PMWG Readmissions Sub-group

05/28/2019

HSCRC
Health Services Cost Review Commission

Agenda

- In-depth Issue Exploration:
  - Framework of Selecting Measures
  - Updates to existing measures - AMA
  - Social Determinants of Health (SDOH)

- Status Update:
  - Benchmarking
  - Non-traditional Measure(s) EDAC and eCQM
  - Observation Stays by Hospital

Framework For Selecting Measures

Adapted NQF Measure Evaluation Criteria

- **Conditions for Consideration of potential measures:**
  - The measure is in the public domain
  - The measure is regularly maintained by accountable entity
  - The intended use includes public reporting **and** performance improvement to achieve high-quality, efficient healthcare.
  - The measure is fully specified and tested for reliability and validity.
  - Harmonization with related measures and issues with competing measures have been considered and addressed, as appropriate.
- Subsequent Measure Evaluation Criteria
  - Importance to Measure and Report
  - Scientific Acceptability of Measure Properties
  - Feasibility
  - Usability and Use
  - Related and Competing Measure

NOTE: Not all acceptable measures will be equally strong on each set of criteria. The assessment of each criterion is a matter of degree.

NQF Measure Evaluation Criteria More Details

1. **Evidence, Performance Gap, and Priority (Impact)—Importance to Measure and Report:** Extent to which the specific measure focus is evidence-based, important to making significant gains in healthcare quality, and improving health outcomes for a specific high-priority (high-impact) aspect of healthcare where there is variation in or overall less-than-optimal performance.
    a. considerable variation, or overall less-than-optimal performance, in the quality of care across providers; and/or
    b. disparities in care across population groups.

2. **Reliability and Validity—Scientific Acceptability of Measure Properties:** Extent to which the measure, as specified, produces consistent (reliable) and credible (valid) results about the quality of care when implemented.
    a. Evidence-based risk adjustment for outcome measures
    b. If disparities in care have been identified, measure specifications, scoring, and analysis allow for identification of disparities through stratification of results (e.g., by race, ethnicity, socioeconomic status, gender).

NQF Measure Evaluation Criteria More Details

3. Feasibility: Extent to which the specifications, including measure logic, required data that are readily available or could be captured without undue burden and can be implemented for performance measurement.

4. Usability and Use: Extent to which potential audiences (e.g., consumers, purchasers, providers, policymakers) are using or could use performance results for both accountability and performance improvement to achieve the goal of

5. Comparison to Related or Competing Measures: If a measure meets the above criteria and there are endorsed or new related measures (either the same measure focus or the same target population) or competing measures (both the same measure focus and the same target population), the measures are compared to address harmonization and/or selection of the best measure.

a. The measure specifications are harmonized[23] with related measures;**OR**
b. the differences in specifications are justified.
c. The measure is superior to competing measures (e.g., is a more valid or efficient way to measure);**OR**
d. multiple measures are justified.

HSCRC Framework: Adapted from Clinical Adverse Event Measures Criteria

1. The measure addresses a key program objective that Maryland is comparable in performance and aligned with key National payment programs (e.g. CMS)
2. The measure is evidence-based
3. The measure contributes to efficient use of measurement resources and/or supports alignment of measurement across programs.
4. The measure can be feasibly reported without adding significant reporting burden
5. The measure is reliable and valid for reporting and analysis at the Hospital level
6. The measure has high Usability
7. Measure is in current use and no unreasonable implementation issues have been identified that outweigh the benefits of the measure.

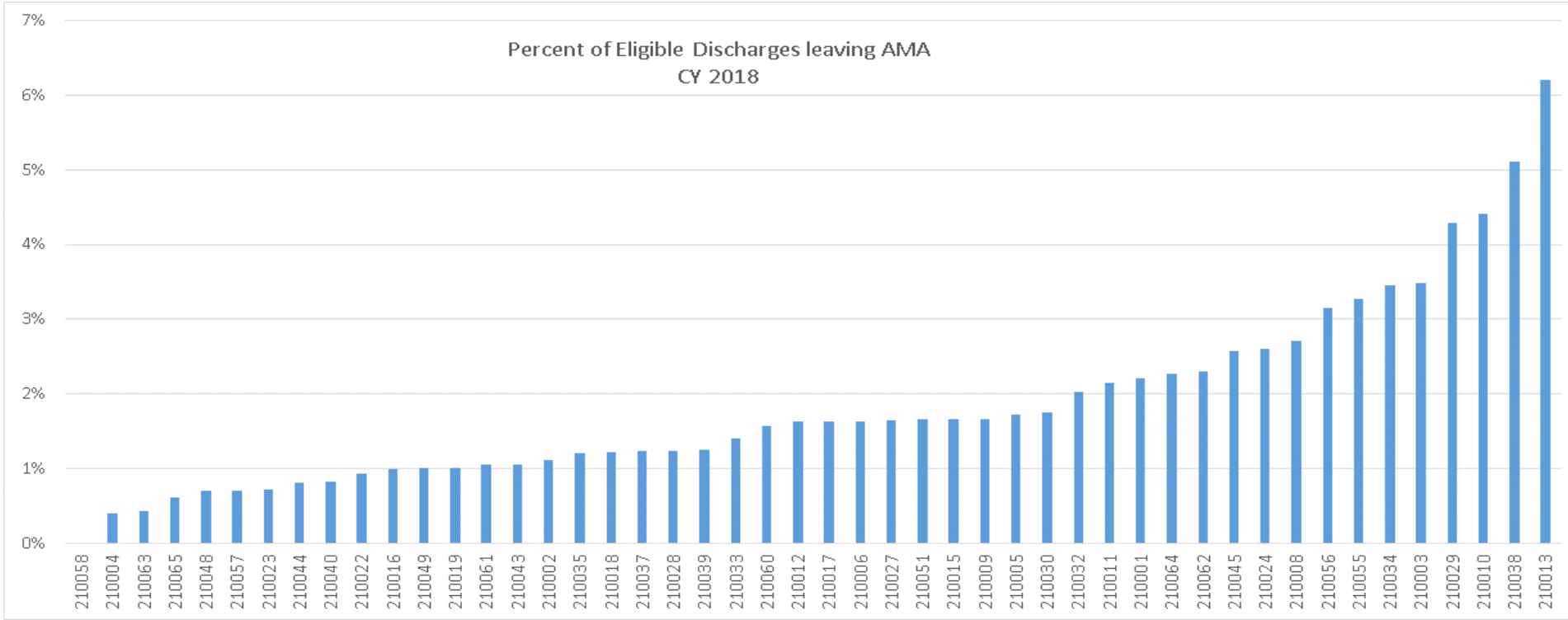
Conclusion of Framework

- Where possible, staff will follow NQF criteria as we review potential measure(s)
- Formal NQF endorsement is a 'plus' in considering potential measure(s)
- It is possible that measure(s) may not wholly meet all criteria, but this framework can guide our evaluation

Potential Edits to Existing Measure

Inclusion of Index Admissions where Patient leaves AMA Updated

- Currently included in RRIP and Medicare waiver metric
- Considerable variability across hospitals in percent of patients leaving AMA
- Decreased readmission rates slightly for all but 5 hospitals; average decrease statewide was 0.15 percentage points with largest decrease being about 0.5 percentage points
- Statewide CY18 readmission rate for AMA patients was around 25%



Reasons for Leaving AMA

- Based on focus group interviews of patients and providers at an academic medical center*, the following reasons for leaving AMA emerged:
  - drug seeking
  - pain management
  - other family or work obligations
  - wait time
  - doctor's bedside manner
  - teaching-hospital status
  - communication
- Discussion: Should hospitals be held accountable for readmissions when patient leaves AMA?

