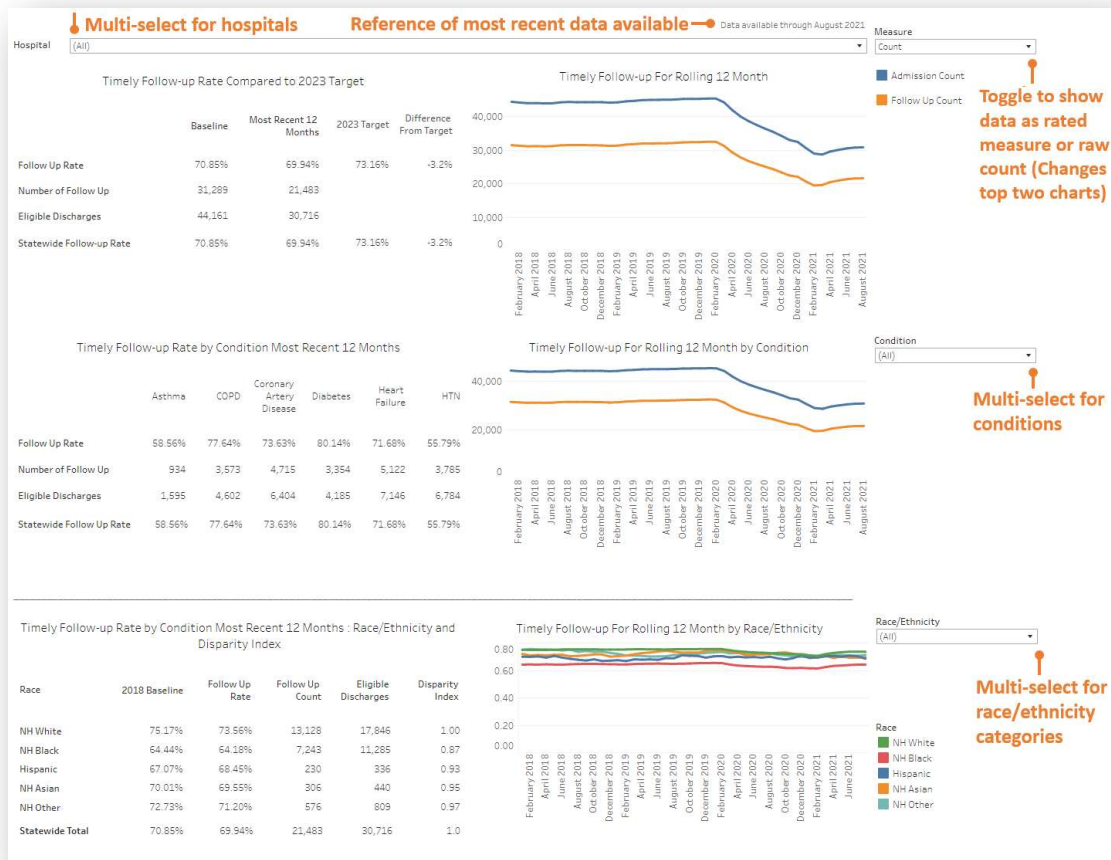
The Timely Follow-Up report is designed with the following features:

1. An introduction to the formal measure
2. Key findings related to overall measure performance and current racial/ethnicity disparities across the State
3. Tabular and graphic depiction of measure performance over time in total and by chronic condition, by hospital or for the state overall
4. Tabular and graphic depiction of measure performance in total by race/ethnicity.
5. Ability to print the report to PDF for distribution outside of the application

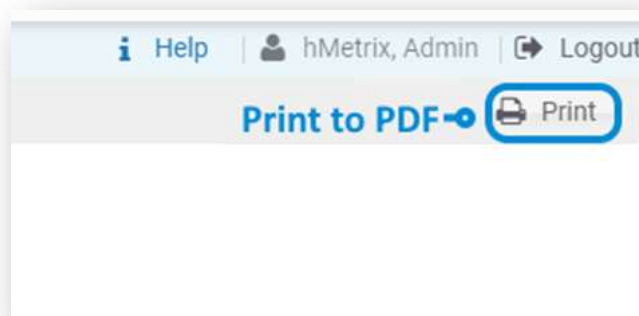
The figure below highlights key aspects of the report.



