



maryland
health services
cost review commission

Quality Based Reimbursement Redesign Subgroup to the Performance Measurement Workgroup

March 17, 2021

Agenda

1. Welcome! (5)
2. QBR purpose in context (within Quality programs, within TCOC Model) (5-10)
3. Scope of subgroup (15)
 - a. Expectation of members
 - b. Challenges with QBR program re-design
 - c. Feasibility of implementing updates and new measures
 - d. Work plan
4. QBR methodology (5)
5. Brief overview of current statewide and/or hospital performance (10)
6. HCAHPS (1h 20m)
 - a. Literature Review and HCAHPS Hospital Survey (15)
 - b. MHA Presentation (10)
 - c. HSCRC HCAHPS hospital survey findings (5)
 - d. Trend analysis and Correlations (25)
 - e. Discussion (20)
7. Wrap up
 - a. New topic for next meeting: NHSN (5)

QBR Program Purpose and Context

QBR Guiding Principles Consistent for All HSCRC Performance-Based Payment Programs

- Improve care for **all patients**, regardless of payer
- Incentives should support achievement of Total Cost of Care Model targets
- Prioritize high volume, high cost, opportunity for improvement, and areas of national focus
- Use **predetermined** performance targets and financial impact
- Provide hospital **ability to track progress**
- Reduce disparities and achieve **health equity**
- Encourage cooperation and **sharing of best practices**
- Consider **all settings of care**

RY 2021 VBP Exemption Granted, Concerns Raised

- CMS “used their discretion” to grant the State of Maryland's exemption on the basis of **expected QBR performance improvement**, favorable performance improvement under MHAC, and consistent performance under RRIP that has exceeded national outcomes.
- For Quality Based Reimbursement (QBR):
 - Maryland's performance in HCAHPS and NHSN lags behind the Nation.
 - CMS supports program redesign using a focused subgroup.
 - In the interim, the State submitted a **high-level work plan** to address CMS’ concerns related to QBR, including:
 - redesign subgroup **objectives**;
 - outline of the **actionable strategies** required to accomplish each objective; and
 - an associated project milestone **timeline**.

QBR Redesign Purpose and Goals

- QBR is one of several performance-based payment programs in Maryland, and is most analogous to the national Hospital Value-Based Purchasing (HVBP) program
- QBR program must meet or exceed the cost and quality outcomes of the national HVBP program
- QBR program must support achievement of the TCOC model goals (better care with improved health outcomes, while slowing the growth of health spending)
 - Measurement that aligns with Statewide Health Improvement Strategy (SIHIS)
- Within the scope specified, the goals of the Subgroup will include review and recommendations for:
 - Updating **measures** in the QBR program
 - Updating the **scoring and incentives**
 - Identifying measurement **data sources**

QBR Subgroup Meeting Dates and Anticipated Topics

March 17-

- Subgroup overview
- HCAHPS

April 21-

- NHSN HAI measures
- ED Wait Times

May 19-

- SIHIS-aligned measures: Follow-up after discharge (all-payer population, behavioral health); other care coordination measures?
- Refinement of existing measures: 30-day all-payer mortality, THA-TKA all-payer measure

June 16-

- Outpatient measure expansion options: THA/TKA, outpatient surgery and colonoscopy hospital return
- Other measure topics: e.g., sepsis, maternal health, palliative care

July 21-

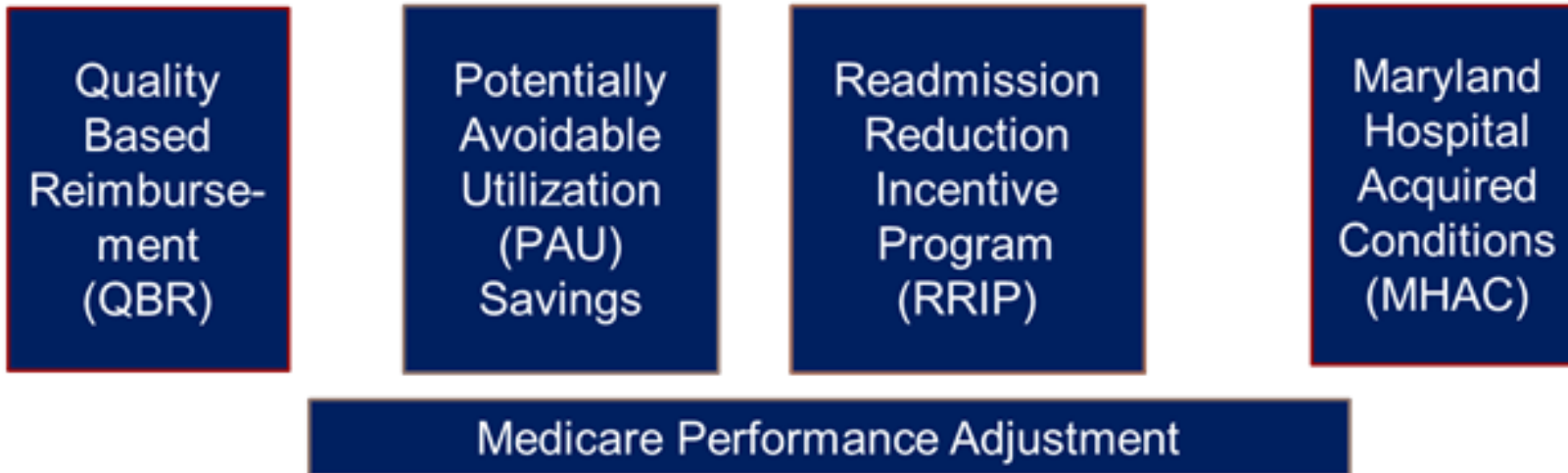
- Finalize subgroup recommended updates



Report to CMMI on QBR redesign process and decisions due mid August

Background: QBR Program In Maryland

Maryland



CMS National



RY 2023 QBR Program

List of Included Measures

QBR Domain Weights



Person & Community Engagement (PCE)

- Communication with nurses
- Communication with doctors
- Responsiveness of hospital staff
- Communication about medicine
- Cleanliness and quietness
- Discharge information
- Care transition measure
- Overall rating of hospital
- Follow up after acute exacerbation of chronic condition

Safety

- CLABSI
- CAUTI
- MRSA
- CDIFF
- SSI Colon*
- SSI Hyst*

Clinical Care

- Inpatient Mortality
- Hip/Knee Replacement Complication

*The SSI colon and hysterectomy categories are combined resulting in five Safety measures.

QBR RY 2023 Base and Performance Periods

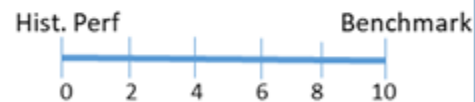
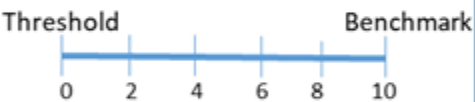
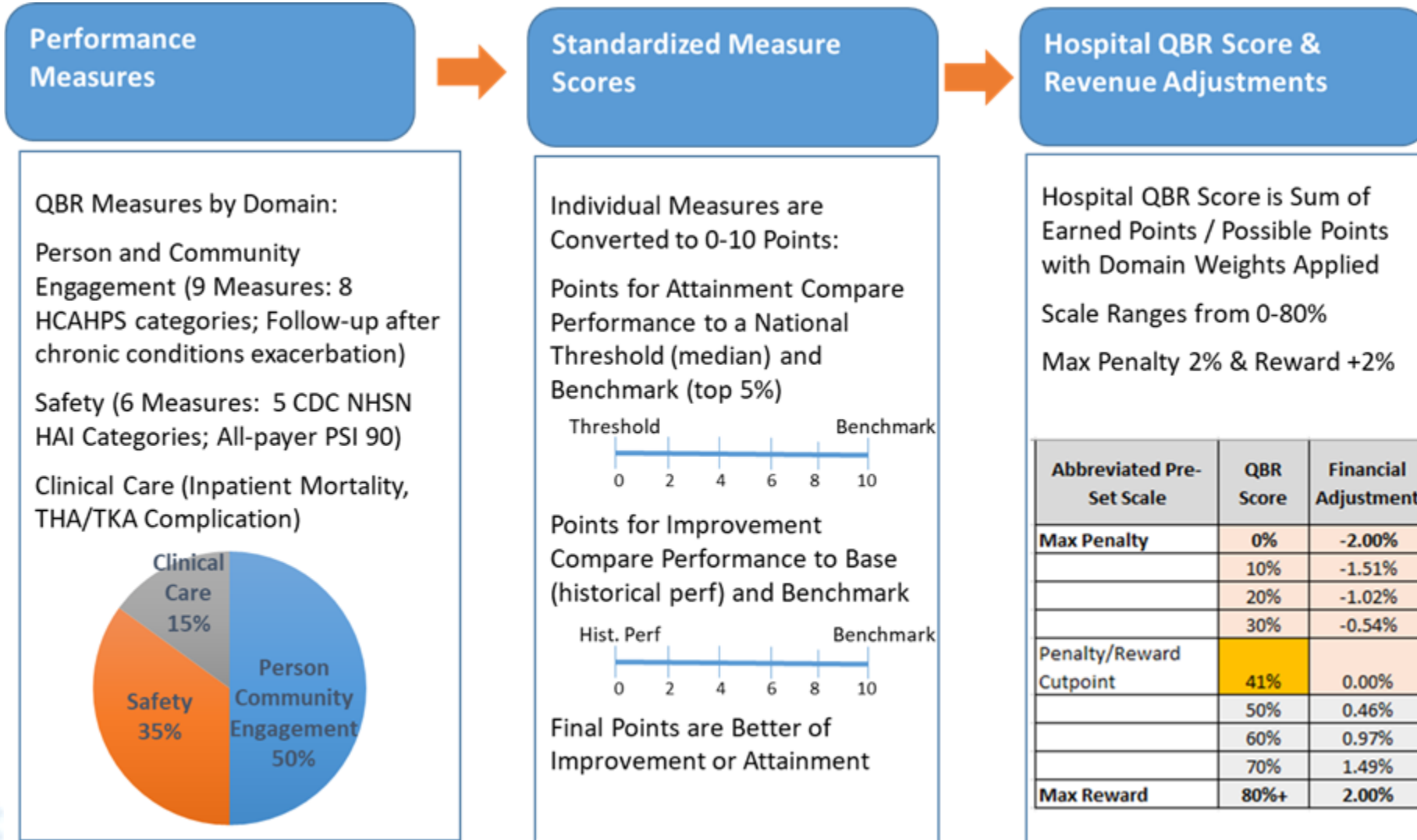
Rate Year (Maryland Fiscal Year)	Q3-18	Q4-18	Q1-19	Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23	Q3-23	Q4-23		
Calendar Year	Q1-18	Q2-18	Q3-18	Q4-18	Q1-19	Q2-19	Q3-19	Q4-19	Q1-20	Q2-20	Q3-20	Q4-20	Q1-21	Q2-21	Q3-21	Q4-21	Q1-22	Q2-22	Q3-22	Q4-22	Q1-23	Q2-23		
Quality Based Reimbursement (QBR) Base and Performance Periods					CMS Hospital Compare Base Period (HCAHPS measures, all CDC NHSN measures)																			
												CMS Hospital Compare Performance Period (HCAHPS measures, all CDC NHSN measures)												
					Base Period Inpatient Mortality, PSI-90, Follow-up Chronic Conditions																			
													Performance Period Inpatient Mortality, PSI-90, Follow-up Chronic Conditions											
		CMS Hospital Compare THA/TKA Performance Period*X																						

Rate Year Impacted by QBR Results

*Hospital Compare THA /TKA Complications Base Period April 1, 2013- March 31, 2016