*Onukwugha. E., et. al. Reasons for discharges against medical advice: a qualitative study. Qual Saf Health Care. 2010 October

Behavioral Health and AMA CY 2018

CY 2018 RY 2020 Logic	# AMA	Percent of AMA	# Eligible	Percent of Eligible
Total Discharges	7,629		475,170	
% with Primary Behavioral Health	1,737	23%	42,065	9%
% Primary Substance Use Disorder	1,298	17%	11,350	2%
% Primary Psychiatric	439	6%	30,715	6%
% with Secondary Behavioral Health*	4,538	59%	182,057	38%
% Secondary Substance Use Disorder	4,184	55%	99,057	21%
% Secondary Psychiatric	3,080	40%	140,608	30%
*can have both a secondary diagnosis of SUD or psych				

Payer Status and AMA

By Payer AMA Discharges	#	Percent of Total AMA	# Eligible	Percent of Eligible
Medicare FFS+HMO	1,914	25%	207,875	44%
Medicaid FFS+HMO	3,993	52%	110,813	23%
Commercial	1,005	13%	135,611	29%
Charity/Self Pay	510	7%	7,888	2%
All Other	207	3%	12,983	3%
Total	7,629	100%	475,170	100%

Considerations for AMA

- Significantly higher readmission rate for patients with index discharge AMA
- Significant proportion of AMA discharges have primary or secondary behavioral health diagnosis
- Staff would like to better understand substantial by-hospital variation in AMA (0.5% to 6%)
  - Correlate with HCAHPS?
  - Check with Commissioner Elliott for clinician perspective
  - Criteria for discharging to AMA
    - Currently included in case-mix audit; other ways of looking at this?

Social Determinants of Health (SDOH) and Risk Adjustment

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NQF Panel Recommendation

Recommendations Related to NQF Criteria and Processes Related to SDS Adjustment

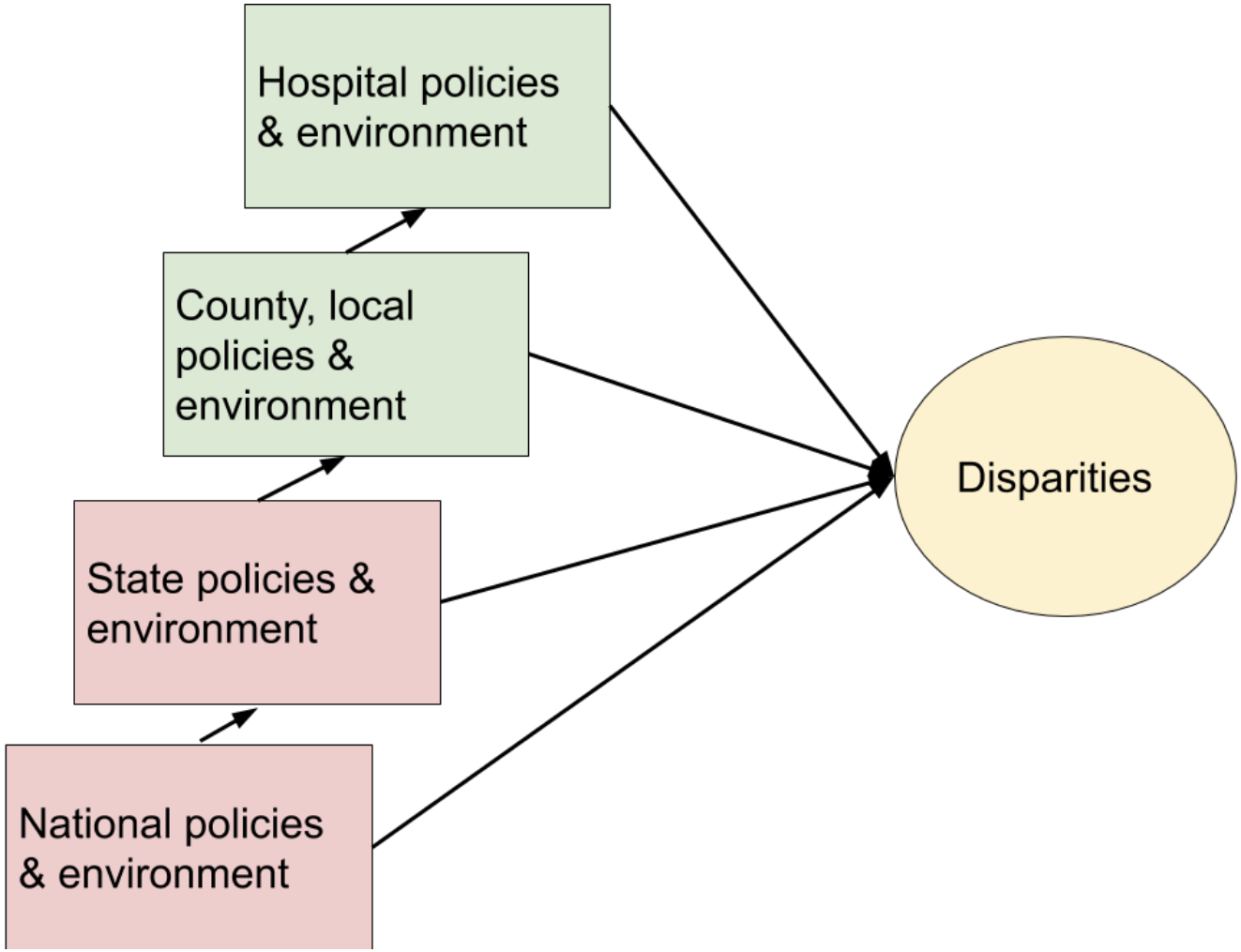
Recommendation 1: When there is a conceptual relationship (i.e., logical rationale or theory) between sociodemographic factors and outcomes or processes of care and empirical evidence (e.g., statistical analysis) that sociodemographic factors affect an outcome or process of care reflected in a performance measure:

- those sociodemographic factors should be included in risk adjustment of the performance score (using accepted guidelines for selecting risk factors) unless there are conceptual reasons or empirical evidence indicating that adjustment is unnecessary or inappropriate;

AND

- the performance measure specifications must also include specifications for stratification of a clinically-adjusted version of the measure based on the sociodemographic factors used in risk adjustment.

