



maryland  
**health services**  
cost review commission

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Quality Based Reimbursement Redesign Subgroup to the Performance  
Measurement Workgroup

June 16, 2021

# Agenda

1. Hospital outpatient measurement and measures
2. Total hip arthroplasty/total knee arthroplasty (THA/TKA) updates/expansion
3. Other hospital measurement domains
4. Previously discussed measures follow up
  - a. HCAHPS follow up
  - b. ED wait times
  - c. 30-day mortality



# Topic 1: OP Measures

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# Impetus to examine OP Quality Measures

- Current IP-only quality measures
  - Process and Outcome Measures
- Moving care down the continuum during the All-Payer Model and now into the TCOC Model
- CMS-CMMI interest
- Alignment with broader TCOC Model initiatives (EQIP, SIHIS Population Health goals, Timely Follow-up after IP/ED/OBS visits)
- Development of OP quality strategy is broader than QBR redesign
  - Today we will present an **overall strategy**, a few **OQR measures**, and focus on the **THA-TKA potential expansion**.

# Outpatient Quality Measurement - Multi-Pronged, Multi-Year Strategy to acknowledge Shifts to OP care

- Look for **measures:**
  - OQR federal measures; NQF-endorsed measures; Joint Commission required measures
  - Outpatient Regulatory Groups or Organizations (MedPAC; MHCC; Leapfrog)
  - Measures where Maryland performance is lacking
- Look for available **data sources:**
  - CMS Hospital Compare OP data
  - OP Case-mix Data
  - CMS' Claims and Claims-Line Feed (CCLF) Total Cost of Care data
  - Further down the line: Minimum Data Set (MDS) Nursing Home Data; OASIS Home Health Data; Ambulatory Surgical Center Quality Reporting (ASCQR)

# Outpatient Quality Measurement - Multi-Pronged, Multi-Year Strategy to acknowledge Shifts to OP care

- Look for **Volume/High-Cost/Opportunity**
  - Review of CCLF Data
  - Review of IP and OP with particular focus on known shifts to outpatient care, such as: (Observational stays greater than 24 hours, THA/TKA surgeries)
  - Proposed Retirement of the “IP-Only” list from CMS
- **Understand Overlapping Regulatory Authorities; Quality Care across the System (ongoing, iterative)**



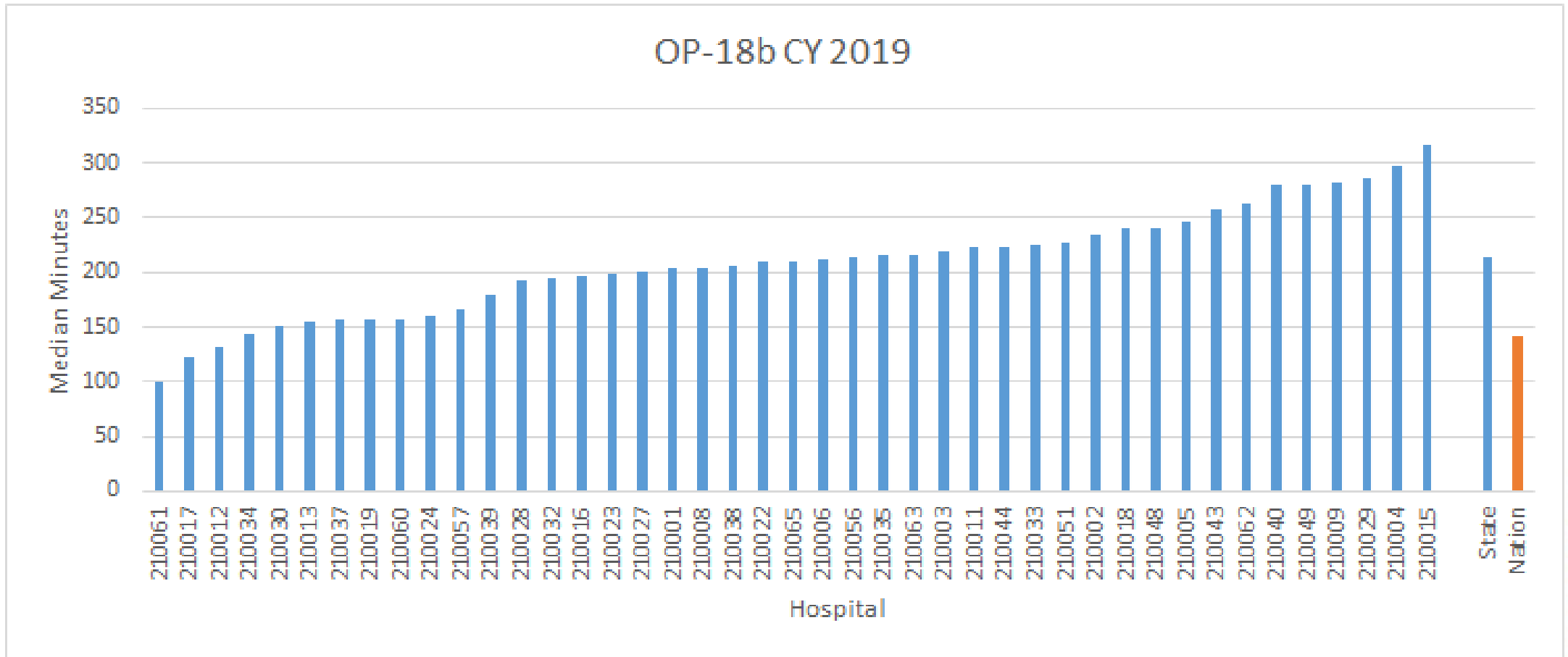
# Outpatient Quality Reporting (OQR)