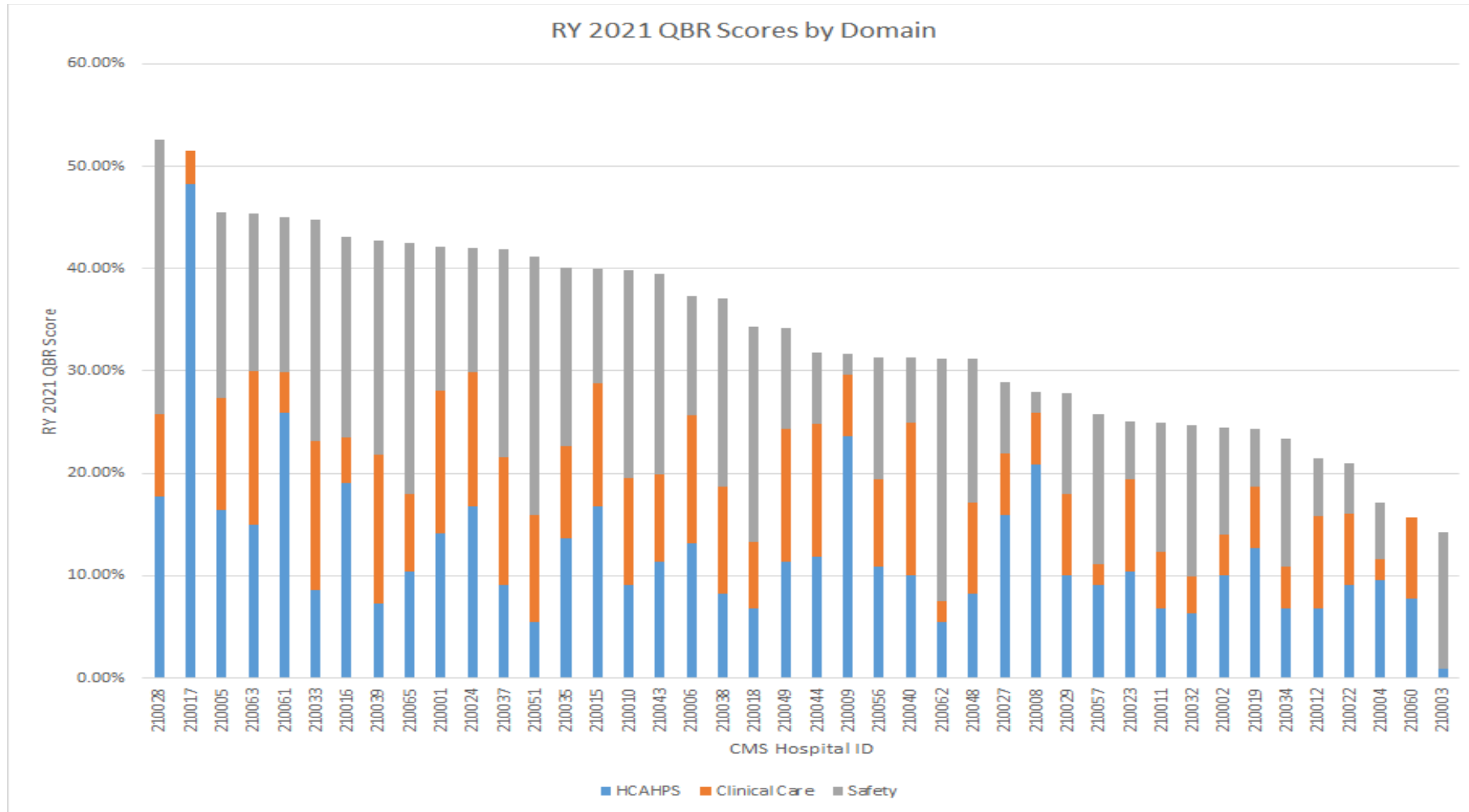
X CMS announced they will not use data for CY Quarters 1 and 2 for the quality pay for performance programs due to COVID-19 PHE; staff will consider options as CMS publishes updated measure performance period.

RY 2023 QBR Overview of Measurement, Scoring and Revenue Adjustments

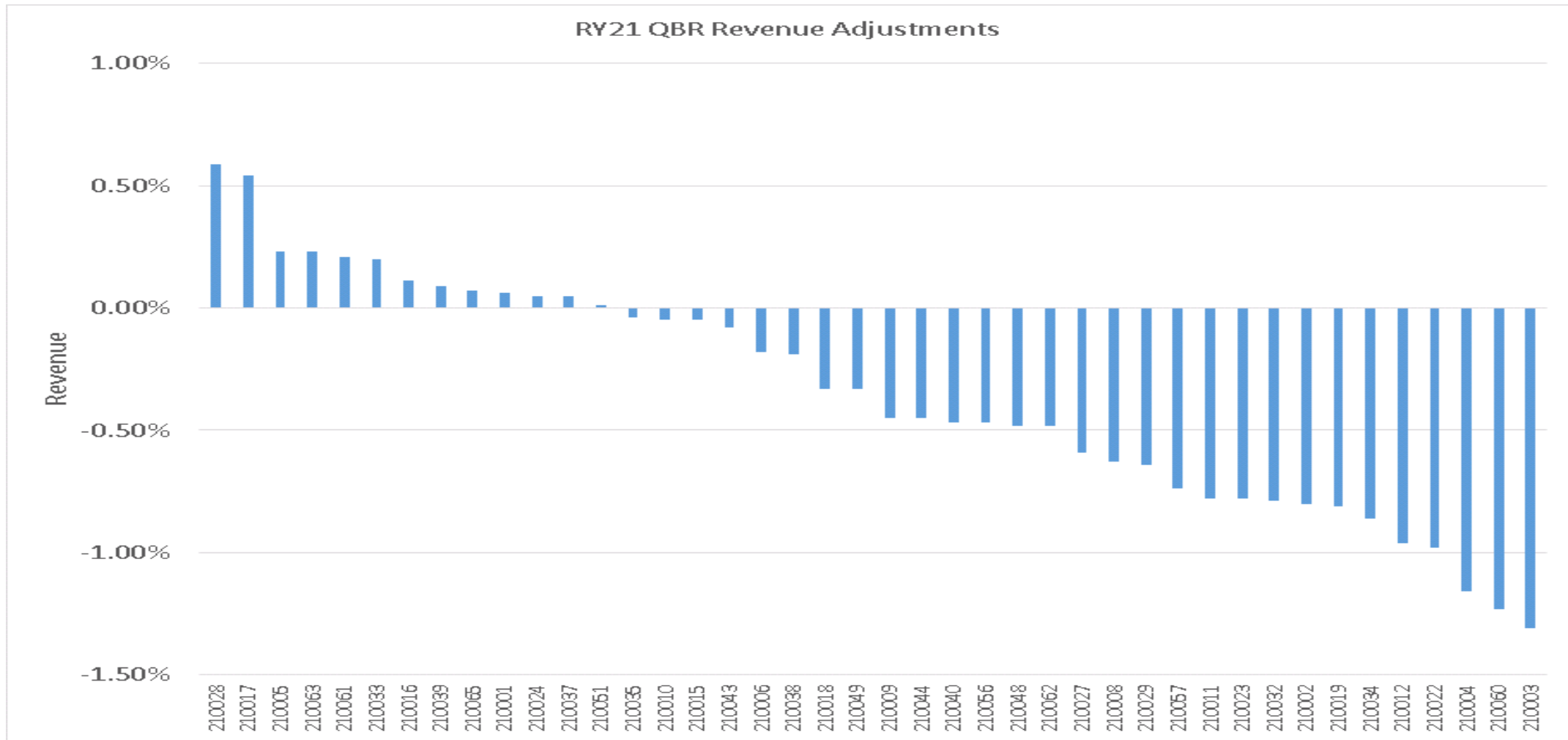


Hospital QBR Performance RY 2021

RY 2021 QBR Hospital Scores with Domains



RX 2021 Hospital Revenue Adjustments



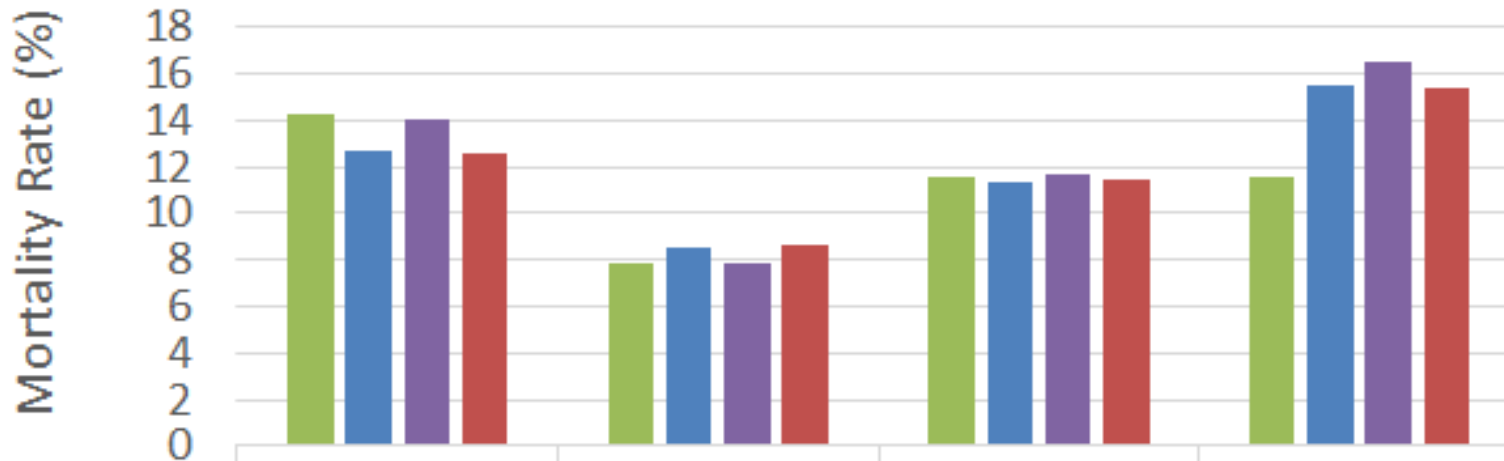
Performance By Domain on QBR and VBP Measures RY 2021

Maryland Performance Data

- CMMI data comparing MD vs. the Nation on measures in VBP program
 - FFY 2021 VBP
 - Base: CY17
 - Performance: CY19 (or longer for specific measures)
 - New data, differs from Hospital Compare where non-VBP hospitals may be included
- Data is also provided for Maryland QBR specific measures
 - Inpatient All-Cause mortality
 - All-payer PSI
 - Follow-up after acute exacerbation from chronic condition
 - ED wait times (currently discontinued in QBR)

Clinical Care Domain: VBP Condition-Specific Mortality

Data Source: CMMI
Data Time Period: FFY 2021 Base and Performance



	AMI	COPD	HF	PN
■ MD Baseline	14.23	7.80	11.59	11.54
■ MD Performance	12.69	8.47	11.29	15.44
■ National Baseline	14.01	7.82	11.71	16.51
■ National Performance	12.60	8.64	11.49	15.37

Performance Period

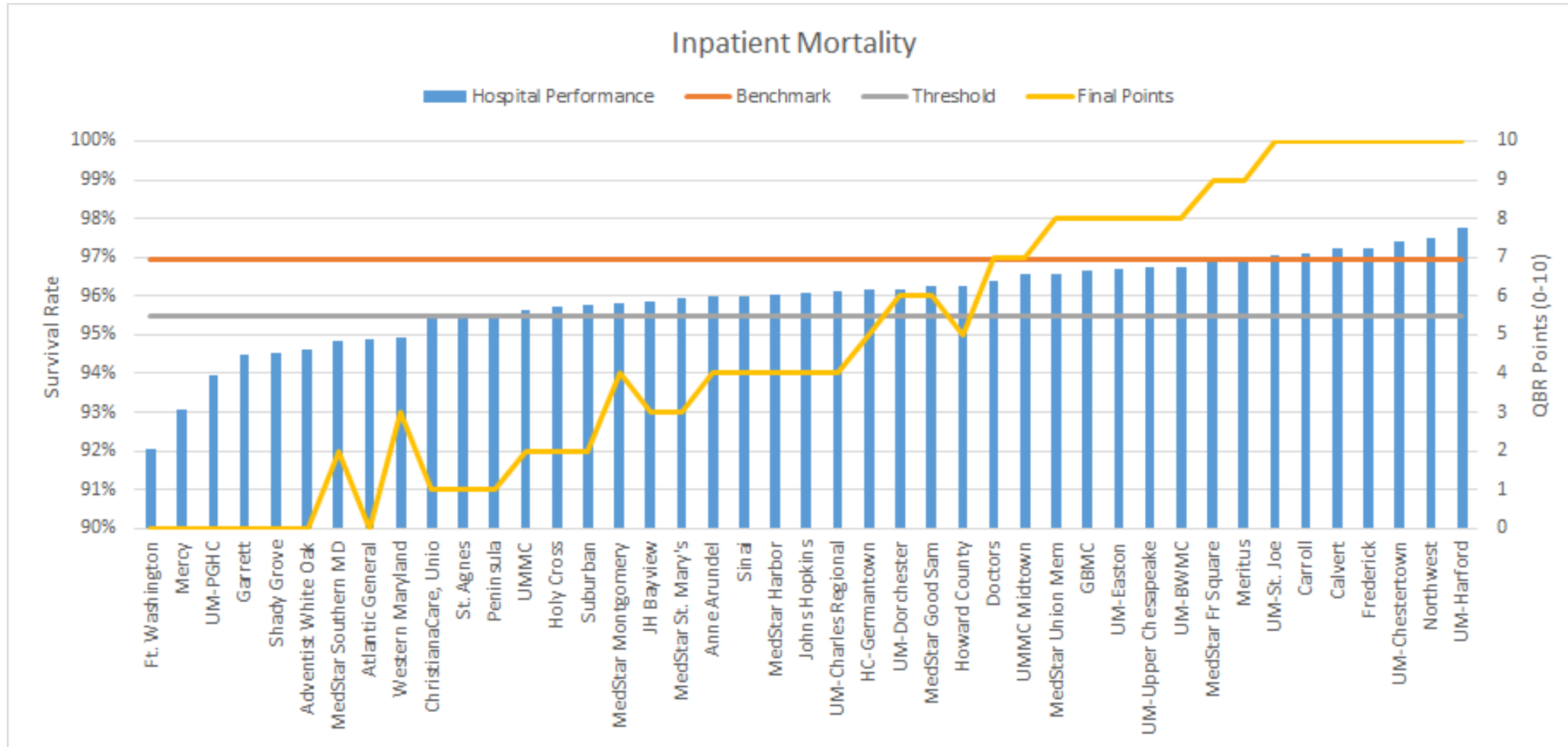
Maryland performs better than the National VBP hospitals on:

- Chronic Obstructive Pulmonary Disease
- Heart Failure

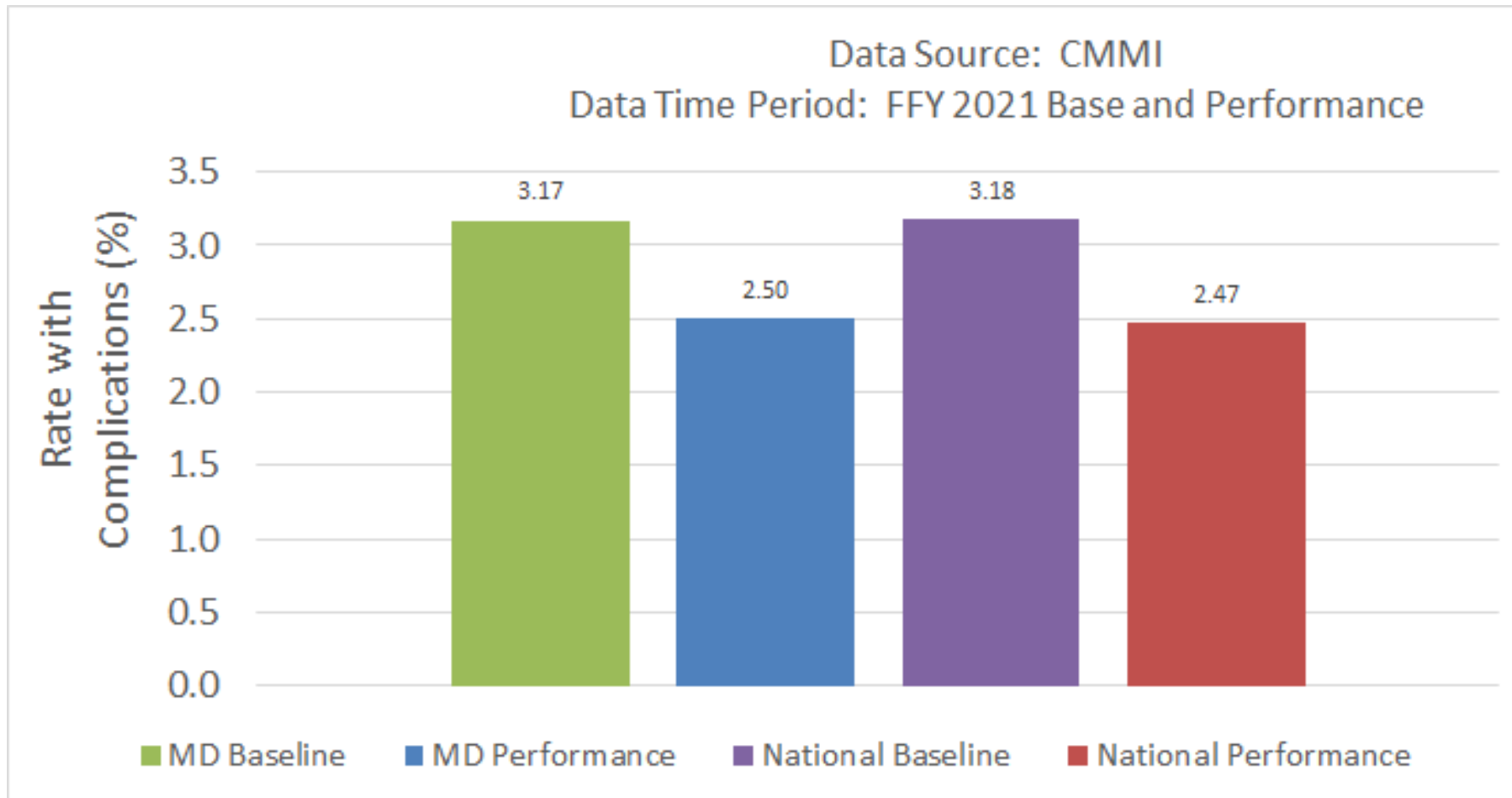
Maryland performs worse on:

- Acute Myocardial Infarction
- Pneumonia

By Hospital Inpatient Mortality Rates and Points

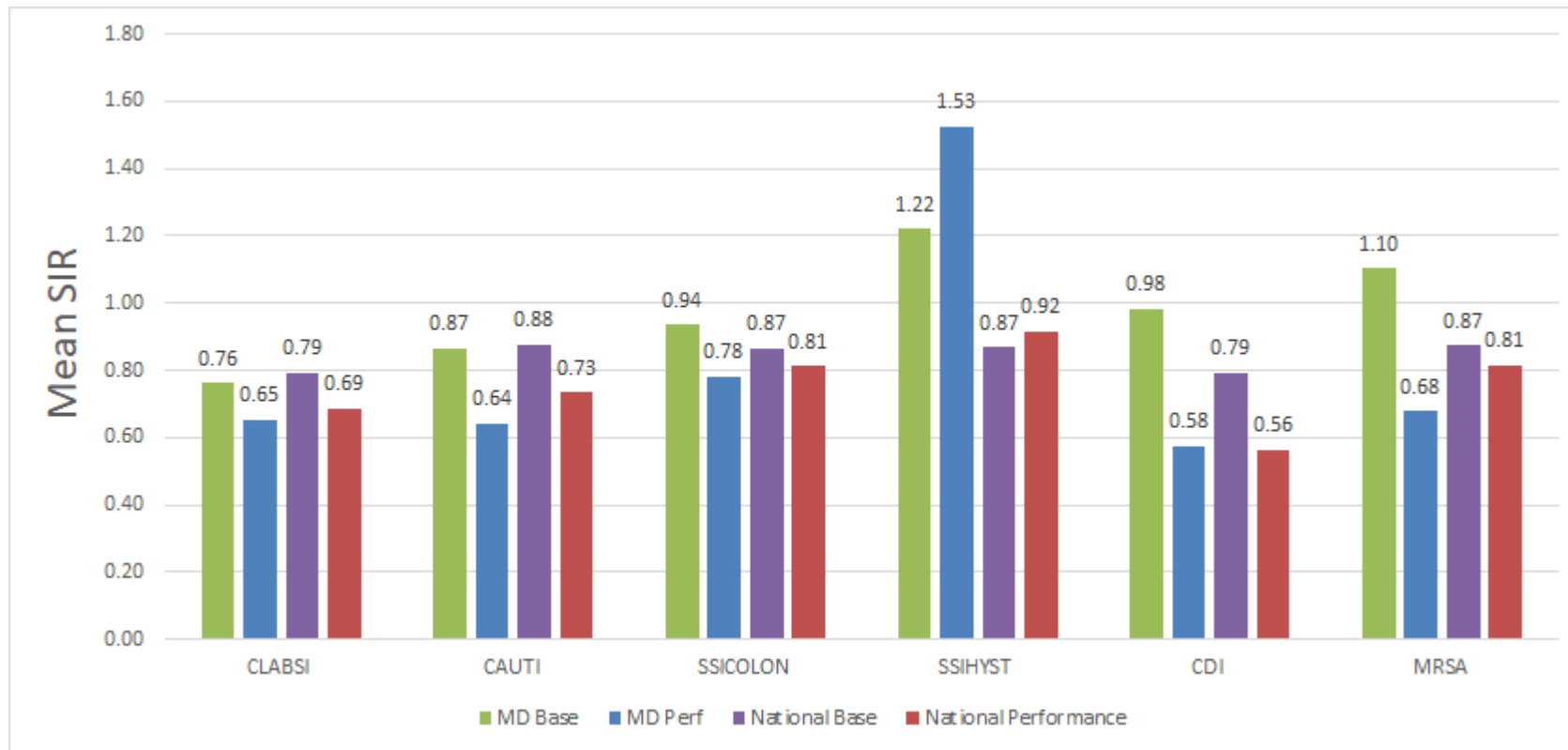


Clinical Care Domain: VBP Hip/Knee (THA/TKA) Complication Measure, MD versus the Nation



Safety Domain: CDC National Health Safety Network Healthcare Associated Infection Measures

Maryland vs. National Mean Hospital SIRs on NHSN HAI Safety Measures (Base period Calendar Year 2017, Performance period CY2019)



Performance Period

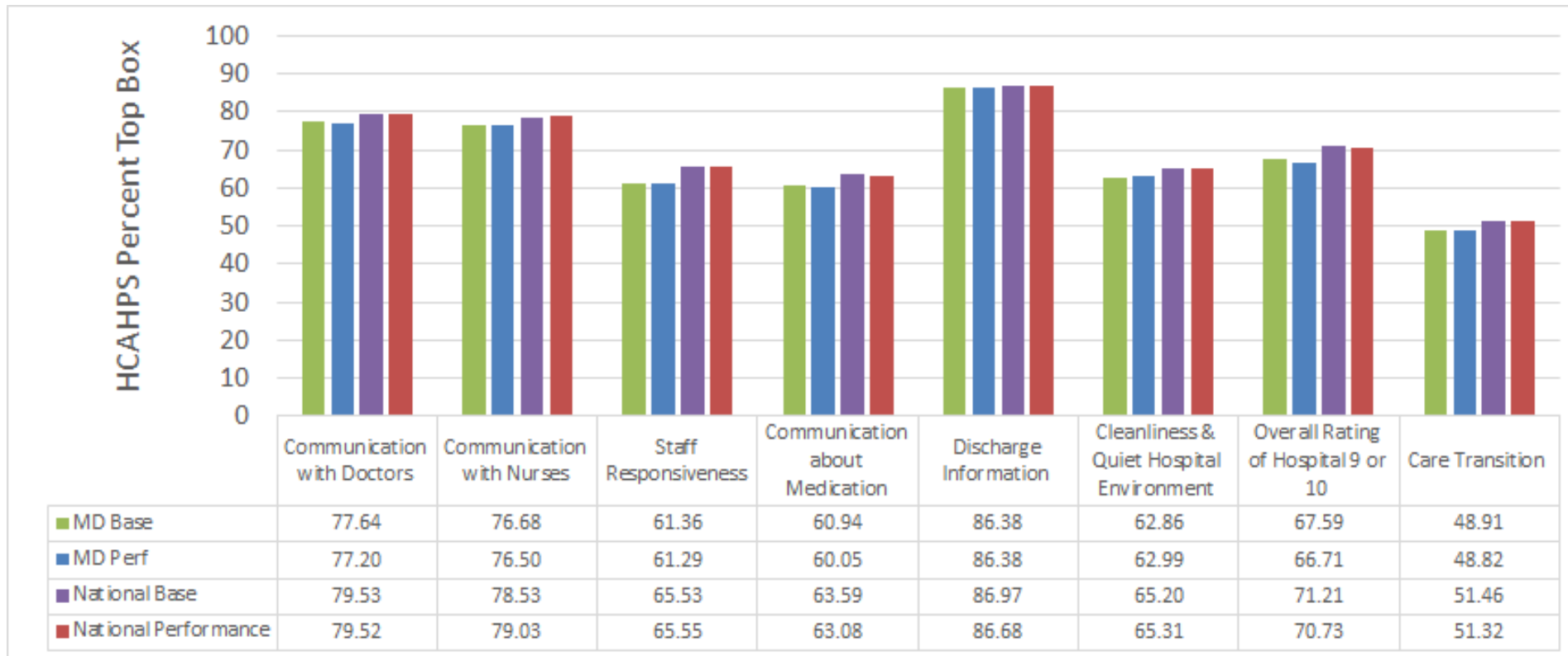
Maryland performs better than the National VBP hospitals on:

- CLABSI
- CAUTI
- SSI Colon
- MRSA

Maryland performs significantly worse on SSI Hysterectomy; slightly worse on CDI.