Sources of Disparities



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Measures of SDOH

Multiple sources of SDOH measurement; assessed in terms of current availability/completeness/etc. (can be modified). For today's purposes, variables included are:

- Dual/Medicaid (income)
- Race
- ADI (neighborhood deprivation)

Discussion:

- Measure single variable or each variable separately; OR
- Create index combining individual/area variables
  - (+) Provides a single disparity metric that can be used in Quality Improvement/ Pay-for-Performance
  - (-) Provides less information on which aspects of SDOH are causing disparities

One Way to Build a Disadvantage Index

1. Regress each disadvantage metric against readmission
    - ADI
    - Medicaid
    - Black race
    - Regression coefficient indicates strength of association with readmission
2. "Weight" each discharge's disadvantage values by their coefficients
3. Sum weights across discharge
    - Estimates joint effect of ADI/Medicaid/race
    - Larger value = higher disadvantage

Modeling Weights

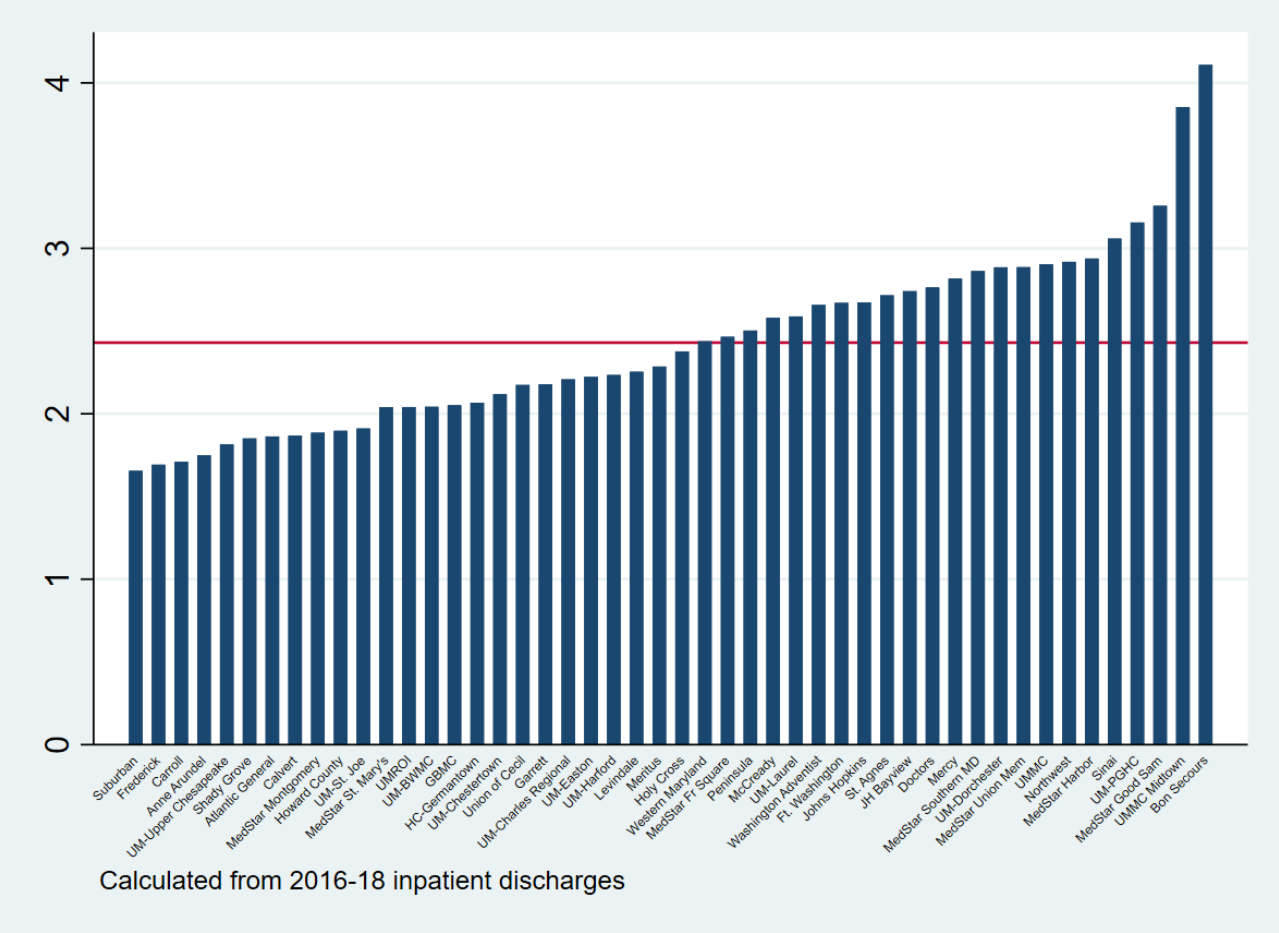
- Medicaid (dual or only): 1.36
- Black race: 1.21
- ADI (change of 1 SD) 1.14

Making an Index: The Math

Hospid	EID	Black	Black Weight	Medicaid	Medicaid Weight	ADI	ADI Weight	SDOH Index
210001	2	1	1.21	1	1.35	0.8	1.14	3.47
210003	4	0	1.21	0	1.35	0.2	1.14	0.23

(1*1.21) + (1*1.35) +(.8*1.14)=3.47

Disadvantage Index by Hospital



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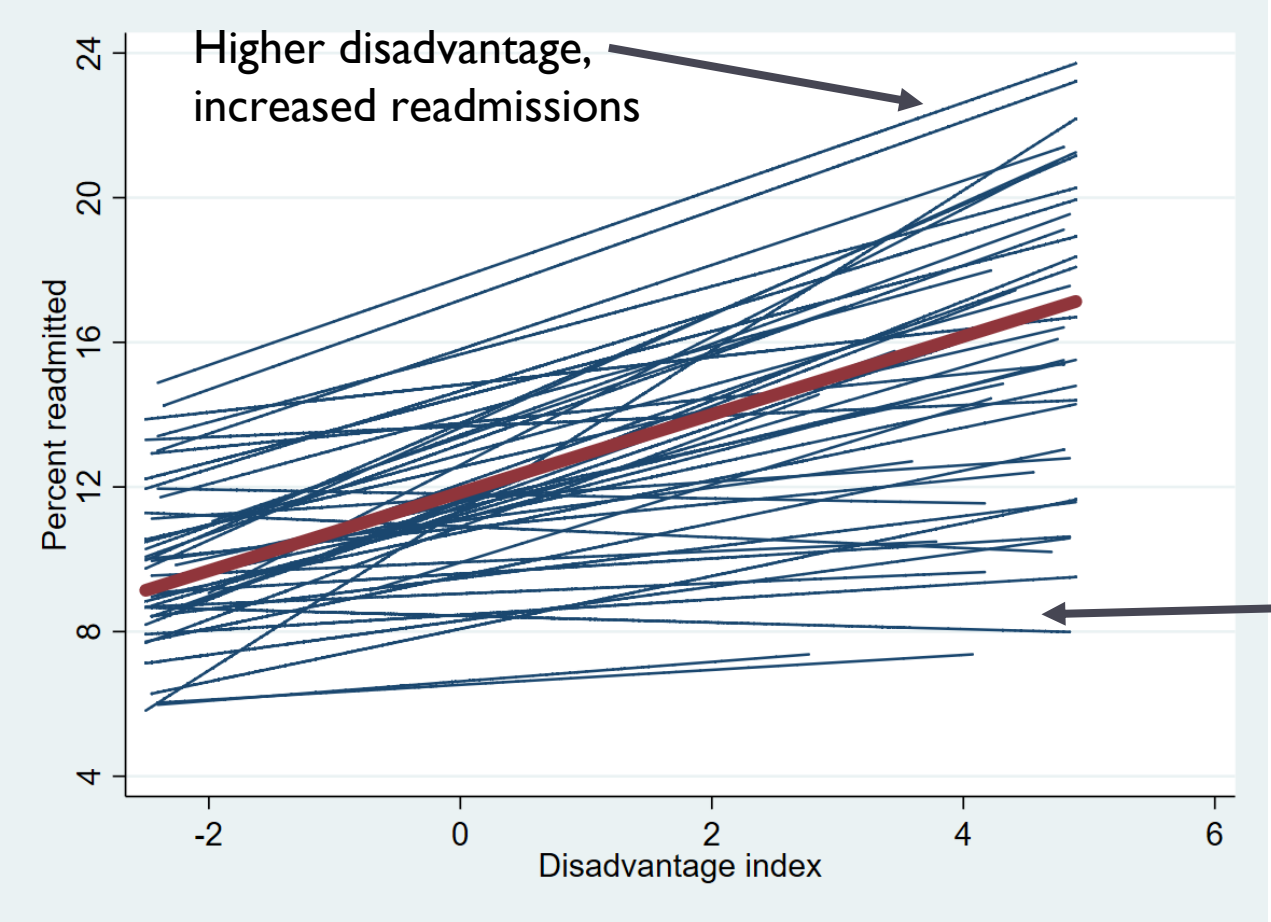
What To Do With the Disadvantage Index?