# Currently Published OQR measures - CY 2019

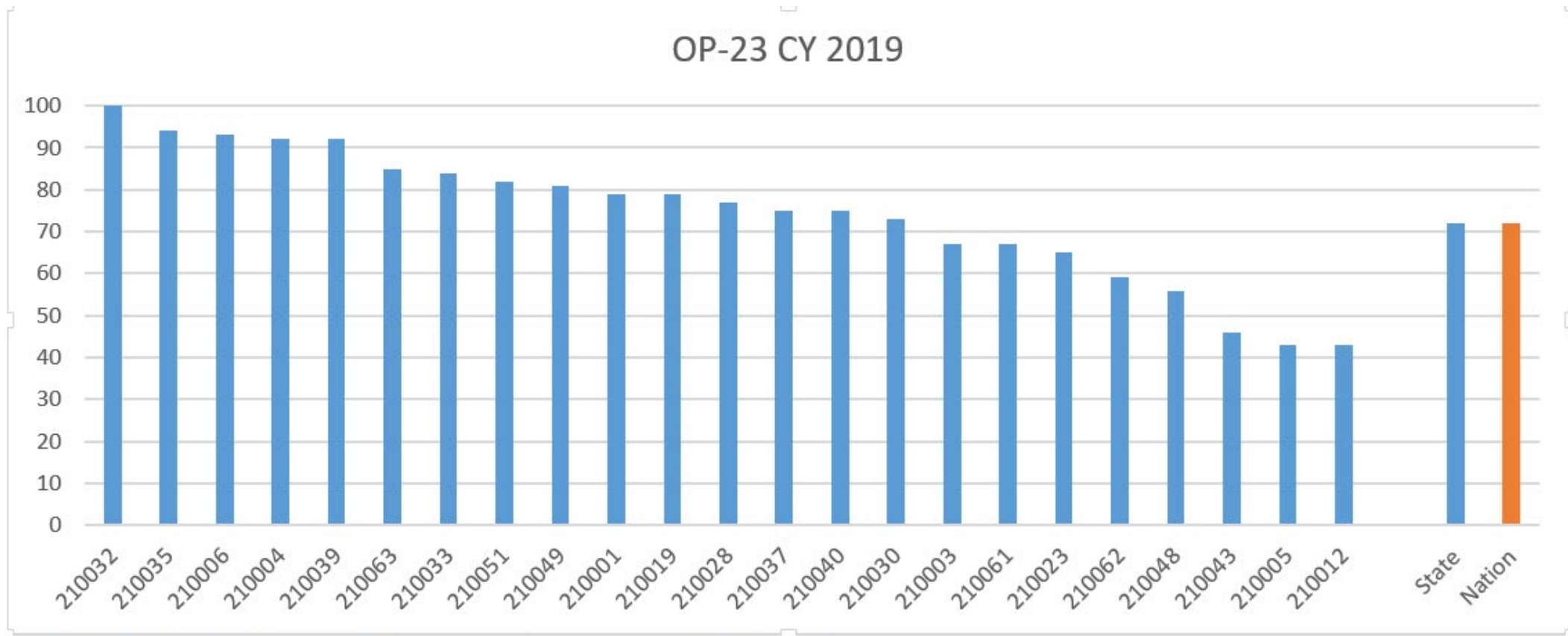
OP Imaging Efficiency	OP_10	Abdomen CT - Use of Contrast Material
Structural Measures	OP_12	The Ability for Providers with HIT to Receive Laboratory Data Electronically Directly into their ONC-Certified
OP Imaging Efficiency	OP_13	Cardiac Imaging for Preoperative Risk Assessment for Non-Cardiac Low-Risk Surgery
Structural Measures	OP_17	Tracking Clinical Results between Visits
Timely & Effective Care	OP_18b	Median Time from ED Arrival to ED Departure for Discharged ED Patients
Timely & Effective Care	OP_18c	Median Time from ED Arrival to ED Departure for Discharged ED Patients-Psychiatric/Mental Health Patients
Timely & Effective Care	OP_2	Fibrinolytic Therapy Received Within 30 Minutes of ED Arrival
Timely & Effective Care	OP_22	Left without being seen
Timely & Effective Care	OP_23	Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or M
Timely & Effective Care	OP_29	Appropriate Follow-Up Interval for Normal Colonoscopy in Average Risk Patients
Timely & Effective Care	OP_30	Colonoscopy Interval for Patients with a History of Adenomatous Polyps - Avoidance of Inappropriate Use
Timely & Effective Care	OP_31	Cataracts - Improvement in Patient's Visual Function within 90 Days Following Cataract Surgery
Unplanned Hospital Visits	OP_32	Facility 7-Day Risk Standardized Hospital Visit Rate after Outpatient Colonoscopy
Timely & Effective Care	OP_33	External Beam Radiotherapy for Bone Metastases
Unplanned Hospital Visits	OP_35_AI	Admissions for patients receiving outpatient chemotherapy
Unplanned Hospital Visits	OP_35_ED	Emergency department (ED) visits for patients receiving outpatient chemotherapy
Unplanned Hospital Visits	OP_36	Hospital visits after hospital outpatient surgery
Timely & Effective Care	OP_3b	Median Time to Transfer to Another Facility for Acute Coronary Intervention- Reporting Rate
OP Imaging Efficiency	OP_8	MRI Lumbar Spine for Low Back Pain



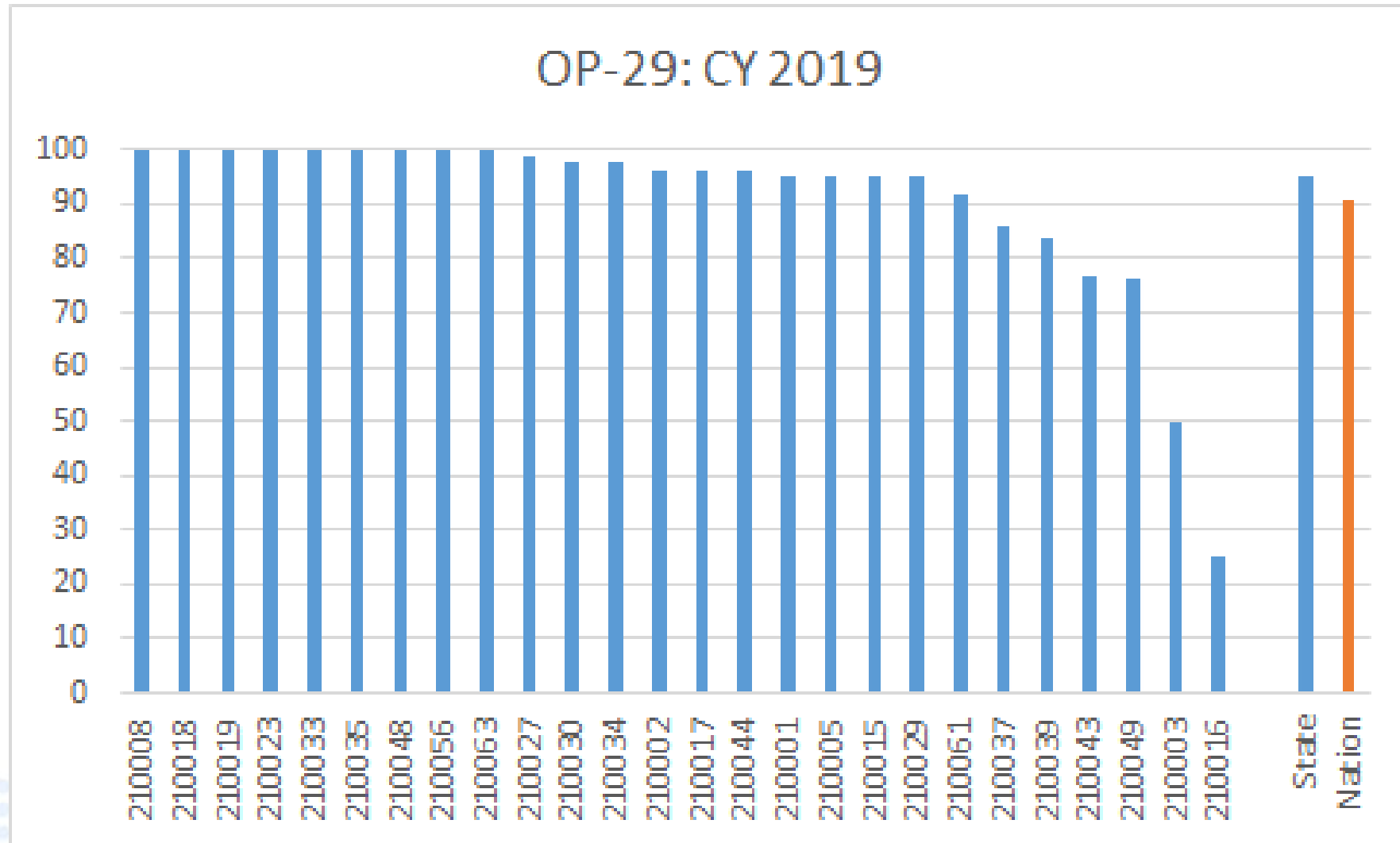
# OP-18b: Median Time from ED Arrival to ED Departure for Discharged ED Patients (Lower is Better)