Person & Community Engagement Domain: HCAHPS

Maryland vs. National Average Hospital Top Box Percent by HCAHPS Category (Data from CMMI; Base period CY 2017, Performance period CY2019)

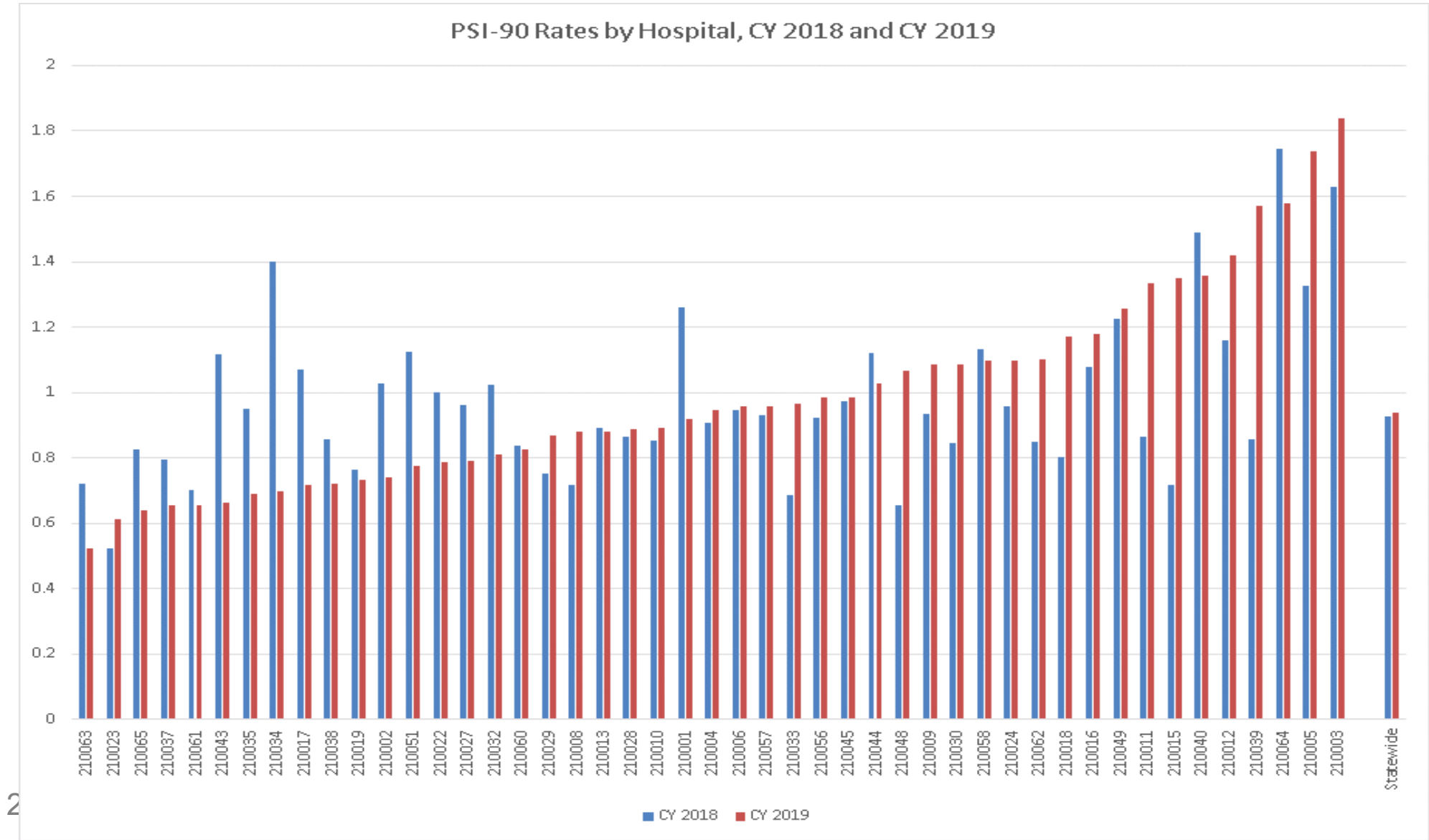


Performance Period

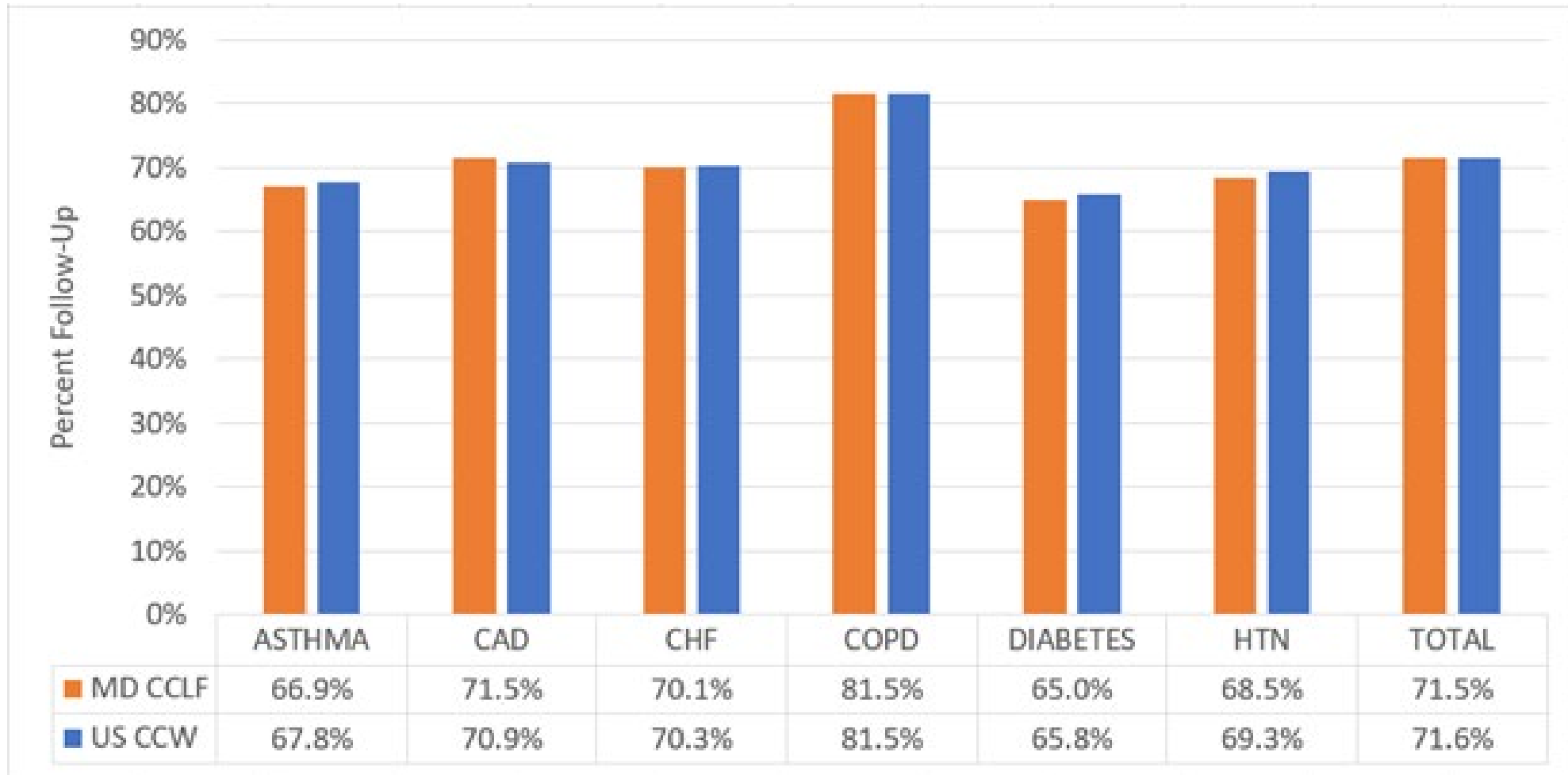
Maryland performs worse than the National VBP hospitals in all Categories

Note: Only whole numbers are found on Hospital Compare

All-Payer PSI 90 Composite and Component Measures



CY 2019 Follow-Up after Acute Exacerbation Performance

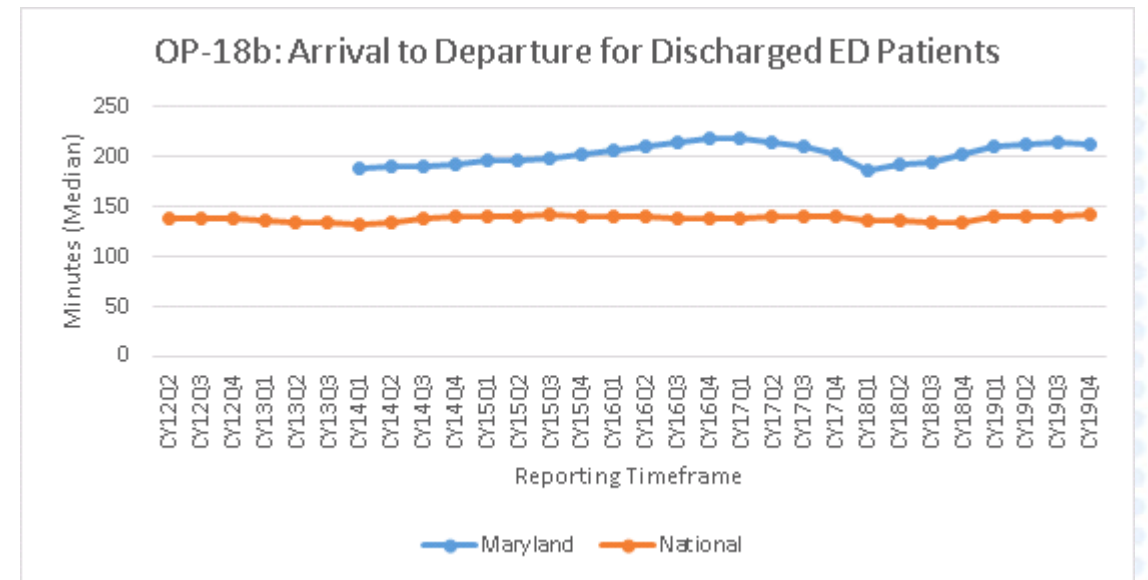
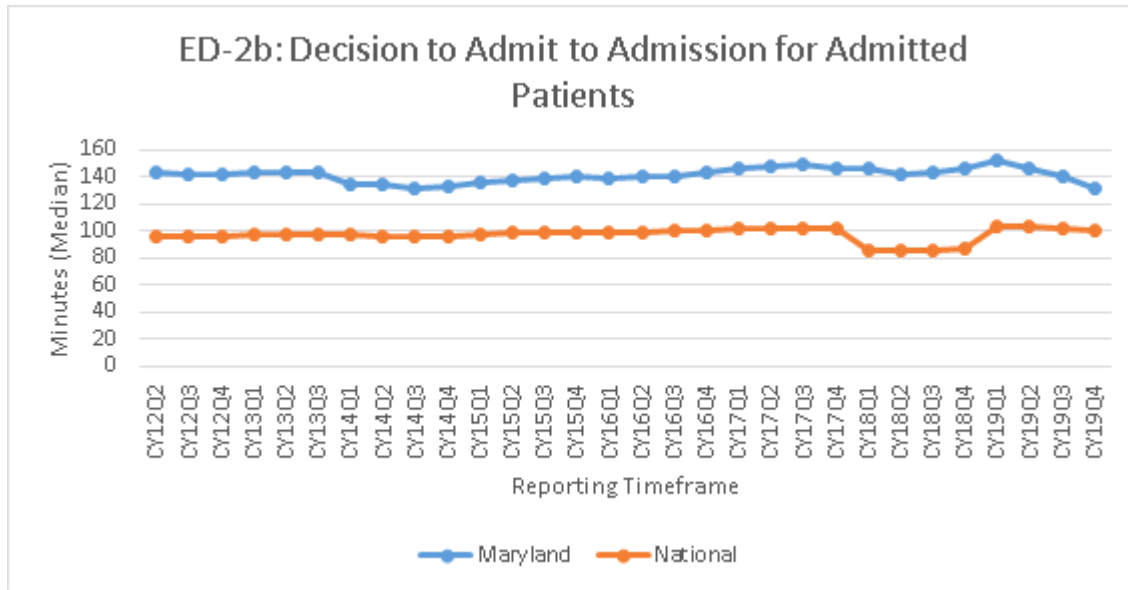


Based on data run 11/15/2020 and submitted as part of SIHIS proposal

QBR ED Wait Time ED-2b; OP-18b

- This measure remained in the QBR program until its sunset from IQR, following CY 2019.

- This measure is not included in the QBR program but is required under OQR.



Meeting 1 Topic: HCAHPS Performance Improvement

Deep Dive on HCAHPS

- Mathematica Policy Research (MPR) literature review findings
- MHA discussion: Hospital focus on HCAHPS
- HSCRC hospital survey on HCAHPS data use and improvement efforts: preliminary findings
- MPR Maryland HCAHPS trends analysis
- MPR Maryland HCAHPS correlations analysis
- Group discussion: Options to improve on HCAHPS performance in QBR

HCAHPS Performance in the Literature

HCAHPS Literature Review

MPR conducted a literature review in early 2020, highlights include:

- **Organizational factors** associated with a culture of 'patient-focus'
- Best practices for **patient-physician communication**
- **Hospital interventions** associated with a statistically significant improvement in performance on one or more HCAHPS categories.
- **Payment programs and quality initiatives**, beyond HVBP, aimed at improving HCAHPS scores and patient experience (in the grey literature).
- Quality Measures, organizational characteristics, and patient characteristics that **correlate with HCAHPS results**.
 - MPR also conducted an independent HCAHPS correlation analysis.