SIHIS Directional Indicator Dashboard



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



3 POPULATION HEALTH

The Population Health module of the SIHIS reports includes reporting for the following measures within the Population Health Domain:

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

3.1 Comparison of Formal SIHIS and Proxy Measures

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

3.1.1 Opioid Use Disorder Domain: Overdose Fatalities

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

| Element | Formal Measure | Proxy Measure |
|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure | <ul style="list-style-type: none"> • Drug overdose mortality rate per 100,000 Maryland Residents • Age-adjusted • Includes all drugs/substances | <ul style="list-style-type: none"> • Drug overdose fatality rate per 100,000 Maryland Residents • Not age-adjusted • Includes all drugs/substances |
| Comparison/Trend | Change in rate from 2018 baseline compared to cohort of states with similar mortality rates and demographics. As of report release, the methodology for identifying and quantifying the overdose fatality rate for the comparison states is not available. | Change in rate from 2018 baseline compared to national change from 2018 baseline |
| Data Sources Numerator | Maryland & Cohort: National Vital Statistics System, available through Center for Disease Control (CDC) Wonder Database ² | Maryland: Office of the Chief Medical Examiner (OCME) Enhanced Data Nation: National Vital Statistics Rapid Release Provisional Data ³ |
| Data Sources Denominator | Maryland & Cohort: ⁴ | Maryland: MD Department of Planning Maryland population estimates ⁵ |

² <https://www.cdc.gov/drugoverdose/deaths/2019.html>

³ <https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm>

⁴ <https://www.cdc.gov/drugoverdose/deaths/2019.html>

⁵ https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx

SIHIS Directional Indicator Dashboard

| Element | Formal Measure | Proxy Measure |
|-------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time Period for Baseline | Maryland & Cohort: 12-month rolling average as of December 31, 2018 | Maryland & Nation: 12-month rolling average as of December 31, 2018 |
| Time Period for Measurement Period | Maryland & Cohort: Updated annually, approximately a 2-year delay in reporting | Maryland: Updated monthly, approximately 2-month delay in reporting Nation: Updated monthly, approximately 7-month delay in reporting |
| Population | Residents of Maryland | Deaths that occurred in Maryland regardless of residency |

3.1.2 Diabetes Domain: Diabetes Prevention Recognition Program (DPRP)

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

| Element | Formal Measure | Proxy Measure |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure | Reduction in mean body mass index (BMI) for adult Maryland residents | Cumulative enrollment of adult Maryland residents in diabetes prevention recognition programs |
| Comparison/Trend | Change in rate from 2018 baseline compared to cohort of states. As of report release, the methodology for identifying and quantifying the overdose fatality rate for the comparison states is not available | Change in cumulative enrollment from 2018 baseline compared to national change from 2018 baseline |
| Data Sources Numerator | Maryland & Cohort: Behavioral Risk Factor Surveillance Survey (BRFSS) ⁶ | Maryland & Nation: Centers for Disease Control (CDC) programmatic data |
| Data Sources Denominator | Maryland & Cohort: Behavioral Risk Factor Surveillance Survey (BRFSS) | Maryland & Nation: MD Department of Planning Maryland population estimates for ages 18 and over ⁷ Estimate of individuals with pre-diabetes based on Maryland Diabetes Action Plan (34% of adult population) ⁸ |
| Time Period for Baseline | Maryland & Cohort: Statewide average BMI for 12-month rolling average as of December 31, 2018 | Maryland & Nation: Cumulative enrollment as of December 31, 2018 |
| Time Period for Measurement Period | Maryland & Cohort: Updated annually, approximately 18-month delay in reporting | Maryland & Nation: Updated quarterly, approximately 1-month delay in reporting |
| Population | Maryland residents over 18 years old | Maryland residents over 18 years old with pre-diabetes |

⁶ https://www.cdc.gov/brfss/annual_data/annual_2020.html

⁷ https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx

⁸ <https://health.maryland.gov/phpa/ccdpc/Documents/Diabetes%20Action%20Plan%20documents/Diabetes%20Action%20Plan%20June%201%202020.pdf>