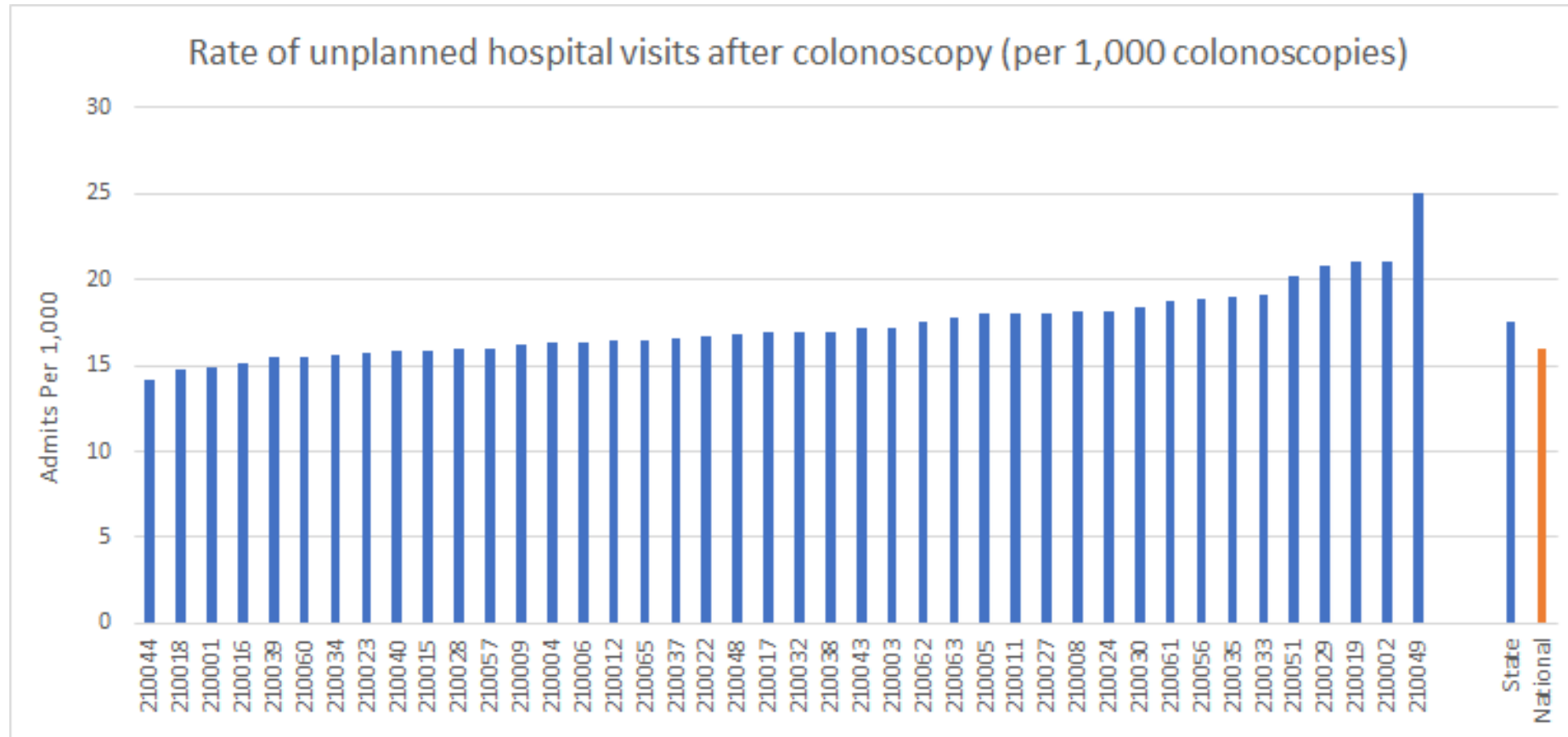
# OP-23 Head CT or MRI Scan Results for Acute Ischemic Stroke or Hemorrhagic Stroke Patients who Received Head CT or MRI Scan Interpretation within 45 minutes of ED Arrival (Higher is Better)



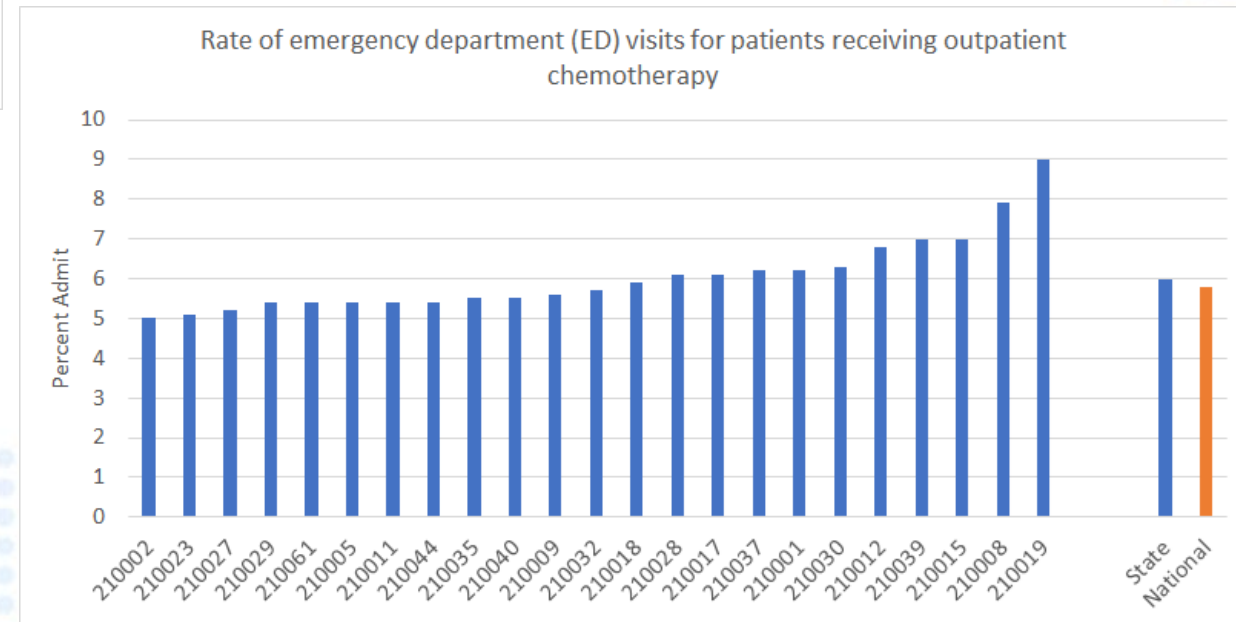
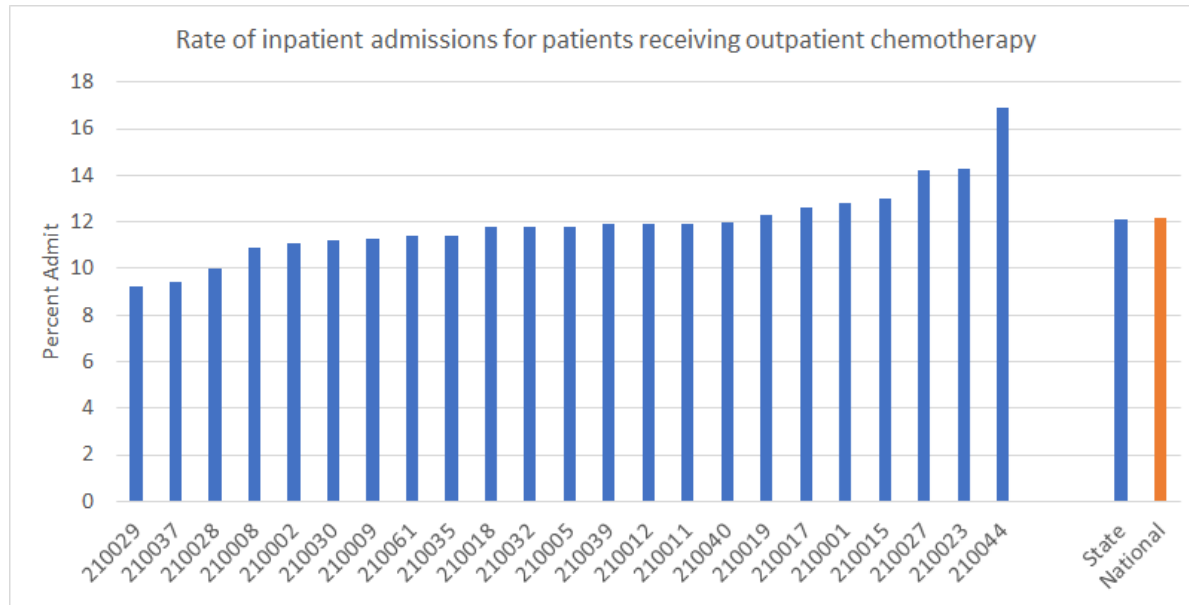
# OP-29: Appropriate Follow-up Interval for Normal Colonoscopy in Average Risk Patients (Higher is Better)