For more information, please see the **Literature Review Handout**

Organizational Factors that Improve Patient Experience

Studies identified the following processes for improving patient-centered care:

1. Strong, committed **senior leadership**,
2. Clear communication of **strategic vision**,
3. **Active engagement of patient and families** throughout the institution,
4. Sustained focus on **staff satisfaction**,
5. Active **measurement and feedback reporting** of patient experiences,
6. Adequate resourcing of **care delivery redesign**,
7. **Staff** capacity building,
8. **Accountability** and incentives,
9. A **culture** strongly supportive of change and learning.

Best Practices to Improve Patient-Physician Communication

Show Courtesy and Respect	Improve Listening	Explaining
<ul style="list-style-type: none"> ● Knock before entering a patient's room. ● Greet the patient by name. ● Introduce yourself and your role. ● Review the chart prior to entering the room. ● Treat every concern brought up as important and explain why you prioritize certain concerns over others in the hospital. ● Ask the patient for permission to conduct a physical examination. ● At the end of an encounter, ask for questions in an open-ended fashion ● End the hospital stay on a positive note. 	<ul style="list-style-type: none"> ● Avoid interrupting the patient. ● Take notes so they know you take their concerns seriously. ● Summarize key points of a discussion. ● Pay attention to nonverbal cues, and acknowledge emotions. ● Sit at the bedside. ● Use social touch to convey empathy. ● Be comfortable with silence: allow 5 seconds to resume conversation when there is a pause. ● Watch your body language; don't appear hurried, bored or fidgety; don't cross your arms. 	<ul style="list-style-type: none"> ● Avoid medical jargon. ● Explain physical examination findings as you are conducting the examination. ● Use the teach-back method to ensure understanding; utilize open-ended questions. ● Explain procedures/testing before they are ordered/ performed. ● Write out important information, if needed (use whiteboards in rooms). ● Give patients a way to contact you with any questions after the hospital stay.

Source: Dutta, Suparna, and Syeda Uzma Abbas. "HCAHPS And The Metrics Of Patient Experience: A Guide For Hospitals And Hospitalists." *Hospital Medicine Practice*, vol. 3, no. 6, June 2015. Available at https://www.ihaconnect.org/Education/Documents/Poore-HCAHPSMetrics-PX_June2015.pdf.

Selected **Hospital-Level Interventions** associated with Improved Performance on Some or All HCAHPS Categories

- **Scripted, standardized method** for physician-patient communication that included weekly “education of internal medicine house staff on HCAHPS and communication expectations.”
 - Improvement in: **physician communication** category
 - Source: The University of Utah Health Care hospital
- **8-hour experiential communication skills training** for clinicians called “R.E.D.E to Communicate”
 - Improvement in: doctor communication category
 - Source: Cleveland Clinic
- Use of **pulsed xenon ultraviolet (PX-UV) light systems device to clean and decontaminate** the hospital, which thoroughly disinfected hospital rooms in 10–15 minutes.
 - Improvement in: most HCAHPS categories
 - Source: Trinity Medical Centre (Birmingham, AL)

Selected **Hospital-Level Interventions** associated with Improved Performance on Some or All HCAHPS categories (cont'd)

- Use of a dedicated **discharge planner/coordinator**, communication with **outpatient providers**, and use of **electronic tools for med reconciliation**.
 - Improvement in: **Overall Hospital Rating** and **Discharge** categories' scores improved
 - Source: A survey of 1,600 acute care hospitals' leadership
- “Surgical flight plan to **standardize communication to patients**”, “**SmartRoom**” **technology** to provide patients with tailored education videos and informed providers of viewing progress.
 - Improvement in: **Nursing Communications** and **Medication Information** categories.
 - Source: A Pittsburgh, PA AMC study of spine surgery patients

Payment Programs and Quality Initiatives to Improve HCAHPS Performance

- Quality incentive program in 2006 for **~1,700 physicians with incentive payments** up to 2 percent of a physician's annual income.
 - Program utilized **clinical communication training** and a composite score based on patients' responses to HCAHPS physician communication-related questions.
 - Improvement in: **Doctor Communication** category showed significant improvement.
 - Source: Massachusetts General Physicians Organization (2006; 2012)
- Preventative Care Survey Program, a **phone-based survey** administered to patients 24 to 48 hours after their discharge and before HCAHPS.
 - Improvement in: AHMC's **HCAHPS scores** increased from 65% in 2014 to 71% in 2016, above California's average of 69%.
 - Source: Southern California AHMC Healthcare System (2014)
- Patient satisfaction education through a **conference**, real-time patient satisfaction score **feedback**, **monthly recognition**, and **incentives** for high patient satisfaction scores.
 - Improvement in: **doctor communication** and **recommend hospital** categories
 - Source: Internal Medicine physicians at Ronald Reagan UCLA Medical Center

Hospital Characteristics Correlated with HCAHPS Scores

Measure Category	Measure Description
Nurse-to-patient days	Using national HCAHPS data and the annual survey of the American Hospital Association a study found that compared with hospitals in the bottom quartile of the ratio of nurses to patient-days, those in the top quartile had a somewhat better performance on the HCAHPS survey.
Bed size	A study used HCAHPS scores and number of hospital beds from Hospital Compare, American Hospital Directory, and Magnet Hospitals web sites. Hospital size was significantly associated with patient satisfaction such that larger size was associated with lower satisfaction. Hospital size was most strongly associated with less patient satisfaction on the following HCAHPS items: receiving help as soon as needed, room and bathroom cleanliness, and doctor communication, whereas nurse communication was the one modifiable dimension that was associated with more favorable ratings in larger hospitals.
	Using HCAHPS scores obtained from 3,195 hospitals listed on Hospital Compare and US Census data, the study found that 'number of hospital beds' was a negative predictor of HCAHPS composite score.
Private Rooms	A comparison of HCAHPS scores for patients undergoing total joint arthroplasty at NYU Langone Orthopedic Hospital (New York, NY) showed that patients in private rooms were more likely to report a top-box score for overall hospital rating, hospital recommendation, and quietness.
Age of Plant	Using data on 1,911 hospitals, a study found an inverse association between a hospital's age of plant and specific elements of VBP performance. Older hospitals defined through higher building asset accumulated depreciation per bed were associated with lower Patient Experience scores.

Measures Correlated with HCAHPS Scores

Measure Category	Measure Description
Length of Stay	In a study of 391 patients at a single hospital who had undergone lumbar spine surgery, a greater than expected length of stay was associated with a decreased likelihood of a top-box score for the HCAHPS survey items on doctor listening and pain control.
Patient Safety Indicators (PSIs)	Using Hospital Quality Alliance data from 927 hospitals, a study found that the relationship with infections due to medical care was statistically significant for four HCAHPS measures, including a clean and quiet hospital environment, responsiveness of medical staff, communication with nurses, and communication with doctors.
Readmissions	In a study using samples ranging from 1,798 hospitals for acute myocardial infarction to 2,562 hospitals for pneumonia, higher hospital-level patient satisfaction scores (overall and for discharge planning) were independently associated with lower 30-day readmission rates for acute myocardial infarction, heart failure, and pneumonia.
	Using data of all acute care hospitals available in Hospital Compare (2014), the study found that hospitals with better performance on Responsiveness of Hospital Staff HCAHPS category were significantly more likely to have lower 30-day readmissions for all conditions.
Mortality	Using clinical data on 6,467 patients with AMI treated at 25 hospitals, “quarterly patient satisfaction data were obtained from patient surveys administered by Press Ganey Associates. After controlling for a hospital’s overall guideline adherence score, higher patient satisfaction scores were associated with lower risk-adjusted inpatient mortality.... Satisfaction with nursing care was the most important determinant of overall patient satisfaction.
	A study of 651 hospitals identified admissions for gynecologic cancer-related surgeries and assigned hospitals into HCAHPS score terciles. In-hospital mortality was lower in hospitals in the top HCAHPS score terciles compared to bottom HCAHPS score tercile.

Patient Characteristics Correlated with HCAHPS Scores

Measure Category	Measure Description
Case Mix	For 36,551 patients at an academic center, complex cases had lower Star scores (dichotomized [“high” v. “low”] HCAHPS measures’ top-box and Star-rating methodologies).
Race	Using HCAHPS data from 2,684 hospitals, a study compared within-hospital differences in experiences based on race. Hispanics and African Americans consistently reported more positive experiences than non-Hispanic Whites with some differences by domain.
Socio-Economic Status	Using HCAHPS scores from 15,789 patients at an academic medical center, HCAHPS Top Box scores were compared to patient socioeconomic status based on the median income of the ZIP Code for each patient. Socioeconomic status was “negatively associated with patients’ overall hospital rating ... and willingness to recommend hospital.... When controlling for the current adjustment factors (age, education, primary language, health status, and emergency admission), living in a ZIP Code with a median household income above \$100,000 per year was independently associated with worse Top Box Scores for the categories of Overall Hospital Rating, Recommend Hospital... Communication about Medicine, Cleanliness of Hospital Environment, and Quietness of Hospital Environment.”
HCAHPS Response Rate	Using HCAHPS data from Hospital Compare for patients discharged 2008 – 2017 nationwide, one study found a moderate positive correlation between HCAHPS response rate and scores across every HCAHPS category.

MHA Presentation on Maryland Hospitals and HCAHPS



FOCUS ON IMPROVEMENT: HCAHPS



QBR Redesign Subgroup
March 2021



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HCAHPS IMPROVEMENT PROCESS



Peer-to-Peer Learning
Program Toolkit



Staff Engagement Tools



Best Practices from
High Performers

PEERTO-PEER LEARNING PROGRAM TOOLKIT



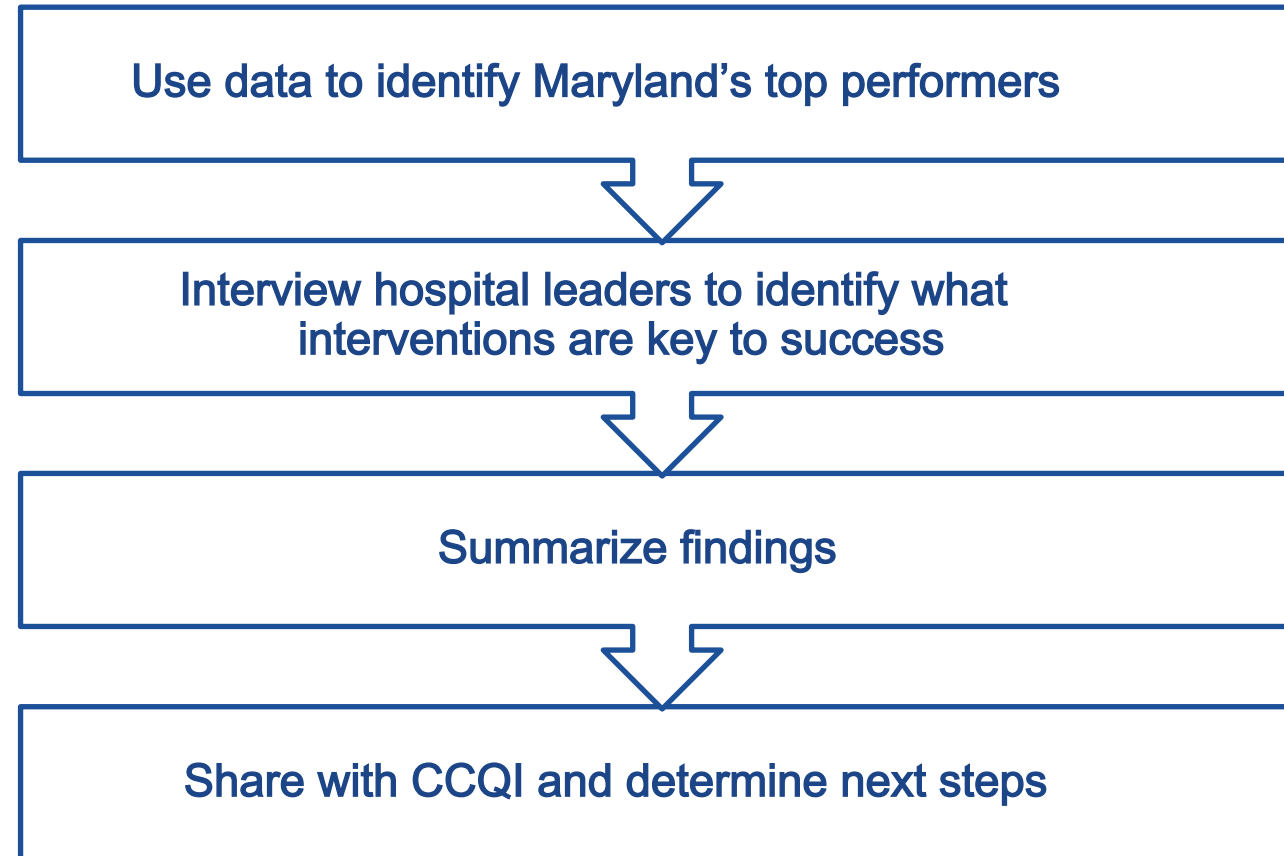
- Peers conduct site visits to learn from each other and offer fresh perspectives
- Pilot participants shared learnings during panel presentation at MHA's May 2019 Patient Experience Conference
- Focus areas included:
 - Effective use of data to drive improvement
 - Patient rounding and use of supportive technology
 - Organizational alignment and goal setting
- Program can be replicated
 - within a hospital,
 - within a system, or
 - with colleagues from other organizations

