Performance Measurement Work Group Meeting

4/17/2019

Agenda

- **Welcome and Introductions**
- **PAU Update**
  - RY 2020 PAU Policy
  - RY 2021 updates
- **Measure Evaluation Framework Overview**
- **Quality Programs Future/Strategic Update**
  - Update on Accuracy of Race Data
- **Outcomes-based Credits**
- **MHAC Cost Weight Update**
- **Readmission Subgroup Update**

Welcome and Introductions

RY2020 PAU Policy

PAU at a glance
RY2020 Measures
RY2020 Reduction
RY2020 Protections

Potentially Avoidable Utilization (PAU) Savings at a glance

- **PAU Savings Concept**
  - The Global Budget Revenue (GBR) system assumes that hospitals will be able to reduce their PAU as care transforms in the state
  - The PAU Savings Policy prospectively reduces hospital GBRs in anticipation of those reductions
- **Mechanism**
  - Statewide reduction is scaled for each hospital based on the percentage of PAU revenue linked to the hospital in a prior year

PAU measures

Revenue from Prevention Quality Indicators (PQIs)

- **Measure definition:** AHRQ Prevention Quality Indicators, which measure adult (18+) ambulatory care sensitive conditions.

- **Data source:** Inpatient and observation stays >= 24 hours

- **Change for RY20:** Phasing out use of PQI 02 Perforated Appendix

Revenue from PAU Readmissions :

- **Measure definition:** 30-day unplanned readmissions measured at the sending hospital

    - See next slide for methodology

- **Data Source:** Inpatient and observation stays >= 24 hours

- **Change for RY20:** Proposing change to link readmission with sending hospital rather than receiving

RY2020 PAU Readmissions

▶ In response to feedback, staff will propose counting sending hospital readmissions for RY2020.

▶ To calculate the readmissions revenue associated with the sending hospital:

  ▶ Calculate the average cost* of an intra-hospital readmission (to and from the same hospital)

  ▶ Apply average cost to the total number of sending readmissions for that hospital.

▶ Approach holds sending hospitals accountable for cost of a readmission

  ▶ Does not hold hospital accountable for cost structure at receiving hospital

*Average costs were adjusted to account for outlier intra-hospital readmission costs

PAU reduction: Express as incremental

- **As discussed in previous meetings, staff is updating how PAU reduction is expressed in the update factor**
  - Previously reversed out previous year's PAU reduction and implemented current year PAU reduction
  - Starting in RY20, staff will be calculating and displaying the incremental change only.

Annual Savings Reduction

▶ Staff plans to propose using the inflation and population adjustments of the update factor to determine the statewide PAU reduction

Statewide reduction = Statewide actual PAU revenue x Inflation

Statewide Results		Value
RY 2020 Total Approved Permanent Revenue	A	$16.9 billion
Total RY20 PAU %	B	10.77%
Total RY20 PAU $	C	$1.9 billion
Statewide Total Calculations		**Value**
RY 2020 Inflation Factor (preliminary)	D	3.02%
RY 2020 Revenue Adjustment $	E=C*D	-$58 mil
Ry 2020 Revenue Adjustment %	F=E/A	-0.34%

Analysis of PAU reduction and inflation over time

	RY14	RY15	Ry16	RY17	RY18	RY19	RY20
Adjustment for inflation & volume	2.31%	2.98%	2.87%	2.15%	2.76%	2.47%	3.02%

	RY 14 - 19	Algebra	RY 14 - 20	Algebra
PAU Revenue* cumulative	$10,729,159,487	A1	$12,652,053,572	A2
Weighted Cumulative Average of Inflation & Volume Adjustment	2.59%	B1	2.67%	B2
Inflation & Volume applied to PAU Revenue Cumulative	$277,932,547	C1 = A1 *B1	$337,966,847	C2
PAU Reduction Cumulative	-$285,120,984	D1	-$343,192,385	D2=E2-C2
Net Difference	-$7,188,437	E1=D1+C1	-$7,188,437	E2=E1
RY 20 Required Net reduction			-$58,071,401	F2=D2-D1

-0.34% of Total Permanent Revenue

*Revenue for PAU from CY13-CY18 using current methodology

Analysis of PAU reduction and inflation

- Rationale: Rate updates should not provide inflation for PAU revenue
  - Annual rate orders apply inflation and volume adjustments to GBRs each year (including PAU revenue)
  - PAU Savings reduction should remove these increases on PAU revenue
- Staff found that overall, the PAU policy has succeeding in limiting inflation for PAU revenue
  - Cumulative inflation and volume adjustments applied to PAU revenue Ry14-RY19 = $278 million
  - Cumulative PAU reduction RY14-RY19 = $285 million
  - Net Difference = -$7.2 million
- If we explicitly use inflation+demographic to calculate the PAU cut for RY20, we would maintain the -7.2 million difference?