3.1.3 Maternal and Child Health: Severe Maternal Morbidity Hospitalizations

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

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

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

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

| Element | Formal Measure |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Measure | Childhood asthma-related emergency department visits per 1,000 children ages 2 – 17 years old |
| Comparison/Trend | Rate of asthma-related emergency department visits compared to measure targets |
| Data Sources Numerator | HSCRC Case Mix Data; Asthma defined according to AHRQ CCS category |
| Data Sources Denominator | MD Department of Planning Maryland population estimates for ages 2 - 17 ¹¹ |
| Time Period for Baseline | Statewide average annual rate of childhood asthma-related emergency department visits as of December 31, 2018 |
| Time Period for Measurement Period | Statewide average rate of childhood asthma-related emergency department visits for the most recent rolling 12 months |
| Population | Maryland residents ages 2-17 |

⁹ <https://safehealthcareforeverywoman.org/aim/resources/aim-data-resources/>

¹⁰ <https://mchb.tvisdata.hrsa.gov/uploadedfiles/TvisWebReports/Documents/FADResourceDocument.pdf>

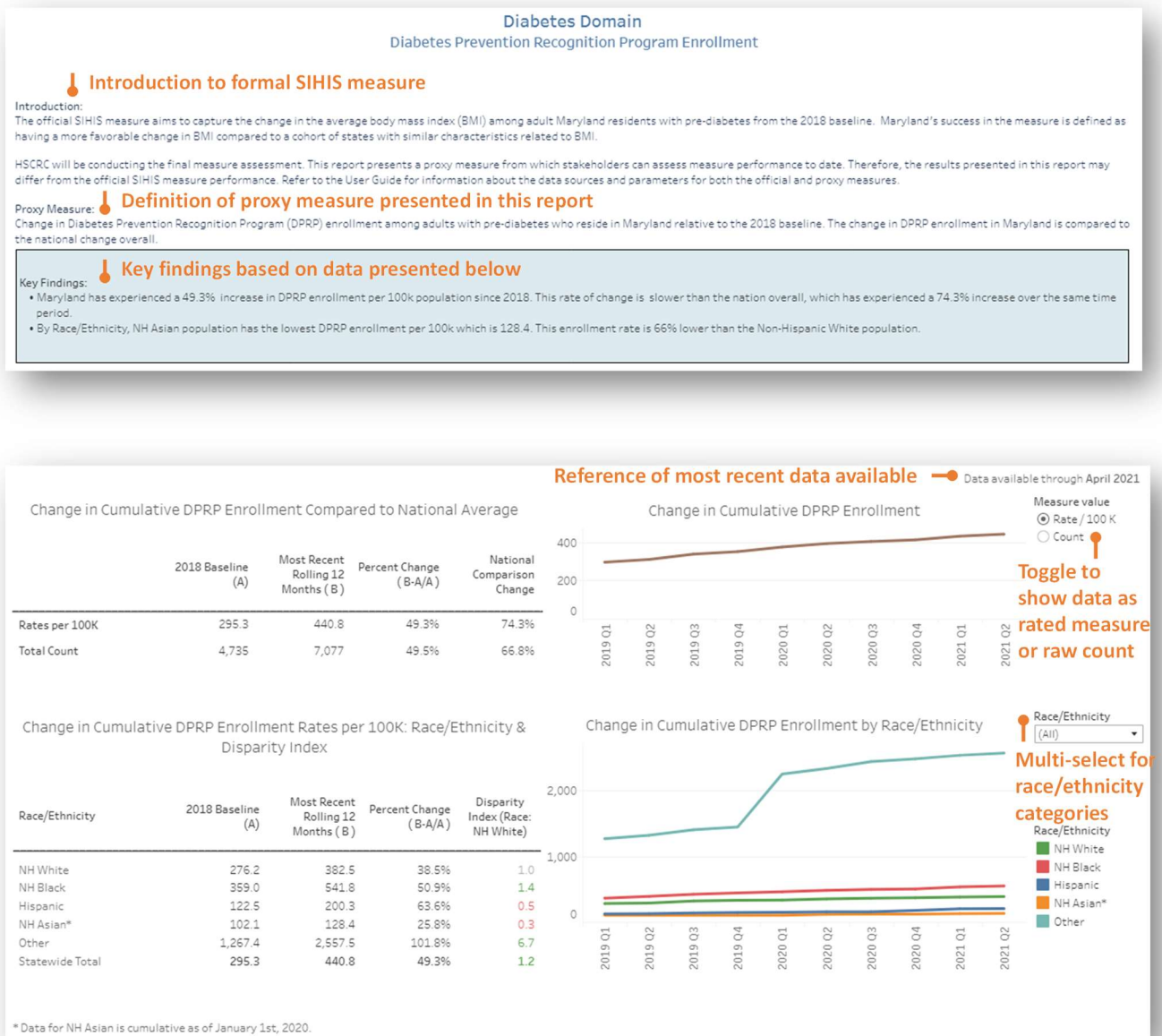
¹¹ https://planning.maryland.gov/MSDC/Pages/pop_estimate/CensPopEst.aspx