- Stratify patients within hospitals into two groups (high and low)
  - (-) Creates binary values from continuous variable
  - (+/-) Holds hospitals responsible for all sources of disparity
- Multilevel regression model
  - (+) Treats disadvantage as continuous variable
  - (+) Accounts for disparities external to the hospital
  - (+) Addresses small cell size

Accounting for Hospitals and Patients



Each line represents a hospital's risk of readmission by disadvantage index

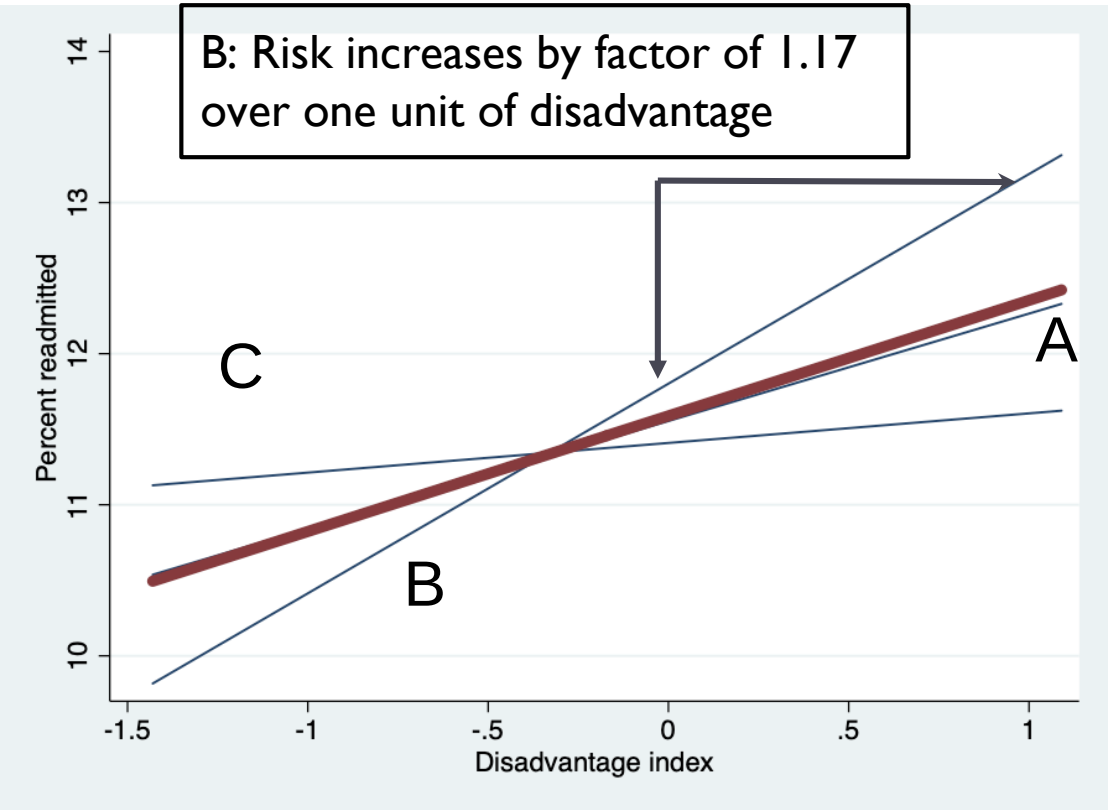
Slope of line = disparity indicator

Higher disadvantage, reduced readmissions

Interpreting the Disparity Indicator

- Similar to O/E ratio
- Value of 1: No change in readmission risk across disadvantage levels
- >1 indicates increasing disadvantage results in higher readmission risk at the hospital

The Disparity Indicator

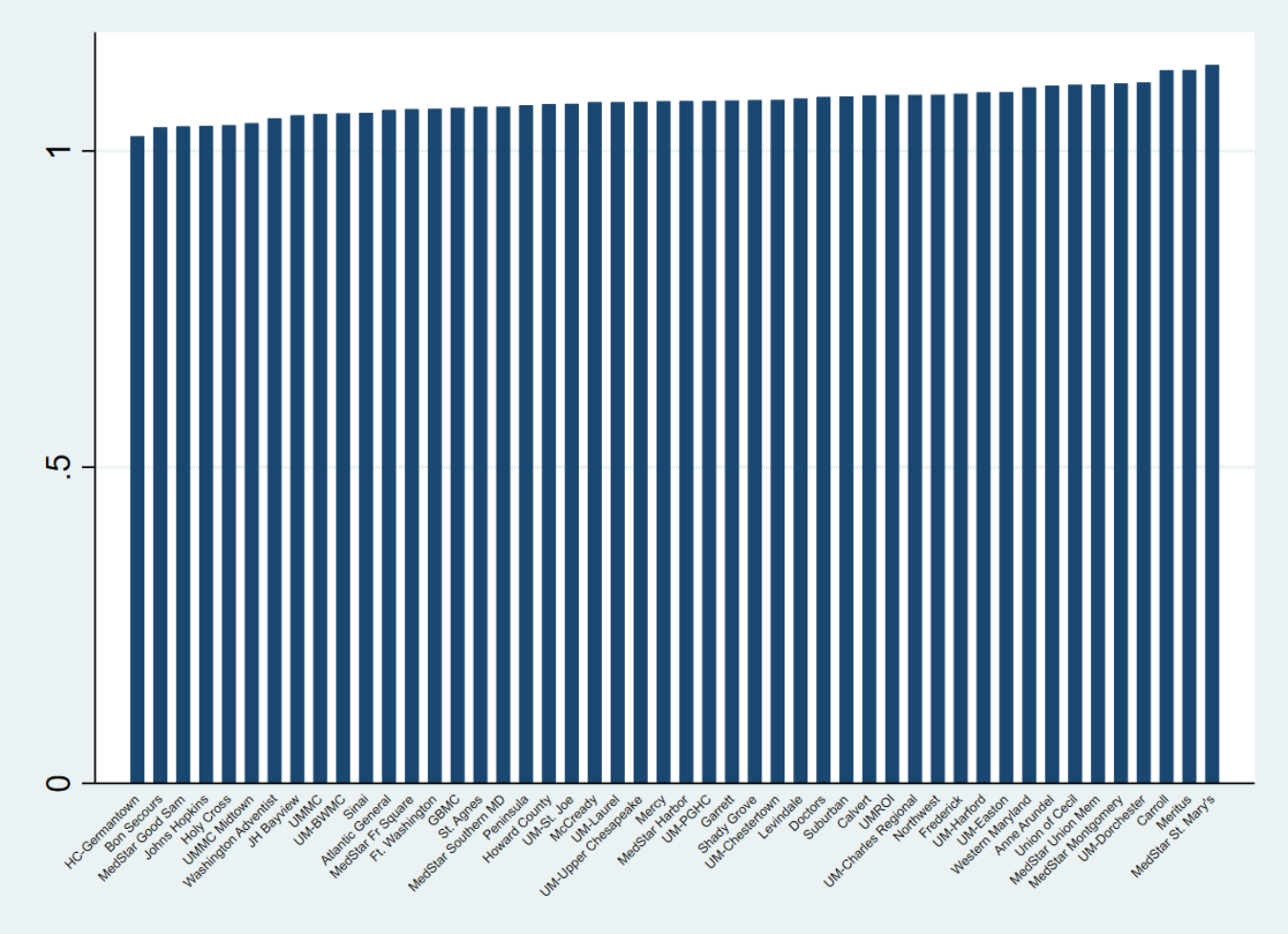


Hospital A: Average disparity score (1.07)