# Unplanned Hospital Visit after Colonoscopy (Time Period: 2017-2019)

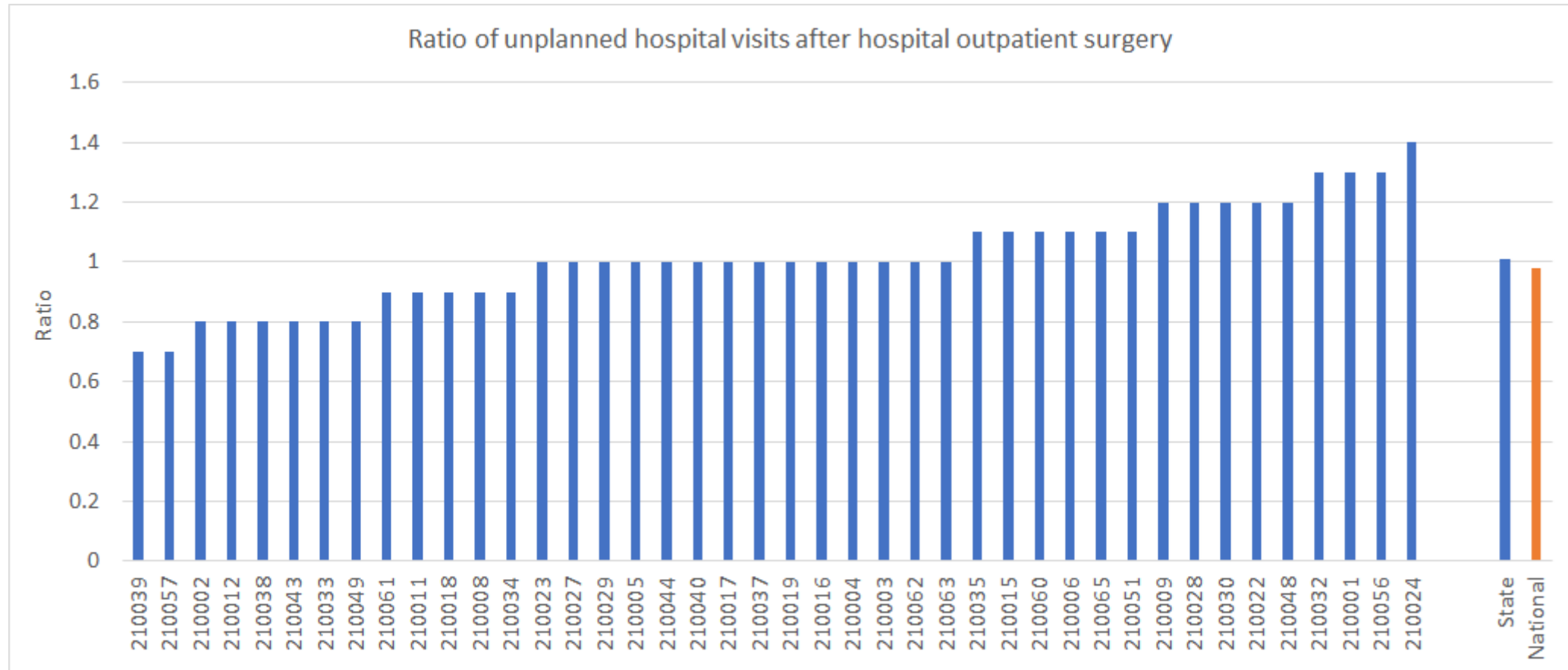


# Admits and ED Visits after Outpatient Chemotherapy (Time Period: 2019)





# Ratio of Unplanned Hospital Visits after Outpatient Surgery (Time Period: 2019)



# Volume of Elective Services by Place of Service

- Selective study of elective surgical services within the CCLF helps us understand where procedures are occurring
  - Potential to expand this study to other OP services to focus attention
  - See handout with additional procedures

Surgeries by POS CY2019 CPT Category	Claims				Percentage		
	IP	OP	ASC	Total	IP	OP	ASC
Elective Hip Arthroplasty (non-fracture) - Revision	770	5	32	807	95%	1%	4%
Elective Hip Arthroplasty (non-fracture) - Total	5,937	132	155	6,224	95%	2%	2%
Elective Knee Arthroplasty - Partial	81	787	246	1,114	7%	71%	22%
Elective Knee Arthroplasty - Revision	1,125	116	67	1,308	86%	9%	5%
Elective Knee Arthroplasty - Total	5,215	8,931	413	14,559	36%	61%	3%
Colonoscopy - Diagnostic/Therapeutic	1,108	18,972	42,289	62,369	2%	30%	68%
Colonoscopy - Screening	766	7,842	21,435	30,043	3%	26%	71%
Combo: Colonoscopy & Endoscopy	1,464	8,225	19,953	29,642	5%	28%	67%

# Elective THA/TKA Complications

- As with national VBP, QBR uses the THA-TKA complication measure in QBR weighted at 5 percent of the clinical care domain
- Complications include:
  - **AMI** during index or subsequent admission that occurs within 7 days;
  - **Pneumonia** or other acute respiratory complication during index or subsequent admission that occurs within 7 days;
  - **Sepsis**, septicemia, shock during index or subsequent admission that occurs within 7 days;
  - Surgical site **bleeding** or other surgical site complication during the index admission or a subsequent inpatient admission within 30 days from the start of the index admission;
  - **Pulmonary embolism** during the index admission or a subsequent inpatient admission within 30 days from the start of the index admission;
  - **Death** during the index admission or within 30 days from the start of the index admission;
  - **Mechanical complication** during the index admission or a subsequent inpatient admission that occurs within 90 days from the start of the index admission; or
  - Periprosthetic joint infection/wound **infection** or other wound complication during the index admission or a subsequent inpatient admission that occurs within 90 days from the start of the index admission.