3.2 Report Design and Function

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

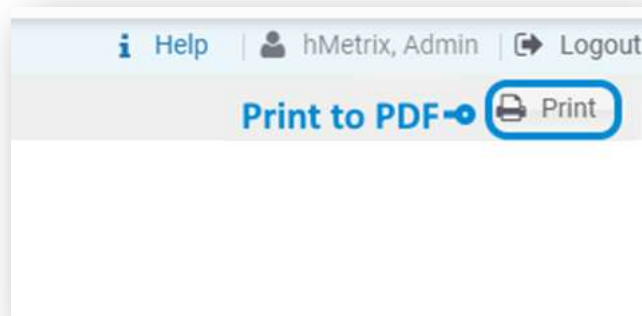
1. An introduction to the formal and proxy measure
2. Key findings related to overall measure performance and current racial/ethnicity disparities
3. Tabular and graphic depiction of overall performance over time as well as performance by race/ethnicity
4. Ability to print the report to PDF for distribution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

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

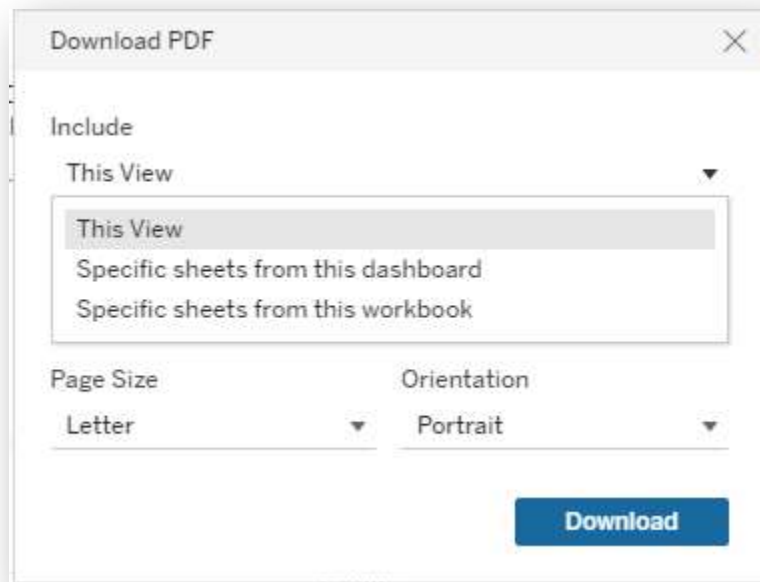


SIHIS Directional Indicator Dashboard

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



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



4 HOSPITAL QUALITY

The Hospital Quality module of the SIHIS reports includes reporting for the following measures within the Hospital Quality Domain:

1. Avoidable Admissions
2. Readmission rates

At the time of this release, reporting for readmission rates is not yet available.

4.1 Formal SIHIS Measures

In this section, we present the construct of the formal measure.

4.1.1 Hospital Quality: Reduce Avoidable Admissions

A description of the formal measure is presented in the table below.

| Element | Formal Measure |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure | Avoidable admissions based on Risk-Adjusted PQI-90 Rates |
| Comparison/Trend | Change in rate from 2018 baseline compared to measure targets |
| Data Sources Numerator | HSCRC Case-Mix Data run through AHRQ PQI Software; Discharges for patients ages 18 years and older that meet inclusion and exclusion rules for each of the specific PQI Admissions (observed PQIs) |
| Data Sources Denominator | HSCRC Case-Mix Data run through AHRQ PQI Software; Expected PQI admissions based on the Maryland population ages 18 years and older. The observed to expected ratio is multiplied by the national PQI rate to get risk-adjusted PQI rate. |
| Time Period for Baseline | Statewide average PQI rate as of December 31, 2018 |
| Time Period for Measurement Period | Statewide average PQI rate for the most recent rolling 12 months |
| Population | All-Payer Maryland Residents 18 years or older admitted to Maryland hospitals |

4.2 Report Design and Function

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

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

SIHIS Directional Indicator Dashboard

The figures below highlight key aspects of the reports, using the Avoidable Admissions as an example.