Hospital B: High disparity score (1.17)

Hospital C: Low disparity score (1.03)

The Disparity Indicator



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Conclusions

- Disadvantage index may be helpful in monitoring and incentivizing reductions in disparities
- Wide range of disparities across hospital's in different regions, volume/facility characteristics
- Some hospitals are doing very well on disparities, others have opportunity for improvement
- Feedback requested:
  - Existing SDOH variables in index or others?
  - Index or standalone variable(s)?
  - Regression model or stratification?
  - Monitoring, pay for performance?

Further NQF Recommendations

- Maintain standing committee focused on disparities
  - ***HSCRC maintains that a disparities lens must be included in our pay-for-performance programs per our PMWG Guiding Principles***

- Monitor for unintended consequences of measurement (noting "potential differences in community factors such as public funding or area healthcare resources")
  - ***Hospital imperative to address SDOH an ongoing, collaborative effort***
  - ***Public funding resources distributed by the HSCRC GBR System:***
    - ***Infrastructure funding***
    - ***Competitive Regional Partnership dollars***
    - ***Jobs Grant Funding***
  - ***Other resources available to hospitals:***
    - ***Community Benefit***

Status Update on Priority Issue Areas

Benchmarking - Compare MD to Similar "Peer Groups"

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Statewide Readmission Goal: Benchmarking Maryland Performance

- **Subgroup goal:** Consider statewide goal for readmissions (currently National Unadjusted Medicare FFS Average)
- **1st Step:** Compare Maryland performance to benchmark or comparison group
- **Status:** Currently working on several options for benchmarking that we plan to bring to subgroup over next several months.

Potential Medicare Benchmarks

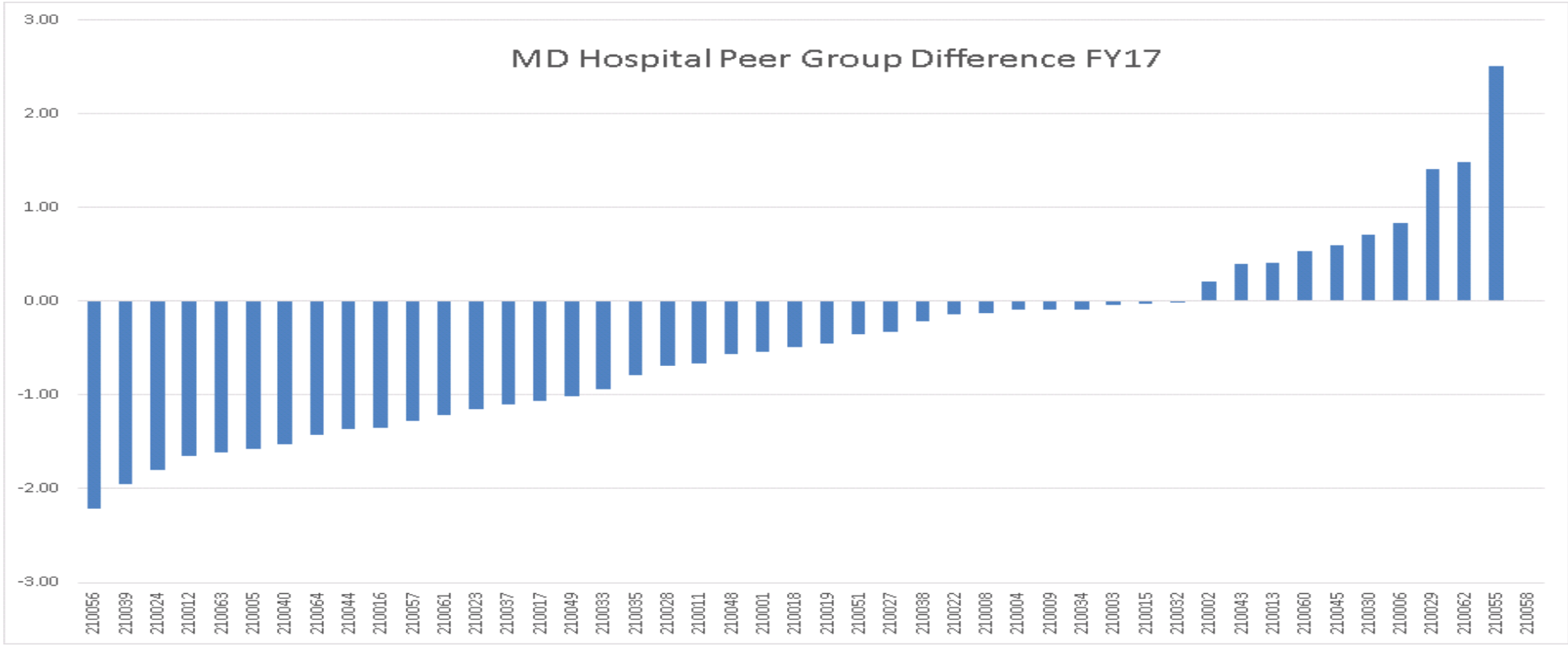
- MD vs Nation:
  - Maryland vs National performance on unadjusted waiver test (Current)
  - Maryland vs. National performance on CMS Hospital-wide readmission (HWR) measure (risk-adjusted)
- MD vs. Peer Group:
  - MD hospital vs peer groups on CMS HWR measure using MPR Peer Groups
    - See subsequent slide
  - MD and matched counties on per discharge and per capita readmissions
    - Working with William Henderson's team to implement; anticipated June/July

MPR Peer Group

- MPR developed peer groups based on the following observable characteristics:
  - Ownership status (indicator for not for profit),
  - # teaching residents,
  - urban,
  - eastern US,
  - number of beds,
  - average case mix index,
  - # discharges eligible for HWR measure,
  - percent SSI patients,
  - complexity composite (0-12 count of services for ED, organ transplants, trauma center, med/surg ICU, cardio-thoracic, cardian cath lab, burn unit, chemo, neonatal ICU, neurosurgery, ortho surgery, ESRD)
- MPR used a methodology that produces a list of 15 national hospitals (for each Maryland hospital) that are "close" on these dimensions using statistical approach proposed by **Byrne et al. 2009**, **"Method to Develop Health Care Peer Groups for Quality and Financial Comparisons Across Hospitals" Health Services Research**.