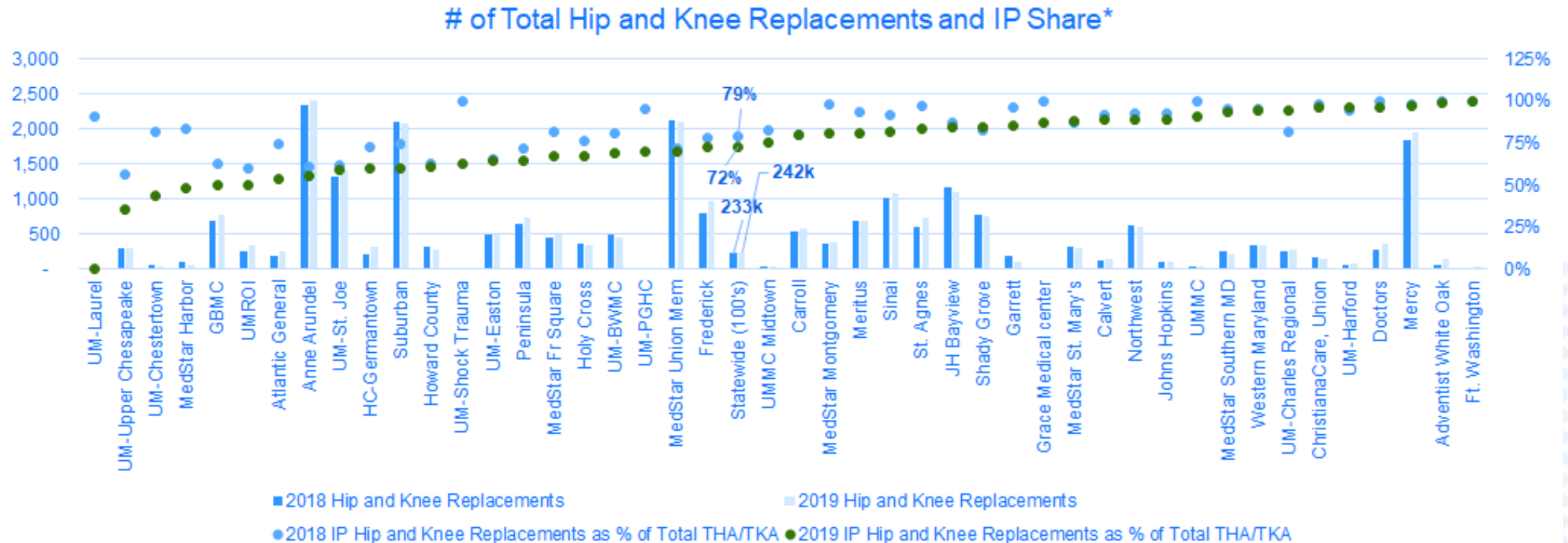
# THA-TKA Considerations

## Considerations:

1. Volume of THA/TKA that is moving to outpatient, Physician Outpatient Surgery Center/Ambulatory Surgery Center spaces
1. All-Payer nature of our programs and use of a Medicare only measure
1. Other measures of THA-TKA complications/quality of care

# 1. Movement of THA-TKA Procedures from IP

- THA-TKA procedures no longer on the Medicare IP only list
- Statewide the percent of all-payer inpatient THA-TKA procedures dropped from 79 percent in 2018 to 72 percent in 2019, while the volume of procedures increased from 23.3k to 24.2k





## 2. Medicare vs. non-Medicare Procedures

Percent of procedures:

- 2018: 56% Medicare FFS & Medicare Advantage (MA)
- 2019: 57% Medicare FFS & MA
  
- Could identify the complications on an all payer basis using case-mix data
- Non-hospital claims used for the Medicare risk adjustment model

## 3. Other Measures

- **Electronic quality measure for THA-TKA complications**
  - CMS funded Brigham and Women's Hospital to develop this measure in 2020 for MIPS
  - Uses same complications as the current claims based measure
  - All-payer measure that includes both inpatient and outpatient procedures (age 18+)
  - Aligns with our current strategy and investment to begin collecting eQMs
- **IPPS proposed rule asks for comment on a hospital-level patient-reported outcome performance measure (PRO-PM) following elective primary THA-TKA procedure**
  - Meaningful Measures 2.0 is currently underway and aims to promote better collection and integration of patients' voices by incorporating PRO measures that are embedded into the clinical workflow, are easy to use, and reduce reporting burden
  - CMS used this measure as part of the Comprehensive Care for Joint Replacement model
  - The Joint Commission PRO measurement comprises two (pre-op and post-op) process measures and captures the proportion of patients for which PROM data are collected.
  - As with eQMs should state explore development of infrastructure for collecting PROs?

## OP Measures Considerations

1. Are there particular **OP quality measures** that we should pay particular attention to?
2. Given the data presented for THA-TKA, is the sub-group in agreement that we should pursue **expanding the THA-TKA measure to hip and knee replacements in Hospital Outpatient Departments (HOPDs)?**
3. Within our outlined multi-year strategy to align quality of care measurement with broader TCOC initiatives:
  - a. **Incorporate OP quality measures**
  - b. What additional commentary/suggestions/concerns would you like to share?

## Topic 2: Other Measure Areas

## Other Measure Areas - Maternal Health

At the beginning of the sub-group, we heard interest in considering the following topic areas (including rationale in support of further scrutiny on these topics):

### 1. Maternal Health

- a. Alignment with SIHIS
- b. Priority area nationally under Biden-Harris
- c. Alignment with State and grant-based initiatives (Medicaid: MD-MOM, AHRQ grant: MD-MOM, MD Patient Safety Center, HQI initiatives)
- d. Area of persistent health disparity

**CONCLUSION:** Suggest Monitoring Report for hospitals/industry on maternal health measures of note



# Other Measure Areas - Sepsis and Palliative Care

## 2. Sepsis

- a. Area of growing scrutiny and concern
- b. Sepsis bundles now on CMS Hospital Compare
- c. PPC 35 - Septicemia and Severe Infection - increased year-over-year during the pandemic
- d. Recent (2018) legislatively mandated Sepsis Public Awareness Campaign Report\*

CONCLUSION: Keep sepsis “on our radar” with the broader PMWG - be on the lookout for measures, protocols, etc. to improve performance and reduce sepsis where possible.

## 2. Palliative care (PC) or other End-of-Life Care

- a. PC historically was excluded from PPC measurement; recently has been re-incorporated in limited cases
- b. Currently PC is included in the IP Mortality measure but IP Hospice is excluded, exploring ways to further link palliative care/hospice into the 30-day mortality measure
- c. Expanding measure sets and evolving understanding of hospice and other end-of-life care measures

CONCLUSION: Continue to track PC and other end-of-life care throughout quality programs.

General sense from this group is that we should focus on the general areas of **reforming/refining existing quality measurement areas, expanding to OP space where feasible.**

\*Access report at : <https://phpa.health.maryland.gov/documents/HB-1467-2018-Report-on-the-Sepsis-Public-Awareness-Campaign-Workgroup.pdf>

# Follow-up from Prior Meetings

# Review of QBR Meeting Topics and Status

1. HCAHPS
2. NHSN and Safety -
3. Emergency Department Throughput
  - a. Update on eCQM strategy
4. SIHIS Alignment
  - a. Follow-up
  - b. Other Monitoring Reports
5. Existing Measure Updates
  - a. THA/TKA
  - b. 30-day Mortality
6. Outpatient Strategy
7. Other Topics?

Today's discussion:

1. HCAHPS
2. ED Wait Times
3. 30-day Mortality

# HCAHPS Options

- Two ideas with modeling:
  - **Addition of linear scores** to HCAHPS domain to encourage improvement across spectrum of scores
  - Calculation of a **voluntary upfront investment** for anticipated improvements that would be taken back if improvements did not occur
- Other Thoughts?
  - Development of state infrastructure to collect patient level and more timely hospital HCAHPS scores
    - PROs: Additional patient-level data would provide further opportunity for analytics; assess disparities in HCAHPS scores; apply consistent PMA; reduce lag between interventions and data reporting
  - Learning Collaborative focus areas
    - Systematic review of HCAHPS by BOD/leadership
    - Prominence of HCAHPS performance in hospital mission/vision
    - Systematic review of HCAHPS by frontline staff
    - Communication of HCAHPS goals to leadership and frontline staff
    - Engagement of patients and families in improvement efforts
    - Education of staff on HCAHPS improvement
    - Accountability and incentive structures for leadership, providers, or other staff to support improvement

# Linear Measure Modeling

- Linear modeling being presented today:
  - **Model 1:** RY23 measures, RY21 time period (i.e., currently approved program using available data)
  - **Model 2:** Model 1 + reweighted follow-up to 5 percent of domain and addition of 7 linear measures weighted at 10 percent of domain (discharge info excluded from linear since scores are binary and thus same as top-box)
  - **Model 3:** Model 2 except focuses linear measures on subset of measures, including: nurse communication, doctor communication, medication communication, responsiveness, and care transitions (based on Leapfrog focus)