RY2020 PAU Protection

- **Prior years**
  - PAU savings reduction capped at the statewide average reduction for hospitals with higher socio-economic burden*
  - In RY19, indicated future phase out of protection
- **Staff does not recommend continuing the protection for RY2020**
  - Staff believes the change to incremental PAU lessens the need for continued protections
  - Previous year protections are built into the permanent GBR

*defined as hospitals in the top quartile of % inpatient equivalent case-mix adjusted discharges (ECMADs) from Medicaid/Self-Pay over total inpatient ECMADs

RY2021 PAU Updates

Shift to per-capita

- For RY2021, HSCRC staff intends to recommend:
  - Shift to per capita PQI measurement (instead of revenue-based measurement)
  - Add avoidable pediatric admissions
    - AHRQ pediatric quality indicators (PDIs 14-16,18)
    - PQI 09 Low Birthweight Newborns
  - Count discharges that are both readmissions and PQIs as PQIs

- Based on PMWG feedback, attribute based first on Medicare Performance Adjustment attribution, then all-payer geographic attribution

Data and reporting steps

▶ **In subsequent months, CRISP to roll out Tableau dashboard to track PQI/PDI per capita performance.**

    ▶ Subject to change based on stakeholder and user feedback

General Estimated Data/Reporting Timeline:

Time since encounter	2-3 months	3-4 months	4-5 months
	PAU detail level files available	**PQI per capita performance available**	**Medicare patient-level data available**
	Creates PQI flags, enables case validation and populates other CRISP reports	Matches detail-level PQI files with Medicare CCLF files to perform PQI per capita attribution	Populates MPA reporting tools and MADE tool with patient-level data for attributed beneficiaries

RY2021 PAU TBD

- Readmissions
    - Last discussed: Count readmits from the sending hospital's PSAP.
    - Should this be topic be informed by Readmissions subgroup?
- Risk adjustment
- Border crossing
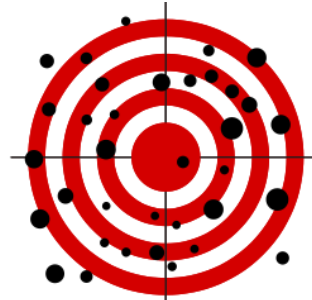- Translation to revenue

Measurement Evaluation Framework

Evaluating quality measures
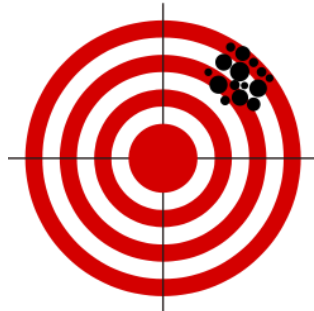
Reliability and validity
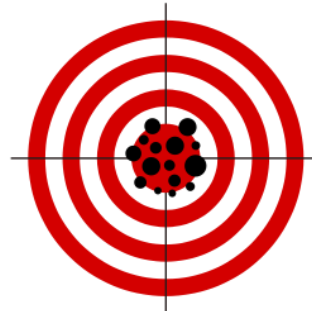
In search of reliability and validity