STAFF ENGAGEMENT TOOLS

- Engaging Your Team in Experience Improvement
 - Interactive exercises your patient experience leads can replicate at your hospital
- Disseminated at May 2019 MHA patient experience conference
 - Led patient experience leads through sample exercises such as “Never and Always Events” and provided toolkit to attendees

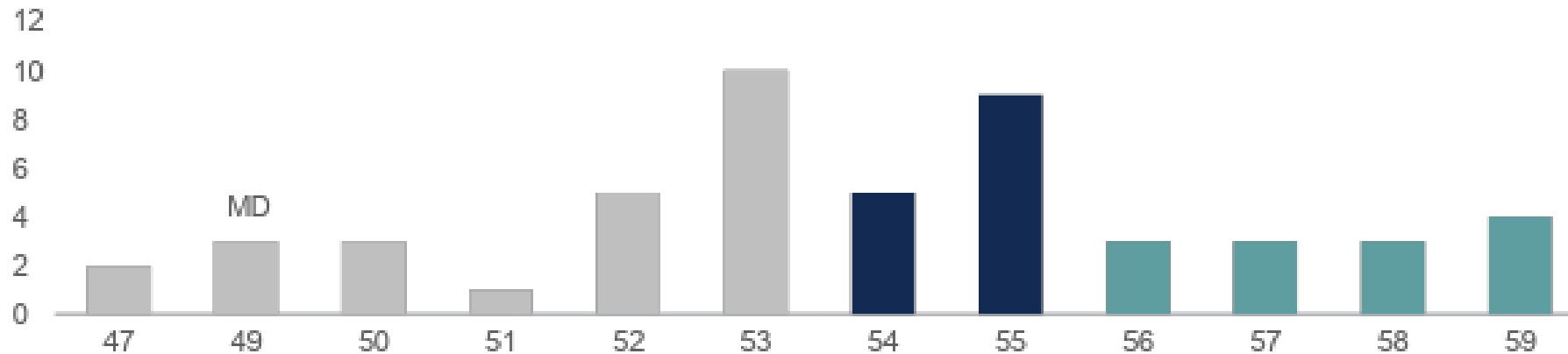


BEST PRACTICES FROM MARYLAND'S HIGH PERFORMERS

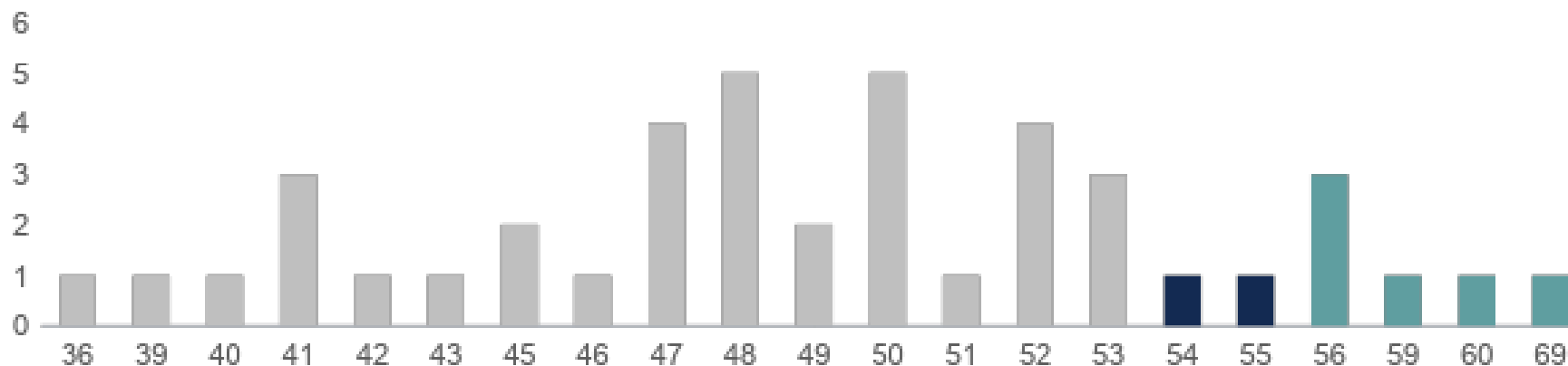


USE DATA TO IDENTIFY MARYLAND TOP PERFORMERS (CARE TRANSITION)

Percent of Top Box Responses Across the Nation



Percent Top Box Responses Among Maryland's Hospitals



Source: Hospital Compare calendar year 2019. Top box for Care Transition represents percent of surveyed patients that responded "strongly agree". Dark blue represents at or above the national average and light blue represents at or above the top quartile nationally.



KEY FINDINGS FROM HOSPITAL INTERVIEWS



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KEYS TO SUCCESS FOR MARYLAND'S HIGH PERFORMERS

- 1** Patient -Centered **Get to the why—quality & safety**
- 2** All Staff **Not just responsibility of frontline care givers**
- 3** Focused Data Sharing **Avoid sea of red and focus on improvement**
- 4** Prioritize Rounding **Focus on areas with pay-off across domains**
- 5** Educate **Use of videos, vignettes, auditing, & coaching**

HSCRC HCAHPS Hospital Survey: Preliminary Findings Summary

HSCRC HCAHPS Survey Respondents to Date (n=18)

Ascension/St Agnes Hospital

Johns Hopkins Bayview

LifeBridge Health

MedStar Franklin Square Medical Center

MedStar Good Samaritan

MedStar St. Mary's Hospital

MedStar Union Memorial

MedStar So. Maryland Hospital Center

Meritus

UMMS BWMC

UMMS Capital Region Health

UMMS Charles Regional Medical Center

UMMS Downtown

UMMS Midtown

UMMS ROI

UMMS St. Joseph Medical Center

UMMS Shore Regional Health

UMMS Upper Chesapeake Health

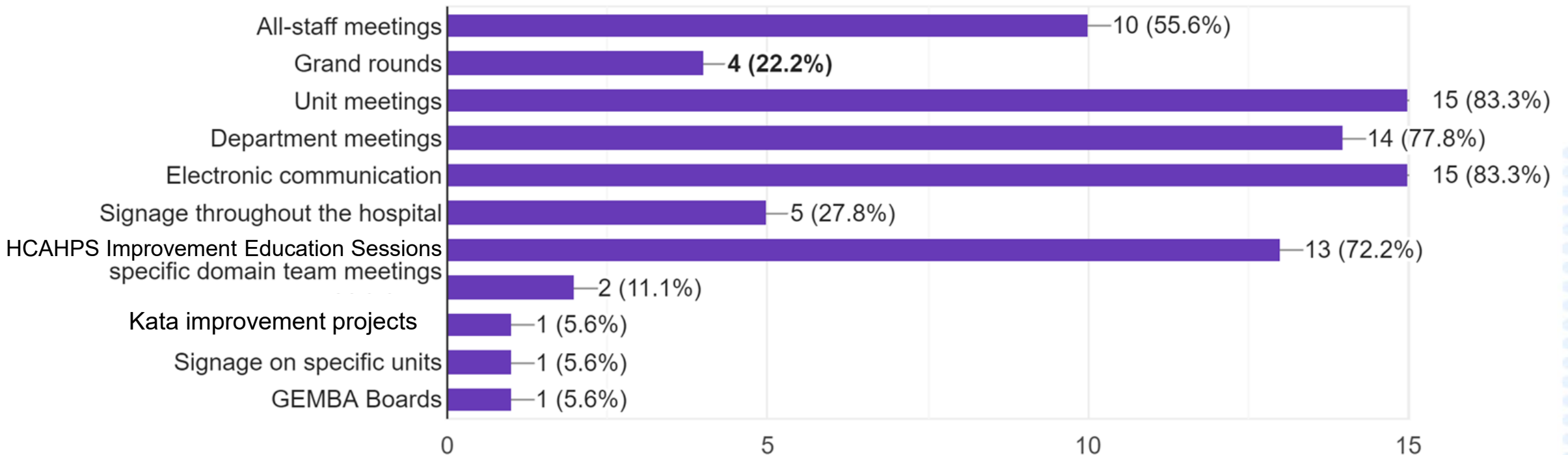
HCAHPS Survey Preliminary Findings

- All hospital respondents indicate leadership (CEO, CFO, CMO, CNO) systematically review HCAHPS results (frequency varies from more than once a month to quarterly); most but not all hospital COOs, CIOs, Chiefs of Population Health review HCAHPS.
- All hospitals indicate frontline staff (Physicians, Nurses, Nutrition, Housekeeping, Admission/Access staff) review HCAHPS; All but one hospital indicate Nursing Assistants, and all but two hospitals indicate therapy staff, review HCAHPS.
- All hospitals indicate BOD systematically reviews HCAHPS results: frequency varies from more than once a month to annually.
- All hospitals rate HCAHPS prominence in their mission/vision as a 4 (n=7) or 5 (n=11) (1= not at all, 5= core component)
- Half of the hospitals indicate some form of staff incentives are used to improve on HCAHPS (broad range of incentive approaches)

Hospital Communicating HCAHPS Performance Goals

How are HCAHPS performance goals communicated to hospital staff and other providers that work at the hospital?

18 responses



MPR Analytics - HCAHPS Measurement

Linear Scores and Top Box Scores

- HVBP and QBR use the **Top Box Score** for assessing performance (**Always**, Usually, Sometimes, Never)
 - Only most positive response (“top box”) receive 100 pts, all other responses receive 0 pts
 - Top-Box Scoring: Never = 0; Sometimes = 0; Usually = 0; Always = 100
- CMS Star Ratings use **Linear Scores** that score all possible scores with equal intervals between each option (**Always, Usually, Sometimes, and Never**) in a 0-100 scale, weighted by discharge and response rate



- NOTE: Discharge information is YES/NO so only two potential scores
- **Top 2 Boxes** are also sometimes used as a reference -
 - Example: CTM-3 measures - **Strongly Agree, Agree**, and Disagree

High Correlation between Top Box and Linear Scores

Measure	Type	Perf 2014	Perf 2015	Perf 2016	Perf 2017	Perf 2018
Nurse Communication	Corr. Top Box & Linear, Spearman	0.96*	0.96*	0.95*	0.96*	0.96*
Doctor Communication	Corr. Top Box & Linear, Spearman	0.94*	0.95*	0.88*	0.94*	0.9*
Staff Responsiveness	Corr. Top Box & Linear, Spearman	0.97*	0.98*	0.97*	0.87*	0.87*
Communication About Medic	Corr. Top Box & Linear, Spearman	0.95*	0.89*	0.94*	0.89*	0.91*
Discharge Information	Corr. Top Box & Linear	1*	1*	1*	1*	1*
Care Transition	Corr. Top Box & Linear, Spearman	0.97*	0.96*	0.96*	0.92*	0.92*
Cleanliness	Corr. Top Box & Linear, Spearman	0.94*	0.95*	0.95*	0.98*	0.95*
Quietness	Corr. Top Box & Linear, Spearman	0.88*	0.92*	0.95*	0.94*	0.89*
Overall Hospital Rating	Corr. Top Box & Linear, Spearman	0.97*	0.89*	0.92*	0.89*	0.95*
Recommend Hospital	Corr. Top Box & Linear, Spearman	0.99*	0.98*	0.96*	0.95*	0.97*
Average Clean and Quiet	Corr. Top Box & Linear, Spearman	0.93*	0.93*	0.96*	0.95*	0.9*
Average 7 Measures	Corr. Top Box & Linear, Spearman	0.98*	0.97*	0.96*	0.95*	0.97*