Introduction to formal SIHIS measure

Introduction:
The official SIHIS measure aims to capture the risk adjusted rate of PQI events per 100k Maryland residents. This measure uses the PQI-90 composite rate per 100k to measure PQI events.

This report aligns with the specifications of the formal SIHIS measure.

Maryland's success in the measure is defined as meeting improvement milestones for the PQI event rate. Refer to the User Guide for information about the data sources, parameters, and condition-specific follow-up timeframes for this measure.

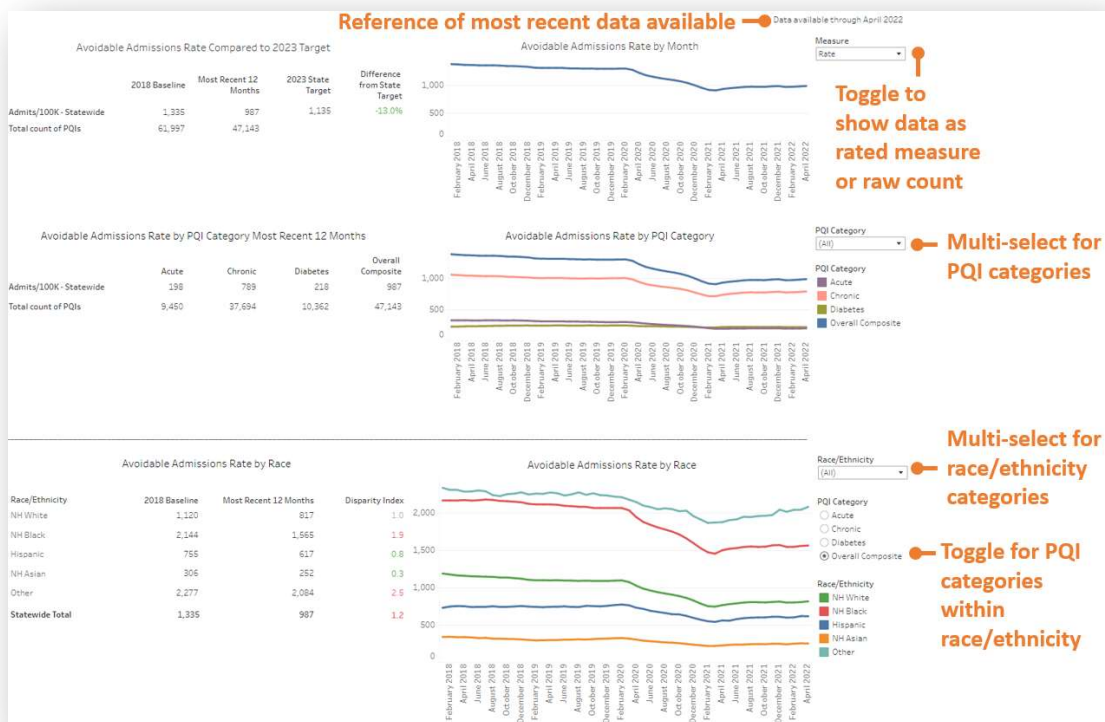
Avoidable Admissions

Definition of formal measure presented in this report

Key findings based on data presented below

Key Findings:

- Across all PQI's, Maryland has a PQI rate of 987 per 100K residents, which is a 26% decrease from 2018 baseline. The current PQI rate is 148 admits per 100K (or -13.0%) below the 2023 year 5 target rate.
- By Race/Ethnicity across all PQI events, Other has the highest disparity index with a PQI rate that is 2.5 times greater than the Non-Hispanic White population.
- The PQI rate of Other is 1,266 PQI admits per 100K higher than the NH White population.



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