MPR Peer Group Analysis

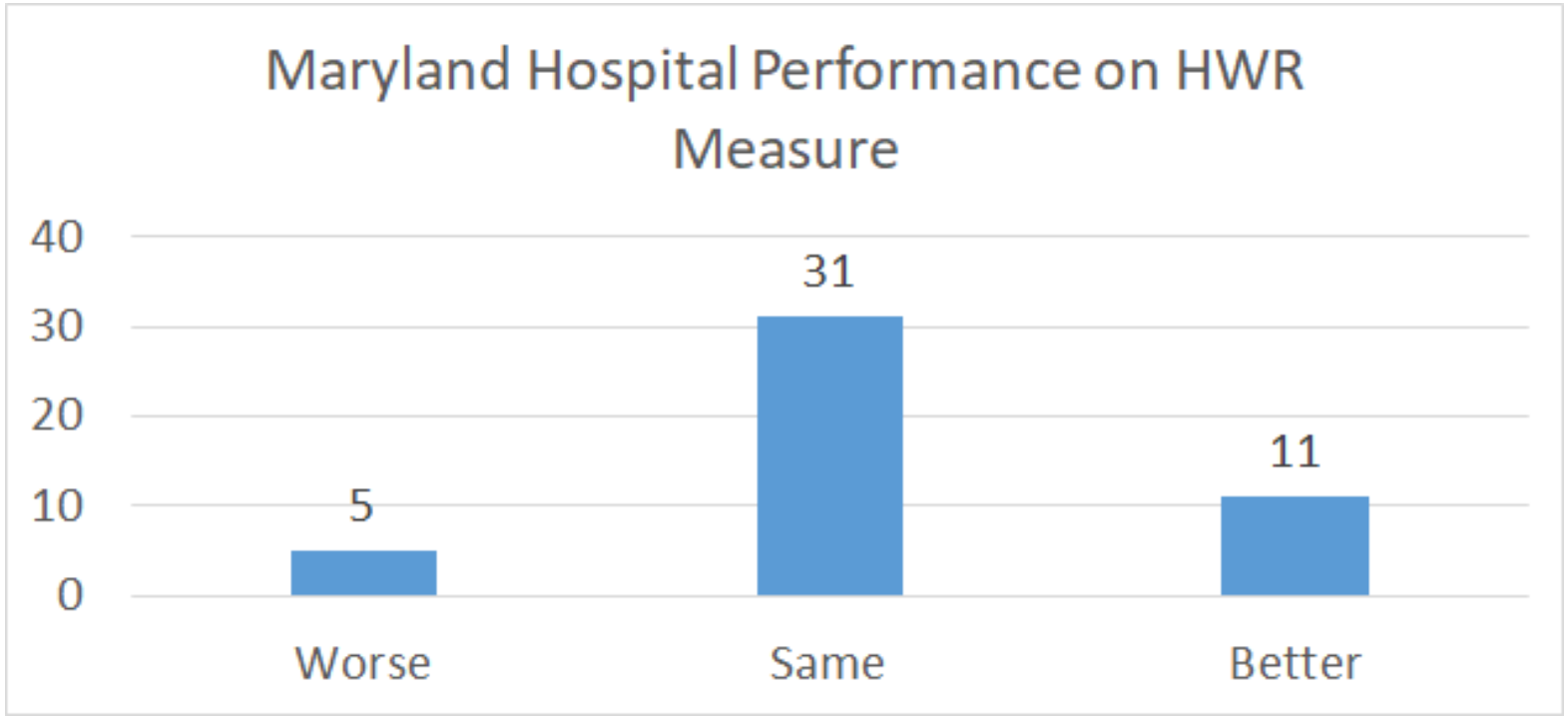
- Constructed weighted average of HWR measure for peer group to compare to each Maryland hospital's HWR rate
- HSCRC repeated analysis using more recent HWR readmission data (FY 2017); 35 out of 45 hospitals performed better than peer group average (22 more than 0.5% better)



Understanding Peer Group Construction

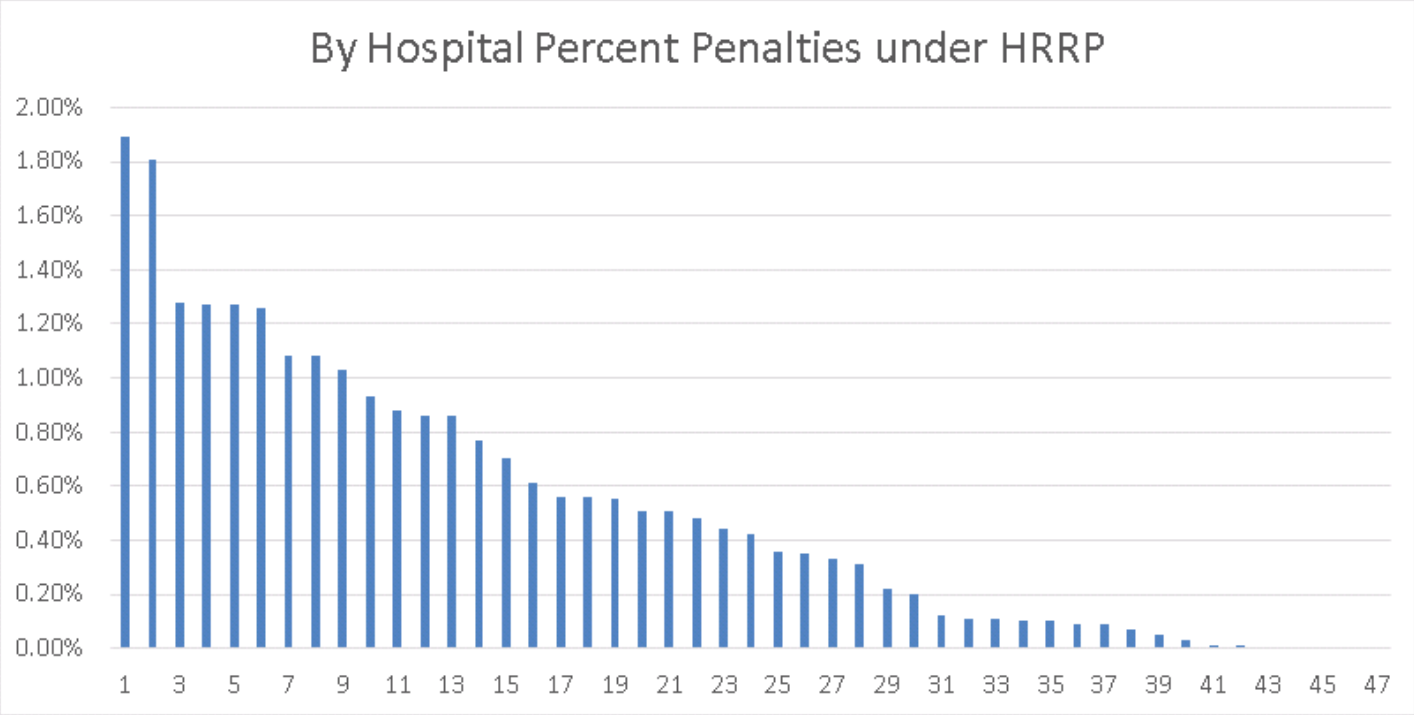
- Need publicly available data variables
- Many permutations of chosen variables to match to peer hospitals
- Consider face validity of matching results
- No 'peer group' methodology will be perfect
- Once peer groups are selected, can model measure results across peer groups to assess relative performance
- Peer groups can be for hospitals or geographies (HSCRC currently using counties)
- Idea is to get multiple perspectives on Maryland performance relative to outside benchmarks to inform development of statewide goal under TCOC model