*Denotes statistical significance

Similarly, there was high correlation with “Top 2 Boxes” and Linear Scores

MPR Analytics - HCAHPS Trend Analysis

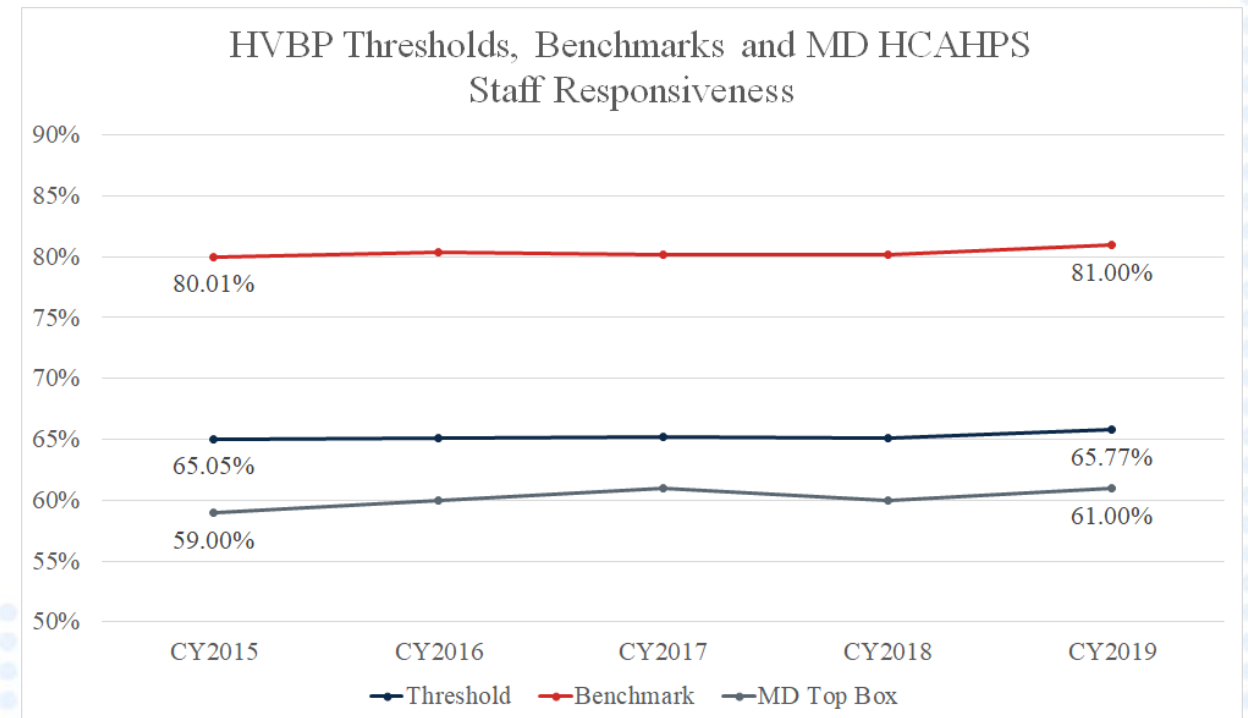
The slides below contain examples of the analytics. Please see **MPR Trends Analysis Handout** for the complete trend analysis.

Maryland vs. VBP Performance Standards

- Compared to the nation, MD performs **lower overall on all HCAHPS categories** except for Discharge Information, where MD score is slightly lower or the same as the national score.
- For all domains except Doctor Communication, VBP performance standards have increased slightly over time (range 0.19% to 1.78% increase in 2019 vs first year in VBP)
- Maryland has improved as a state on 5 out of 8 of the categories over time

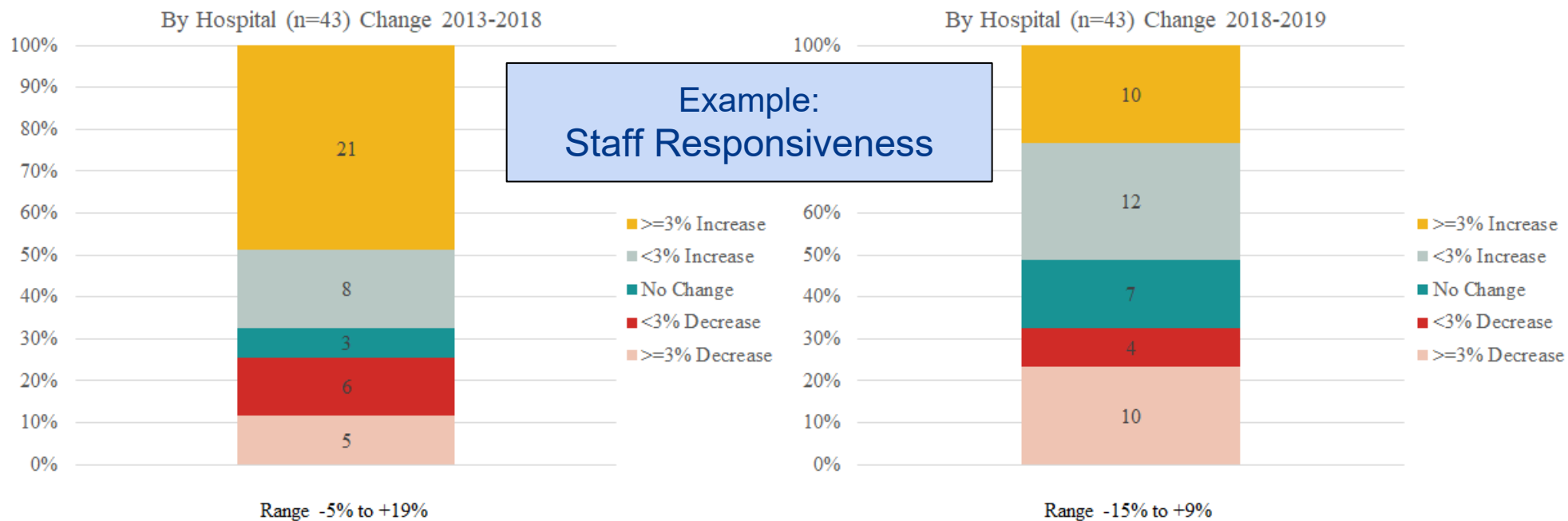
Example: Staff Responsiveness

- As a state, Maryland performs worse than the nation
- Maryland has improved by 2% 2015-2019, while national performance standards have increased but at lower rate (1%)
- While Maryland has improved, the performance “gap” between Maryland and the Nation remains largely unchanged



By Hospital Top Box Score Change Over Time

- Within MD, for each HCAHPS measure (except Doctor Comm) more than half of the hospitals improved 2013-2018 on top box scores
 - Lesser improvements seen at 1 year but still there are some hospitals with significant 1 year change
 - Change over time fluctuates (i.e., not linear)
 - Linear scores show similar albeit lower improvements over time



For detailed information on HCAHPS trends analysis, including information on hospital improvement on top box and linear scores for each HCAHPS answer response, please see [HCAHPS Trend Analysis Handout](#)

Improvement Analysis - Differential Hospital Improvement Over Time

- Research Question: Is HCAHPS improvement different for low versus high performing hospitals?
 - If performance varies depending on starting point, is there a “cliff effect” suggesting that State of Maryland must be creative in better aligning measure incentives to reward incremental improvements/achievements?
- Analysis:
 - Grouped hospitals into quartiles of performance using 2013 To Box Scores
 - Examined average annual improvement for each quartile 2013/2014 through 2018*

*Top Box improvement is from 2013-2018; Linear scores are from 2014-2018. Thus average annual improvement is assessed rather than cumulative; this also is more consistent with policy incentives.

Improvement Results by Quartile **UPDATED ANALYSIS**

Observations:

- On average the worst quartile (4th) has largest improvement by category; top quartile in general gets worse by category.
 - This is not surprising given the opportunity for improvement, regression to the mean, and incentives tied to both improvement and attainment

Average Annual Improvement (Base-2018)	Nurse Comm		Doc Comm		Staff Resp		Comm Meds		Discharge		Care Trans		Clean/Quiet		Hosp Rating	
	Top Box	Linear	Top Box	Linear	Top Box	Linear	Top Box	Linear	Top Box	Linear	Top Box	Linear	Top Box	Linear	Top Box	Linear
4th Quartile	0.7%	0.3%	0.3%	0.1%	1.5%	0.4%	1.3%	0.3%	0.9%	0.4%	0.9%	0.3%	1.1%	0.3%	0.8%	-0.1%
3rd Quartile	0.7%	0.2%	0.1%	0.0%	0.8%	0.2%	0.7%	0.3%	0.4%	0.3%	0.7%	0.3%	0.4%	0.3%	0.4%	-0.2%
2nd Quartile	0.4%	0.0%	-0.1%	-0.1%	0.1%	0.1%	0.3%	0.1%	0.2%	0.1%	0.4%	-0.1%	0.4%	0.6%	0.3%	-0.1%
1st Quartile	-0.1%	0.0%	-0.2%	-0.3%	-0.1%	0.1%	-0.1%	-0.1%	-0.2%	-0.5%	0.3%	0.2%	-0.3%	0.2%	-0.4%	-0.2%

Conclusions from Trends Analysis

- Overall MD Performance:
 - Compared to the nation, MD performs lower overall on all measure domains and both top box and top 2 boxes scores, except for Discharge Information, where MD score is slightly lower than the national score, or the same.
 - On average improvement varies by baseline performance with worst performers having greatest improvement
- Extensive analytic work with MPR contractor on trends with HCAHPS across the past six years (2013-2019)
 - No “silver bullet” solution to improving HCAHPS
 - Maryland has consistently underperformed the nation, and we hope to renew our efforts to improve as a State under the TCOC Model
 - We note the divergence in improvement across hospitals, suggesting performance improvement and even achievement is possible.
 - Concern that some portion of improvements seen in Maryland are masked by increases in benchmarks and thresholds as nation improves,
 - Given our enhanced incentives, should Maryland fare better than the national average?
- Stakeholders need to work together to improve HCAHPS across the State
- Next analytics - correlations analysis suggest that improvement in HCAHPS can correlate with (some) other quality of care indicators

MPR Analytics - HCAHPS Correlation Analysis

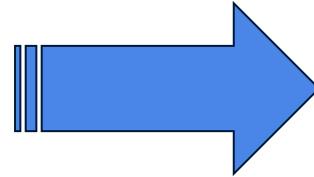
HCAHPS Correlation Analysis

- Correlated HCAHPS domain scores with a set of quality measures and hospital characteristics using Spearman rank-order correlation with statistical significance at $p < 0.05$
 - % likelihood that is this relationship is not a coincidence; i.e., more likely true than not
- Negative correlation to -1
- Positive correlation to +1
- Strongest correlation when closer to 1; moderate correlation at 0.3 or 0.4
- Spearman rank-order correlation was used because Pearson correlation requires normal distribution of data and some HCAHPS questions were not normally distributed

Quality and Hospital Characteristics Examined for Correlation with HCAHPS



- Staffing Ratio*
- PPC Rate
- Readmission Rate
- Survival Rate
- Length of Stay
- Race
- ADI
- Dual Status
- PAI Distribution
- PSI 90 Composite
- Bed size*
- DSH Percentage*
- Survey Response Rate
- Bad Debt as % of Total Charges
- Case mix index
- ED Wait Times (previous analysis)



- Nurse Communication
- Doctor Communication
- Staff Responsiveness
- Communication About Medicines
- Discharge Information
- Care Transition
- Overall Hospital Rating
- Average 7 Measures
- Average Clean and Quiet

*2018 data only



HCAHPS Correlation Results

- Correlations for CY 2017 and CY 2018 - most quality measures, hospital characteristics, and HCAHPS categories have low (not statistically significant) correlations.
- Significant correlations are in expected direction
 - Positive, moderate, and statistically significant correlation:
 - Survival Rate and several HCAHPS categories
 - Staffing Ratio and several HCAHPS categories
 - Survey Response Rate and several HCAHPS categories
 - Negative, statistically significant moderate correlation:
 - Readmission Rate and one or more HCAHPS categories scores
 - Length of Stay and one or more HCAHPS categories scores
 - Dual Status, DSH Percentage, PAI Distribution, and Bad Debt and one or more HCAHPS categories scores
- No statistically significant correlations are in unexpected direction

HCAHPS Correlation Results (cont.)

- **Nurse Communication** is most consistently correlated with Quality Measures (negatively with readmission/length of stay, and positively correlated with survival in both 2017 and 2018).
- Patient Safety measures have weakest association with HCAHPS results.
 - No PPC correlation in either year; PSI-90 statistically significant (negative) correlated in CY 2018
- Hospital Characteristics provide surprising and inconsistent results
 - ADI has no relationship or (in some categories) surprising positive correlation in CY 2017.*^
 - Case-mix index showed negative correlation in 2018 but positive in 2017
 - Bed Size negatively correlated with cleanliness, but positively correlated with two other HCAHPS categories**

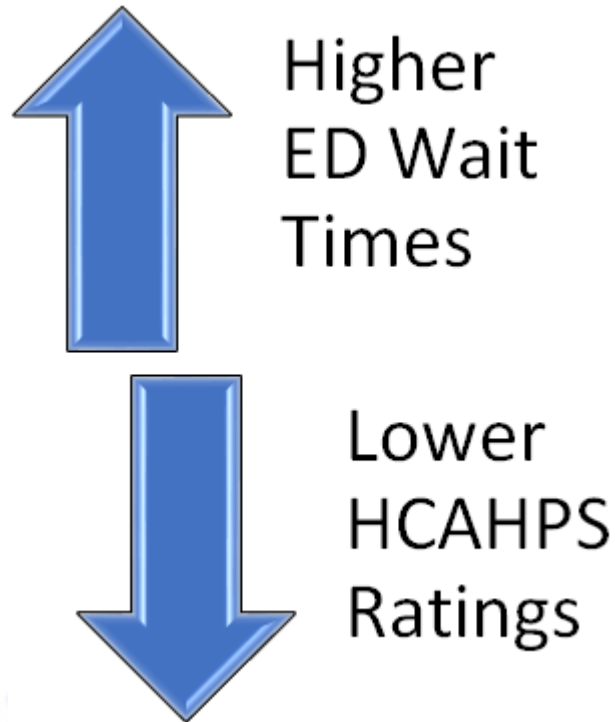
*SES as defined by median income of zip code is negatively associated with HCAHPS scores in the lit. review.