Unreliable & Unvalid

Unreliable, But Valid

Reliable, Not Valid

Both Reliable & Valid

Types of validity

- **Content**

  - Does the measure fully cover the relevant subject matter? E.g., did we leave important complications out of the PPC measures?
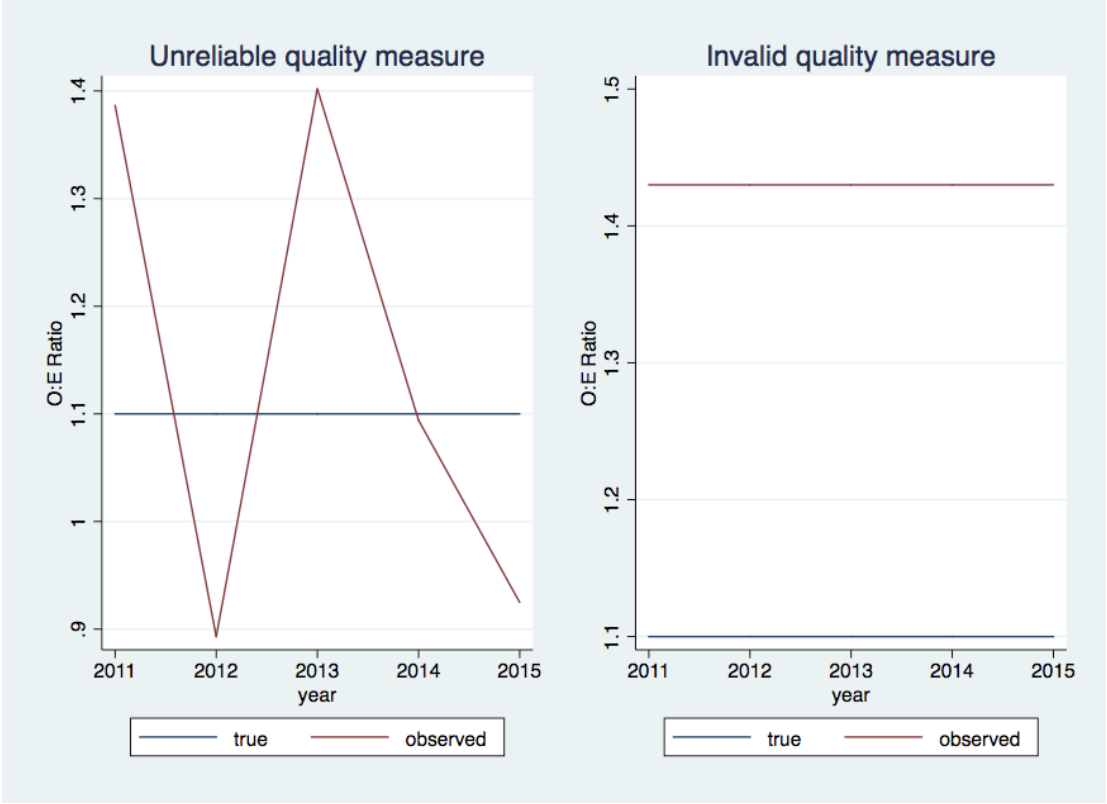
- **Face**

  - Do clinical and measurement experts support the measure?

- **Construct**

  - Are we measuring what we intend to measure?

  - E.g., is the PPC measure a reflection of complications, or some other construct?

Reliability and validity in the quality context

The opportunity

- HSCRC staff and work groups regularly evaluate changes to the quality methodologies

- Empirically assessing the effect of each proposed change on reliability and validity could result in streamlined evaluation and better measures

- What does that process look like?

Measuring validity and reliability
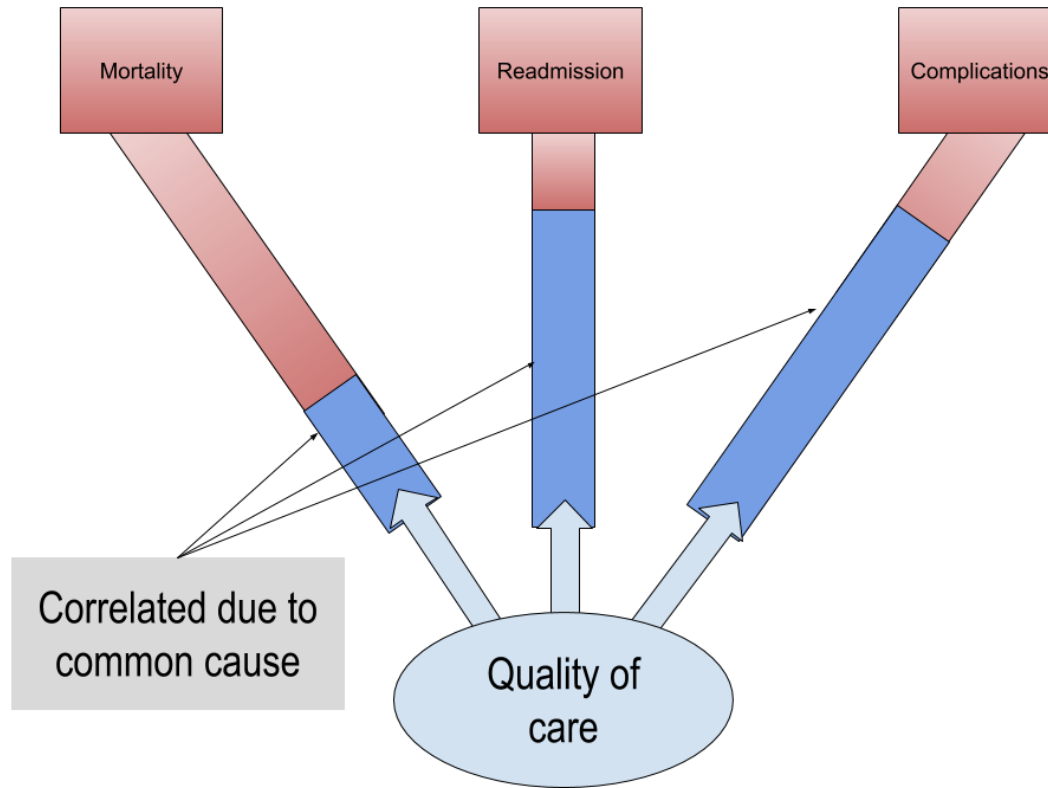
Implications