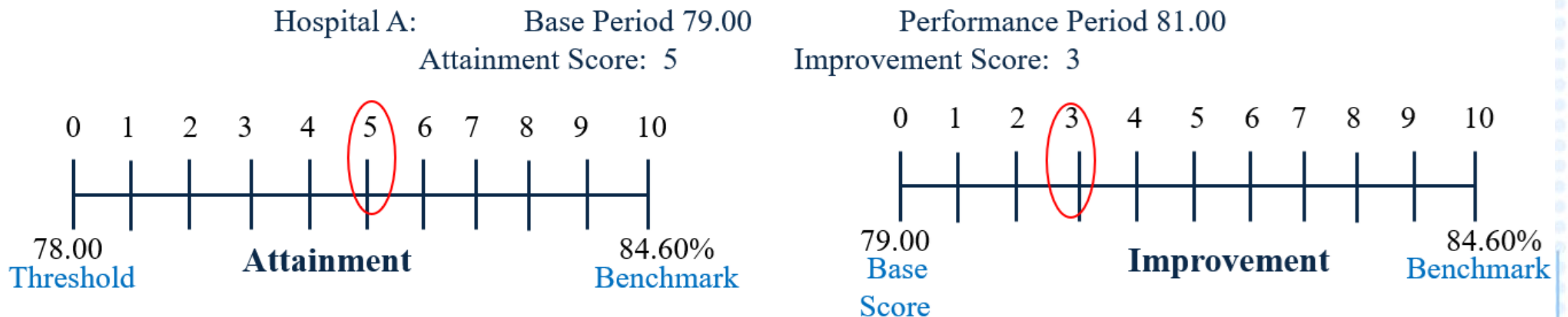


# Performance Standards: Benchmarks and Thresholds

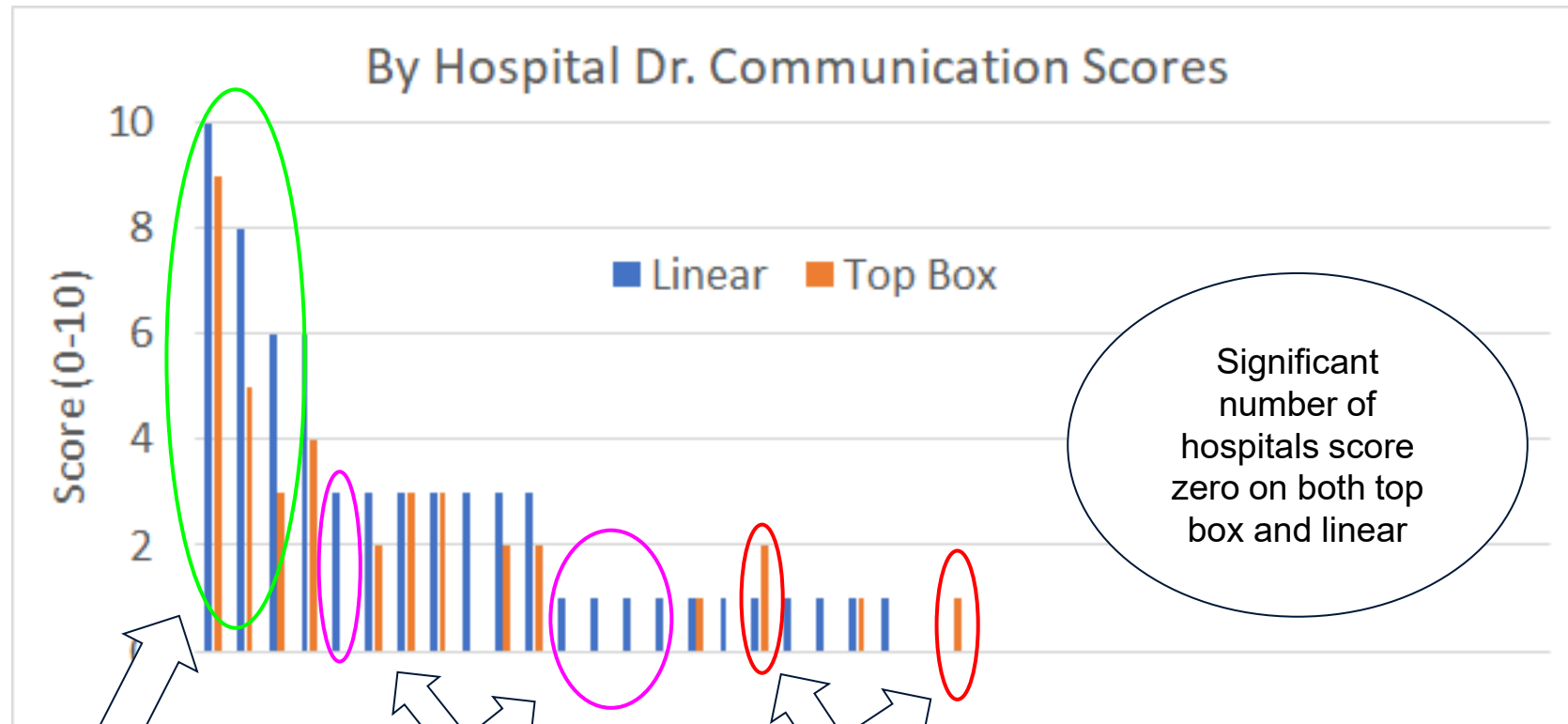
Measure	Linear Scores			Top Box Scores		
	Threshold	Benchmark	Gap	Threshold	Benchmark	Gap
Communication about medicines	78.00%	84.60%	6.60%	63.83%	74.75%	10.92%
Cleanliness and Quietness	84.50%	90.30%	5.80%	65.61%	79.58%	13.97%
Staff responsiveness	85.00%	90.20%	5.20%	65.77%	81.00%	15.23%
Overall hospital rating	88.00%	92.70%	4.70%	71.80%	85.67%	13.87%
Doctor communication	91.00%	94.60%	3.60%	79.91%	88.10%	8.19%
Care transition	82.00%	84.70%	2.70%	51.87%	63.32%	11.45%
Nurse communication	91.00%	93.60%	2.60%	79.06%	87.36%	8.30%

\*The grey highlighted rows are not included in Model 3 (i.e., the focused model)