National - MD on Hospital-Wide Readmission Measure (FY 2017)



Maryland Performance: CMS HRRP

- CMMI has provided the HSCRC with results for Maryland hospitals under HRRP for FFY 2019
- 42 out of 47 hospitals would receive a penalty



Potential Commercial/Medicaid Benchmarks

- Commercial
  - Comparison of MD and matched counties on per discharge and per capita readmissions
    - Using unadjusted all-payer metric
    - Working with William Henderson's team on this analysis; anticipated July/August
- Medicaid
  - Working to add Medicaid eligibility flags by MCO to case-mix data and then can calculate case-mix adjusted readmission rate by MCO
- All payer: Should we evaluate performance against the National Inpatient Sample (data lag with NIS 2016)?
  - Need subgroup input on whether to pursue

Non-traditional Readmission Measures

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Readmissions: Alternative Measures

- RRIP - Currently single measure

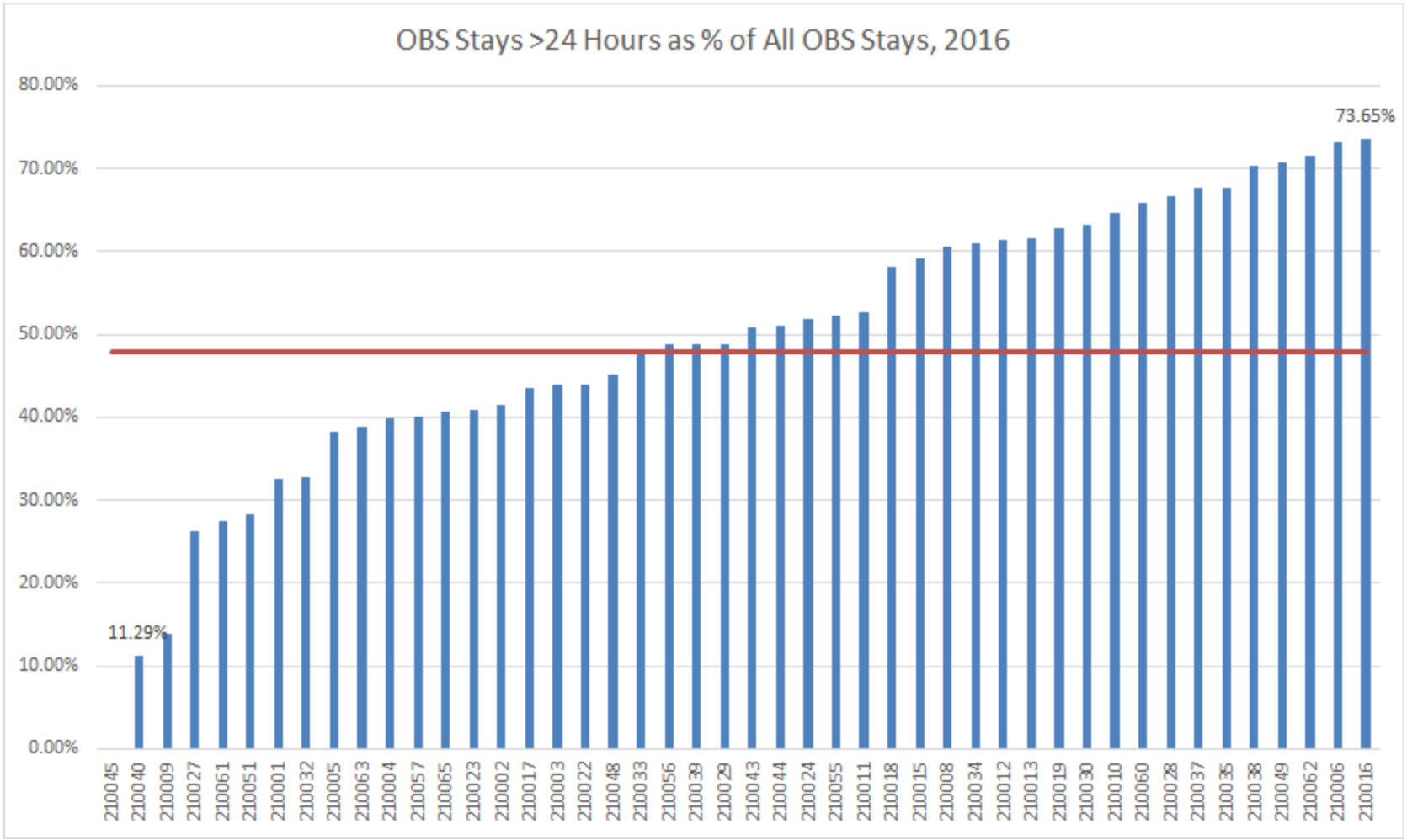
- Examples of Alternative Readmission Measures (Suggested by Stakeholders)
  - Per capita readmissions
    - NOTE Some have suggested Per Capita Admissions as alternative utilization measure
  - ED or OBS Re-visits
  - National Condition-Specific Measures
  - Readmissions within Shorter Window (7 days) or Longer Window (60 days)
  - eCQM for Readmissions

  - May spotlight: electronic clinical quality measures (eCQMs) Dr. Zahid Butt

Weighing Alternative Measure Inclusion

- Should subgroup consider alternate/additional measures of readmissions?
  - Pros:
    - May more holistically assess hospital performance;
    - May allow Maryland to assess observation stays and ED revisits;
    - May credit hospitals with better performance on population-based measures
  - Cons:
    - Additional measures will make the program more complex;
    - Similar measures may lead to duplication/overlap

Trends in OBS Stays - >=24 Hours as % of All OBS Stays, 2016



Spotlight on: eCQM Measures
Dr. Zahid Butt

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Next meeting and conclusion

Next meeting is **Tuesday, Jun 25**

Topics may include:

- Updates to Statewide Target Methodology/Forecasting
  - Consideration of Statewide Attainment/Improvement
- Benchmarking Update
- Shrinking Denominator
- Non-traditional measures - per capita

Appendix

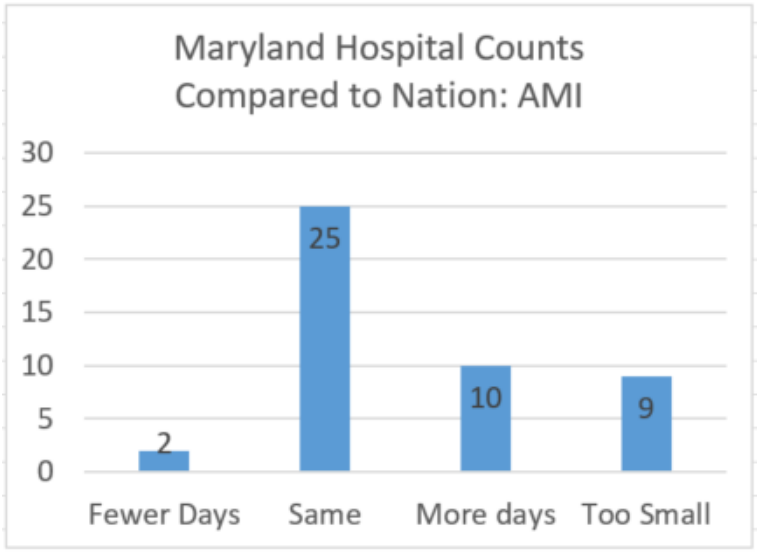
Excess Days in Acute Care (EDAC)