^African Americans and Hispanics reported more positive experiences than non-Hispanic Whites in the lit. review.

**Bed size was negative predictor of HCAHPS scores in the lit. review.

HCAHPS - ED Wait Times Correlation Results

- For the RY 2020 QBR policy, MPR conducted rank-order correlation analysis for ED-1b and ED-2b
 - For all hospital ED volume categories, MPR found that both ED-1b and ED-2b were significantly correlated with the HCAHPS categories



Federal government removed ED wait time reporting from IQR; thus currently suspended from QBR program.

QBR Subgroup will discuss options for reintroducing ED wait time eCQM into QBR policy at upcoming meeting.



Considerations for Correlations Analysis

- Higher HCAHPS scores associated with better quality outcomes
 - Specifically higher HCAHPS associated with lower readmissions and mortality; analysis of complications showed mixed results
- Given HCAHPS and ED wait time correlation, readopting of ED wait time in QBR program is a priority
- Unclear there are other complementary measures that are appropriate for adoption into the QBR program
 - Correlations do show that there may be complementary investments hospitals can make (e.g., increasing nurse to patient days) to improve HCAHPS

HCAHPS Discussion of Policy Levers

Structured Discussion - Historical efforts to improve HCAHPS and Policy Levers

- The QBR policy has emphasized HCAHPS Improvement 2013-Present
 - Provided incentives for improvement and attainment
 - Increased emphasis on the PCE Domain to 50%
 - Incorporated additional state-specific measures associated with patient experience into the Person and Community Engagement Domain (Emergency Department Throughput; Follow-up after Discharge)





Top Box vs. Linear Score

- QBR must continue to incentivize improvement in Top Box Score to align with HVBP
- Stakeholders have suggested incentivizing linear score may encourage improvement across all levels of performance (i.e., reweight domain with portion on linear score)
 - Given correlation between top box and linear, would incentivized improvements in linear raise top box?
- Variation across hospitals is greater with Top Box than Linear
 - Measured using coefficient of variation; may indicate cliff effects with Top Box approach that do not recognize more granular gradations in performance
- Linear Mean Scoring vs Top-Box Scores in ED CAHPS:
 - In recently CAHPS-designated Emergency Department (ED CAHPS) survey, survey administrators designated **two acceptable types of scoring: Top Box and Linear Mean Scores**
 - One survey designer explains: “Linear Mean Scoring is sometimes preferred because it...[gives] partial credit for intermediate response options, but consumers often prefer Top Box Scoring because of ease of interpretation”

Structured Discussion - how to improve HCAHPS under the TCOC Model

- Opportunities for the QBR policy to continue emphasis on/incentivize HCAHPS Improvement
 - Further increase domain weight?
 - Add additional complementary measures that may improve HCAHPS? What are those candidate measures?
 - Require hospitals to expand on sharing of best-practices?
 - Additional partial credit for HCAHPS Linear Scores?
 - Potentially revise revenue adjustment methodology:
 - Provide rewards in advance related to expected improvements that can be used to make necessary improvements and taken back if improvements not achieved?
 - Set statewide goal beyond national performance standards and adjust rewards by whether statewide goal is met?
 - Provide incentive for improvement by reducing domain weight once statewide HCAHPS goal is achieved?
 - Other ideas?

Thank you and Next Meeting

- Thank you for your participation in the inaugural Subgroup Meeting.
- Next month's meeting will be held on **April 21, 2021**
 - The main Meeting Topics will be:
 1. **NHSN Hospital-Associated Infection measures**
 2. **ED Throughput Measures**
 - We will also incorporate feedback from today's meeting, as appropriate
- We appreciate your comments! Please continue to submit feedback through hscrc.quality@maryland.gov

APPENDIX: QBR Program Background, Details

QBR Methodology: Measure Inclusion Rules

- When possible, CMS rules for minimum measure requirements are used for scoring a domain and for readjusting domain weighting if a domain is missing;
 - Hospitals must be eligible for scores in 2 of the 3 domains to be included in the program (i.e., PCE HCAHPS and one other domain)
- For hospitals with measures that have no base period data, attainment only scores are used to measure performance on those measures.
- Hospitals that have measures with data missing for the base and performance periods may receive scores of zero for these measures.
- It is imperative that hospitals review the data in the Hospital Compare Preview Reports as soon as it is available from CMS.

QBR Domains and Measures (with data sources) Compared to VBP

DOMAINS & MEASURES	Clinical Care	Person and Community Engagement	Safety	Efficiency
QBR SFY 2023	15% <ul style="list-style-type: none"> • Inpatient mortality (case mix data) • THA/TKA Complications (Hospital Compare) 	50% <ul style="list-style-type: none"> • 8 HCAHPS categories (Hospital Compare) • Follow Up after Exacerbation of Chronic Condition (Medicare claims) 	35% <ul style="list-style-type: none"> • 6 measures – CDC NHSN Infection (Hospital Compare) • All-payer PSI 90 (HSRC case mx) 	<i>N/A for QBR.</i> <i>See PAU and MPA Adjustment Programs</i>
VBP FFY 2023	25% (4 condition-specific Mortality; THA/TKA Complication)	25% (8 HCAHPS categories)	25% (6 measures – CDC NHSN Infection, Medicare PSI 90)	25%(1 Measure Medicare Spending per Beneficiary)

Maryland Inpatient Mortality Measure

- Maryland measures **inpatient** mortality, risk-adjusted for:
 - 3M risk of mortality (ROM)
 - Sex and age
 - Transfers from another acute hospital within MD
 - Palliative Care status
- Measure inclusion/exclusion criteria provided in calculation sheet.
 - Subset of APR-DRGs account for 80% of all mortalities.
 - Specific high mortality APR-DRGs and very low mortality APR-DRGs are removed.

Acute Exacerbation of Chronic Conditions Follow Up

- Within the care transformation across the system domain, a goal has been established to improve care coordination for patients with chronic conditions.

Domain 2: Care Transformation Domain				
Goal: Improve care coordination for patients with chronic conditions				
Measure	2018 Baseline	2021 Year 3 Milestone	2023 Year 5 Interim Target	2026 Year 8 Final Target
Timely Follow-up After Acute Exacerbations of Chronic Conditions [^] (NQF# 3455)	71.36%	72.26% 1.25 percent improvement	73.16% 2.52 percent improvement	75.00% 5.10 percent improvement or 0.50 percent better than the national rate

- To assess this goal, staff identified a National Quality Forum (NQF) endorsed health plan measure that evaluates the percentage of ED visits, observation stays, and inpatient admissions for exacerbations of six conditions where a patient received follow-up within time frames recommended by clinical practices;^[1]
- The chronic conditions and follow-up time frames include:
 - Hypertension (7 days)
 - Asthma (14 days)
 - Heart Failure (14 days)
 - CAD (14 days)
 - COPD (30 days)
 - Diabetes (30 days)
- Since non-hospital outpatient data is required for this measure that the HSCRC staff can only calculate follow-up for Medicare FFS beneficiaries at this time using Medicare claims.^[2]

[1] The measure, NQF 3455, was developed by IMPAQ on behalf of CMS.

[2] HSCRC staff is working with Medicaid and other payers to explore whether we can calculate an all-payer version of this measure in the future.

PSI Indicators (Bolded indicates part of PSI 90 Composite)

- PSI 02 - Death rate in low-mortality diagnosis related groups (DRGs)
- **PSI 03 - Pressure ulcer rate**
- PSI 04 - Death rate among surgical inpatients with serious treatable conditions
- PSI 05 - Retained surgical item or unretrieved device fragment count
- **PSI 06 - Iatrogenic pneumothorax rate**
- PSI 07 - Central venous catheter-related blood stream infection rate
- **PSI 08 - Postoperative hip fracture rate**
- **PSI 09 - Perioperative hemorrhage or hematoma rate**
- **PSI 10 - Postoperative physiologic and metabolic derangement rate**
- **PSI 11 - Postoperative respiratory failure rate**
- **PSI 12 - Perioperative pulmonary embolism or deep vein thrombosis rate**
- **PSI 13 - Postoperative sepsis rate**
- **PSI 14 - Postoperative wound dehiscence rate**
- **PSI 15 - Accidental puncture or laceration rate**
- PSI 16 - Transfusion reaction count
- PSI 17 - Birth trauma rate – injury to neonate
- PSI 18 - Obstetric trauma rate – vaginal delivery with instrument
- PSI 19 - Obstetric trauma rate-vaginal delivery without instrument
- **PSI 90 - Patient Safety for Selected Indicators (composite subset of PSIs Bolded)**

V2020 was released in July 2020 and HSCRC will use the latest version for RY 2023 QBR Program



QBR Scoring

Hospitals are given points based upon the higher of attainment/achievement or improvement

Attainment

- compares hospital's rate to a threshold and benchmark.
- if a hospital's score is equal to or greater than the benchmark, the hospital will receive 10 points for achievement.
- if a hospital's score is equal to or greater than the achievement threshold (but below the benchmark), the hospital will receive a score of 1–9 based on a linear scale established for the achievement range.

Improvement

- compares hospital's rate to the base year (the highest rate in the previous year for opportunity and HCAHPS performance scores)
- if a hospital's score on the measure during the performance period is greater than its baseline period score but below the benchmark (within the improvement range), the hospital will receive a score of 0–9 based on the linear scale that defines the improvement range.

SEE APPENDIX FOR AVAILABLE PERFORMANCE STANDARDS

QBR Program Reward/Penalty Scaling

- Scale is preset
- Scale based on scores ranging from 0-80%
- Score of 41% is the reward/penalty cutpoint
- Max Penalty 2% & Reward +2% of inpatient revenue

SEE HANDOUT WITH SCORES AND FULL REVENUE ADJUSTMENT SCALE

Abbreviated Pre-Set Scale	QBR Score	Financial Adjustment
Max Penalty	0%	-2.00%
	10%	-1.51%
	20%	-1.02%
	30%	-0.54%
Penalty/Reward Cutpoint	41%	0.00%
	50%	0.46%
	60%	0.97%
	70%	1.49%
Max Reward	80%+	2.00%

Performance Standards for the FY 2023 Program Year

Measure Short Name	Achievement Threshold	Benchmark
Safety Domain		
CMS PSI 90* [^] (NEW)	0.989	0.608
CAUTI* ⁺	0.676	0
CLABSI* ⁺	0.596	0
CDI* ⁺	0.544	0.01
MRSA Bacteremia* ⁺	0.727	0
Colon and Abdominal Hysterectomy SSI* ⁺	0.734 0.732	0 0

* Lower values represent better performance.

[^]Standards based upon CY 2019 HSCRC Case Mix data.

⁺ The newly established performance standards displayed in this table for the CDC NHSN measures (CAUTI, CLABSI, CDI, MRSA Bacteremia, and Colon and Abdominal Hysterectomy SSI) were published in CMS FY 2021 IPPS Final Rule and calculated using four quarters of CY 2019 data.

Performance Standards for the FY 2023 Program Year

Measure Short Name	Achievement Threshold	Benchmark
Clinical Domain		
Inpatient Mortality*^	TBD	TBD
COMP-HIP-KNEE*#	0.027428	0.019779

* Lower values represent better performance.

^Standards based upon CY 2019 HSCRC Case Mix data.

CMS Previous established performance standards.

New Measure for FY 2023

Person and Community Engagement Domain

	Achievement Threshold	Benchmark
Follow Up after Exacerbation for Chronic Conditions	TBD	TBD

**Newly Established Performance Standards for the FY 2023 Program Year:
Person and Community Engagement Domain^{*}**

HCAHPS Survey Dimension	Floor (minimum)	Achievement Threshold (50th percentile)	Benchmark (mean of top decile)
Communication with Nurses	53.50	79.42	87.71
Communication with Doctors	62.41	79.83	87.97
Responsiveness of Hospital Staff	40.40	65.52	81.22
Communication about Medicines	39.82	63.11	74.05
Hospital Cleanliness & Quietness	45.94	65.63	79.64
Discharge Information	66.92	87.23	92.21
Care Transition	25.64	51.84	63.57
Overall Rating of Hospital	36.31	71.66	85.39

^{*} The newly established performance standards displayed in this table were calculated using four quarters of CY 2019 data.