## Scoring Example Communication about Meds:



# By Hospital Scores on Linear vs Top Box

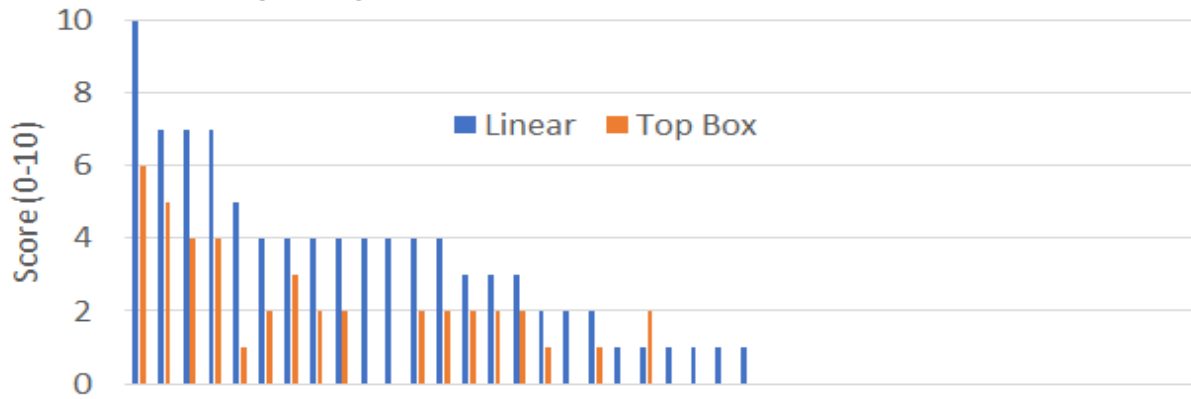


Score higher on linear than top box

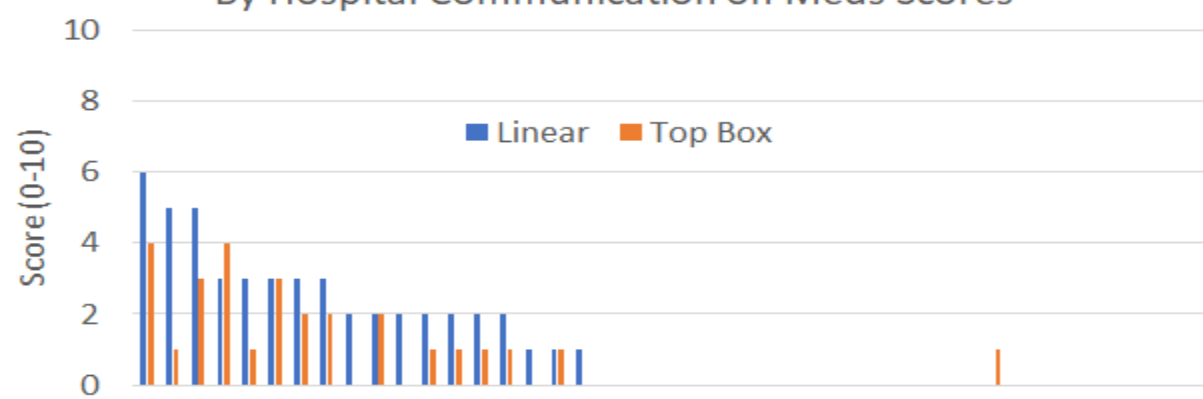
Score points only on linear

Score higher on top box than linear

### By Hospital Nurse Communication Scores



### By Hospital Communication on Meds Scores



# QBR Weighting

- Model 2 and 3 weighted each component of the Person and Community Engagement domain as follows:

PCE Sub-Domain	Weight of QBR Score
Top Box Measures	25 Percent
Consistency Scores	10 Percent
Follow-Up	5 Percent
Linear Measures	10 Percent
Total PCE Domain	50 Percent

- This weighting ensures that the linear measure scores weight reduces the weight on the top box scores

# Statewide QBR Scores with Linear Measures

	<b>Model 1 Current Measures</b>	<b>Model 2 Add 7 Linear Measures</b>	<b>Model 3 Add 5 Focused Linear Measures</b>
Average	32.28%	33.76%	33.84%
Median	31.55%	33.52%	33.18%
25th Percentile	26.81%	27.88%	27.85%
75th Percentile	38.24%	39.39%	39.69%
Lowest	12.90%	33.76%	33.84%
Highest	50.48%	52.64%	52.55%



# HCAHPS Linear Score Correlations

- Previously, we shared that “top-box” scores were generally only weakly correlated with other quality of care measurement.
- We repeated this analysis with the Linear Scores, and found increases in the **correlations between higher HCAHPS linear scores and other favorable quality outcomes** (Lower mortality, lower readmissions etc.)

Measure	Nurse Communication	Doctor Communication	Staff Responsiveness	Communication About Medicines	Discharge Information	Care Transition	Overall Hospital Rating	Recommend Hospital	Average Clean and Quiet
Linear Measures									
PPC Rate	-0.05	0.07	-0.04	-0.02	0.04	-0.11	-0.14	-0.19	-0.12
Readmission Rate	-0.52*	-0.16	-0.42*	-0.1	-0.14	-0.34*	-0.32*	-0.28	-0.24
Survival Rate	0.37*	0.09	0.34*	0.24	0.14	0.23	0.1	0.1	0.38*
Length of Stay	-0.38*	-0.1	-0.37*	-0.17	-0.23	-0.43*	-0.29	-0.24	-0.16
Top Box									
PPC Rate	0	0.05	0.01	0.08	0.04	-0.11	-0.12	-0.19	-0.03
Readmission Rate	-0.46*	-0.01	-0.24	-0.01	-0.14	-0.22	-0.27	-0.23	-0.05
Survival Rate	0.36*	0.09	0.2	0.22	0.14	0.26	0.06	0.06	0.28
Length of Stay	-0.38*	-0.05	-0.21	-0.07	-0.23	-0.23	-0.21	-0.17	-0.02
(*) indicates statistical significance at $p < 0.05$ .									
Both Statistically Significant						Linear Only Significant			

# Linear Measure Decision Points - how to incorporate?

Should QBR program include linear scores?

- Staff supports inclusion, as linear scores:
  - Make additional sense to providers
  - Are more highly correlated with other quality outcomes
  - May encourage iterative improvement on HCAHPS under QBR Redesign

If subgroup wants to encourage linear to be included:

- Weighting of linear measures at 10 percent?
- All linear vs. focused measures?
  - If focused, which measures?
  - Include discharge info to ensure equal weight with other HCAHPS measures?

# Overview of Upfront Rewards

- HSCRC staff exploring idea of upfront financial incentives contingent on improvements in HCAHPS scores
  - Concept is to provide resources for investments in activities to improve HCAHPS and take back these financial rewards if improvements are not achieved (i.e., claw back)
  - Theory: **loss aversion** is a salient negative consequence in behavioral economics. The incentive for improvement to avert a claw-back > the incentive for improvement to achieve a final reward
    - This increased incentive is achieved without raising percent at-risk

# Voluntary Opportunity - Receive Upfront Investment for Promised Future Improvements

## Implementation Steps:

1. Calculate attainment only scores with base period data
2. Overwrite HCAHPS top box performance data:
  - a. Base period scores < threshold: Make equal to threshold
  - b. Base period scores  $\geq$  threshold: Increase by 1 percentage point
3. Calculate HCAHPS top box domain scores and difference in \$ between attainment only scores and scores with anticipated improvement using historical revenue
4. Provide \$ to hospitals
5. After performance period, take final scores and insert in estimated HCAHPS scores with improvement and subtract this score from actual final scores
  - a. If this score is lower or equal to final results then hospitals keep any upfront \$
  - b. If score is higher, then calculate the \$ difference from final scores and reduce revenue adjustment by difference

# Example Calculation of Upfront Investment \$

		Hospital A	Hospital B
Attainment Score using Base Period Data	A	20.48%	41.73%
Attainment Score with Anticipated Improvement*	B	24.23%	43.60%
Attainment Revenue Adjustment \$	C = A scaled	-\$2,000,000	\$80,000
Anticipated Improvement* \$	D = B scaled	-\$1,640,000	\$260,000
Upfront Investment Opportunity \$	E = C - D	\$360,000	\$180,000
Final QBR Score	F	35.76%	53.58%
Attainment Score with Final Top Box HCAHPS	G	25.48%	40.79%
Reconciliation \$ (owed back)	If G > B = \$0 If G < B = E	\$0	\$180,000