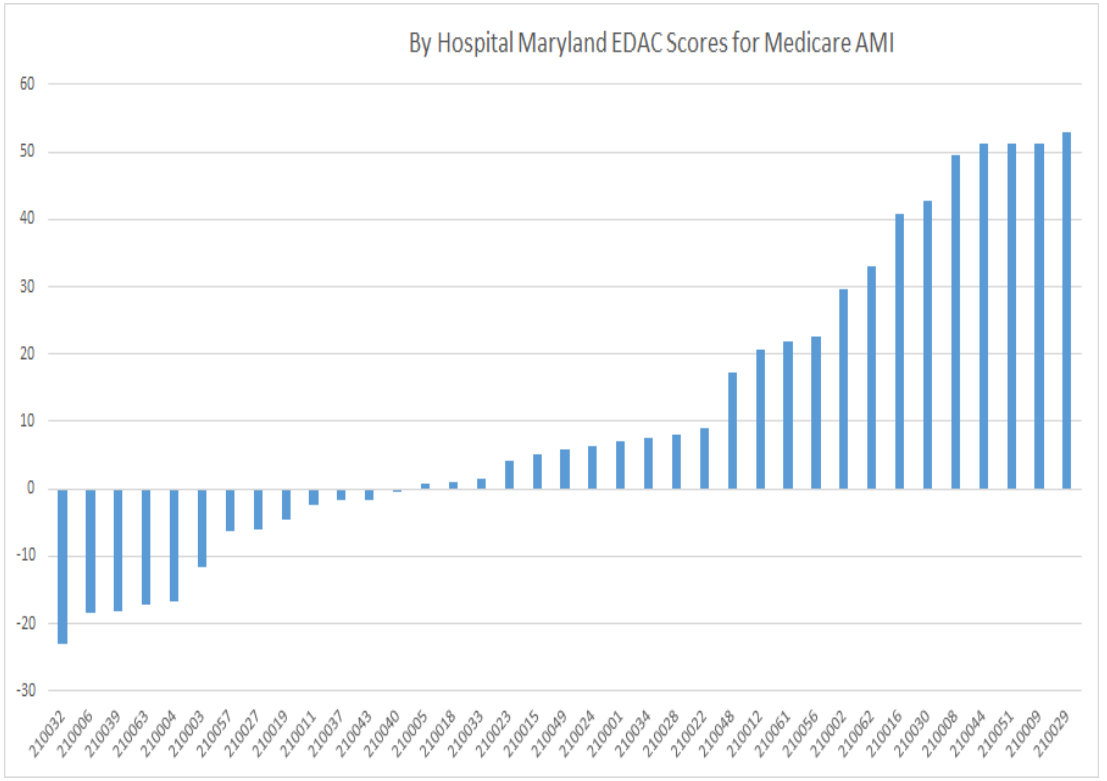
- **Measure Description:**
  - Captures excess days that a hospital's patients spent in acute care within 30 days after discharge.
  - Measures incorporates the full range of post-discharge use of care (emergency department visits, observation stays, and unplanned readmissions).
  - "Utilization of these services, for any reason, is disruptive to patients and caregivers, costly to the healthcare system, and puts patients at additional risk of hospital-acquired infections and complications."
- **Condition Specific 3-year Medicare measure:** AMI, HF, Pneumonia (no all-cause available)
- Hospital Compare began reporting July 2017 (AMI, HF) & July 2018 (pneumonia)
- NQF endorsed; Risk adjusted using all Medicare claims for previous 12 months; non SES adjustment due to concerns on masking disparities
- Various exclusions including AMA, planned readmissions

EDAC Results: Heart Attack (7/1/14-6/30/17)

National weighted average: 6.58 excess days per 100 discharges

Maryland weighted average: 8.68 excess days per 100 discharges



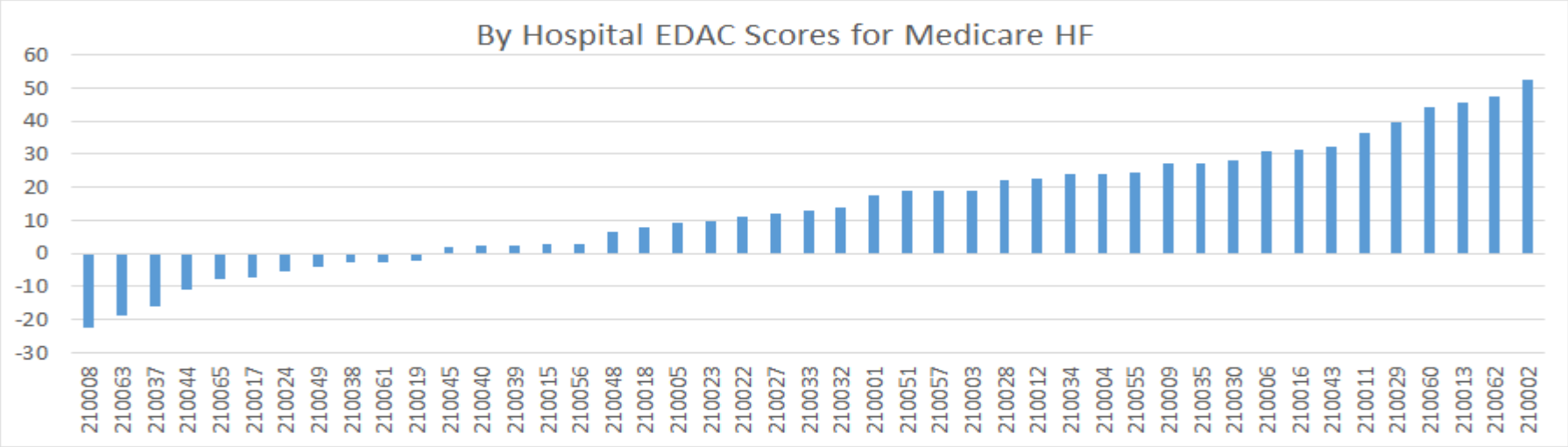


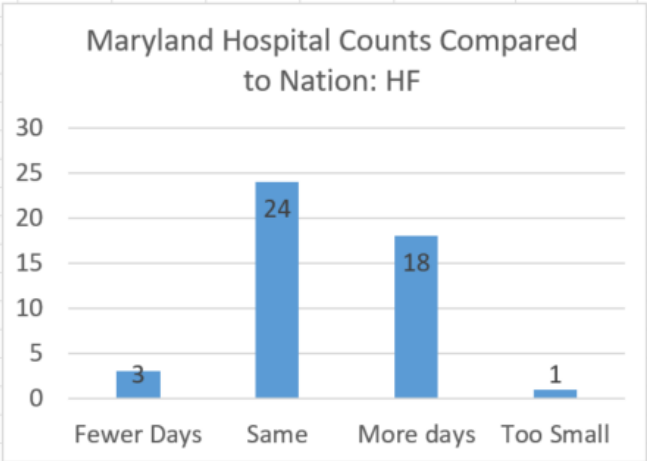
EDAC Results: Heart Failure (7/1/14-6/30/17)

Updated

National weighted average: 10.17 excess days per 100 discharges

Maryland weighted average: 13.31 excess days per 100 discharges





EDAC Results: Pneumonia (7/1/14-6/30/17)

Updated

National weighted average: 11.43 excess days per 100 discharges

Maryland weighted average: 15.61 excess days per 100 discharges