Determination of upfront investment amount

End of Year Reconciliation

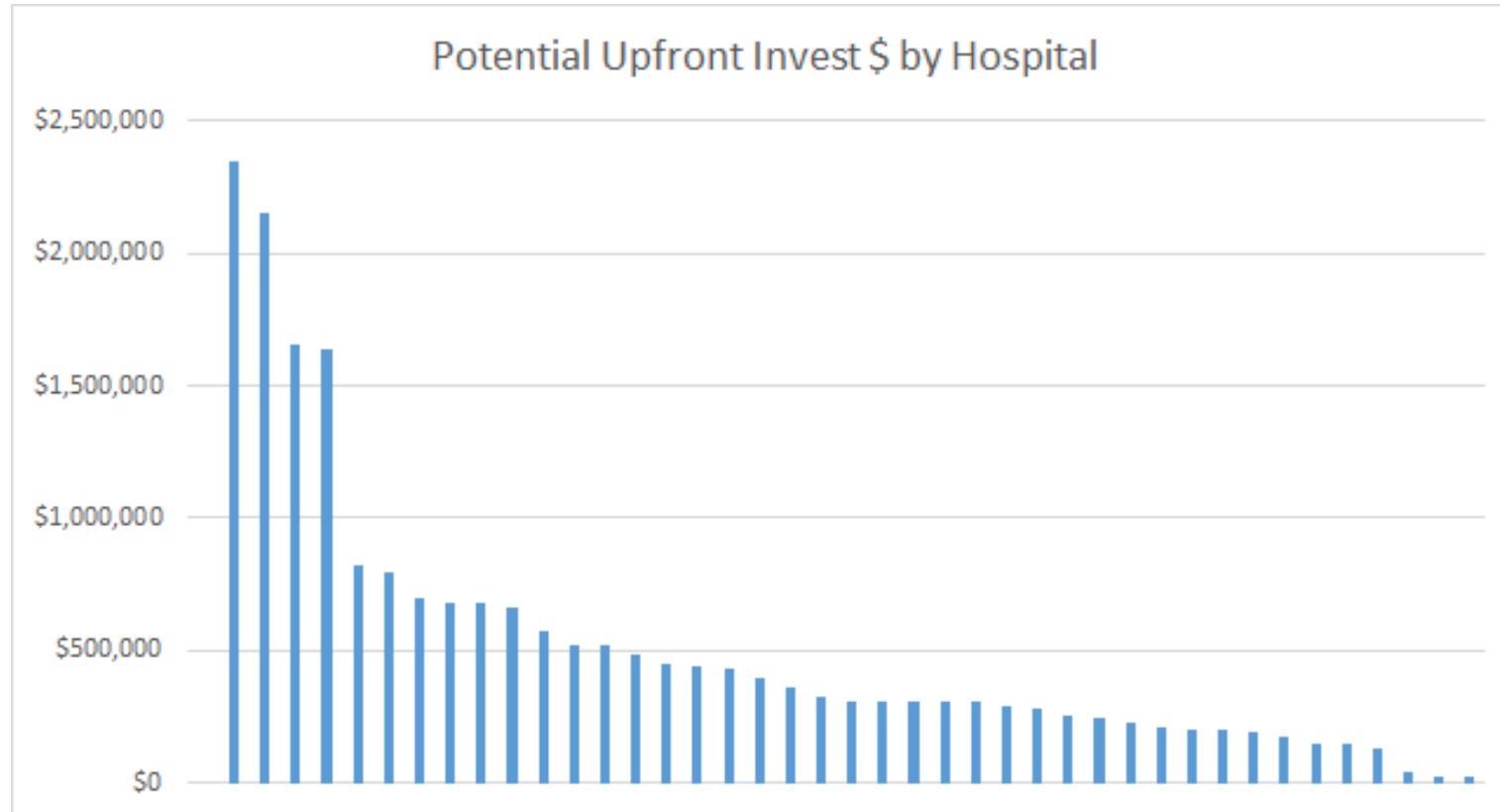
\*Modeled improvement as scores beneath threshold (national median) increasing to threshold and scores at or above threshold increasing by 1 percentage points

\*\*Insert in HCAHPS domain score from score with anticipated improvement



# Estimated \$ for upfront investment

Statewide: +\$21.0 Million



## Upfront \$ Discussion

1. What do **work group members** think of this idea?
2. What do **hospital representatives in this WG** think of this idea?
3. We would need to finalize the math and potential rewards for other hospitals - would that be helpful in making a determination about this course of action?
  - a. Are there **other ways to construct a potential upfront “expected” improvement** that this group would like to see modeled?
  - b. What (if any) additional clarity or explanation would hospitals/stakeholders like to see to determine whether this is worth pursuing?

## ED Wait Time and Other eCQM Discussion

- CRISP investing in resources to obtain EHR data for eCQMs and hybrid data elements from hospitals (and in the future other providers)
- MHCC/HSCRC could then mandate reporting of specific eCQMs (e.g., ED wait time measure) to the State
  - Intention would be to monitor for one year prior to incorporation
- HSCRC would include ED wait time in QBR program within the Person and Community Engagement Domain
  - Details to be worked out with PMWG: Performance standard? Improvement only?
- **Does subgroup support strategy to develop eCQM infrastructure and eventual inclusion of ED wait time measures in QBR (with details to be worked out over time with stakeholders)?**

Please email [hscrc.quality@maryland.gov](mailto:hscrc.quality@maryland.gov) if you are interested in supporting the HSCRC response letter to the IPPS proposed rule regarding opposition to removal of ED wait times from the list of CMS eCQMs

## 30-Day Mortality Updates

- **Concept:** Use draft CMS claims based all condition mortality measure methodology with similar IP mortality measure risk-adjustment
  - Service lines and selection of random hospitalization are from CMS measure
  - Risk adjustment variables from HSCRC IP measure
  - Two-thirds of deaths occur in hospital, however HSCRC staff believe the post hospitalization deaths are important indicator of quality
- HSCRC working to match case-mix data with CCLF (medicare FFS) data to bring over hospice flag
  - Due to 4 month data run out the flag for hospice determined from CCLF will be delayed
- HSCRC working with MPR on additional validation results
  - See handout with preliminary hospital specific results

# Mortality Measure - Current State and Challenges/Concerns

## Concerns with IP Mortality Measure:

- Staff believes the measure is somewhat “topped off”
  - Distance between benchmark and threshold continues to shrink
  - Majority of hospitals (34 of 44) are either:
    - Earning equal improvement and attainment credit (n=14)
    - Earning more attainment credit than improvement credit (n=20)
- Historical rationale for an “in-house” measure was the lack of data on post-discharge mortality
  - Rectified via (limited) Data Use Agreement with MD Vital Statistics Administration

	Threshold	Benchmark	Distance
<b>RY 2018</b>	97.5400%	98.7700%	1.23%
<b>RY 2019 - PC Ex</b>	98.1949%	99.2436%	1.05%
<b>RY 2019 - PC In</b>	95.5074%	97.1680%	1.66%
<b>RY 2020</b>	95.6169%	97.0807%	1.46%
<b>RY 2021</b>	95.4754%	96.9606%	1.49%
<b>RY 2022</b>	96.1926%	97.2555%	1.06%

## Concerns with 30-day measure (collected from May Sub-group meeting):

- Lack of experience with measure
- Concern over risk adjustment and “look back”
- Lack of correlation between IP and 30-day measures



# Mortality Measure - options for RY 2024 and moving forward

CMS (Yale) has developed hybrid 30-day all condition mortality measure

- The CMS IPPS FY 2022 proposed rule is proposing adoption of the measure in a stepwise fashion, beginning with a voluntary reporting period from July 1, 2022 through June 30, 2023, and followed by mandatory reporting beginning of July 1, 2023 through June 30, 2024, affecting the FY 2026 payment determination and for subsequent years

## Three Options for RY 2024:

1. Continue using IP Mortality measure
2. Use IP mortality in QBR and monitor 30-day measure
  - Adopt 30-day claims based measure for RY 2025
1. Use current IP Mortality measure for attainment and 30-day mortality measure for improvement
  - Similar to Palliative Care integration into the IP Mortality measure this would be one-year transition where in RY 2025 30-day measure would be exclusively used

HSCRC staff proposes that subgroup can suggest additional modeling and review of 30 day measure for PMWG input this fall

## Thank you and Next Meeting

- Thank you for your participation in the inaugural Subgroup Meeting.
- Next month's meeting (the **final** meeting prior to submitting our proposal to CMMI) will be held on **Jul 21, 2021**
  - The main Meeting Topics will be:
    1. **RY 2024 QBR Redesign Report for CMMI**
    2. **Future Years (post-RY 2024) ongoing measure development areas**
- We appreciate your comments! Please continue to submit feedback through [hscrc.quality@maryland.gov](mailto:hscrc.quality@maryland.gov)