- If a change to a quality measure improves validity/reliability, the measure will:

  - Exhibit higher correlation with other quality measures

  - Exhibit higher year-over-year within hospital correlation

  - Exhibit same or lower correlation with "discriminant" measures (i.e. measures that are not thought to be related to one another)

How this might work in practice

- Collaborate with contractor to develop hypothesized set of relationships

- Solicit feedback from PMWG, other stakeholders

- Evaluate current measures against hypothesized relationships

- Build code to rapidly evaluate the effect of proposed methodology changes on hypothesized relationships

Quality Programs Strategic Updates: Topic Discussion

Quality Strategy under the All-Payer Model

▶ Focus on Inpatient Quality Measures

▶ Transition from process to outcome measures

▶ Keep up with national Medicare pay-for-performance programs and quality achievement

▶ Where possible, apply Medicare quality measures to All-Payer basis

▶ Transform the Healthcare Delivery System

    ▶ Via pay-for-performance program incentives

    ▶ Via infusion of care coordination funding (Infrastructure dollars, Transformation Grants for Regional Partnerships)

    ▶ Via non-profit mandate (Community Benefit dollars)

    ▶ Via waivers and data (Care Redesign Programs)

Guiding Principles For Performance-Based Payment Programs

▶ Program must improve care for **all patients**, regardless of payer

▶ Program incentives should support achievement of **all payer total cost of care model targets**

▶ Promote **health equity** while minimizing unintended consequences

▶ Program should **prioritize** high volume, high cost, opportunity for improvement and areas of national focus

▶ **Predetermined** performance targets and financial impact

▶ Hospital ability to **track progress**

▶ Encourage **cooperation** and sharing of best practices

▶ Consider **all settings of care**

Quality Strategy Under the TCOC Model: Bold Improvement Goals

- Bold Improvement Goals (BIGs) are intended to align community health, provider systems, and other facets of the State's health ecosystem to improve population health and achieve success under the TCOC Model

- Development Partners:
  - Interagency Workgroups
  - State Staff
    - Workgroups – as they are implemented into a specific program/policy
    - Commissioners, Leadership, Advisory Boards
  - Subject Matter Experts
  - Other Stakeholders

Bold Improvement Goals

- Reduce Statewide Diabetes Burden
- "Behavioral Health/SUD Focus"
- "Senior Health and Quality of Life"
- "Patient-Centered Care and Health Disparities"

What will we achieve?

Achieve 3,5,7-year targets	System and Statewide Alignment	Framework for tying TCOC Model Success to Population Health Improvements

Outputs: What will we get?

1. Communicate Priorities and Methods of Alignment	2. Connect BIG targets and measures to Programs	3. Collaborate and disseminate best practices	4. Share resources and Data	5. Monitor and Evaluate Progress	6. Refine and Update as nec'y

Activities: What will we do?

HSCRC Hospital Programs	TCOC Model Outcomes-Based Credits	MDPCP Learning Systems and Quality Incentives	State Medicaid Programs and Priorities	MHCC Policies and Quality Reporting	MDH programs and Initiatives (SHIP, LHICs etc.)	Statewide Agencies and Programs	Community-Based Organizations, Payers etc.

Inputs: Where will changes be made?

Example: Diabetes Burden

▶ Proposed outcomes-based credit for diabetes incidence (prevention)
▶ Both MDPCP and hospitals assessed on diabetes measures (management)
▶ State believes that collaboration between public health, providers, consumers, and hospitals can lead to better outcomes
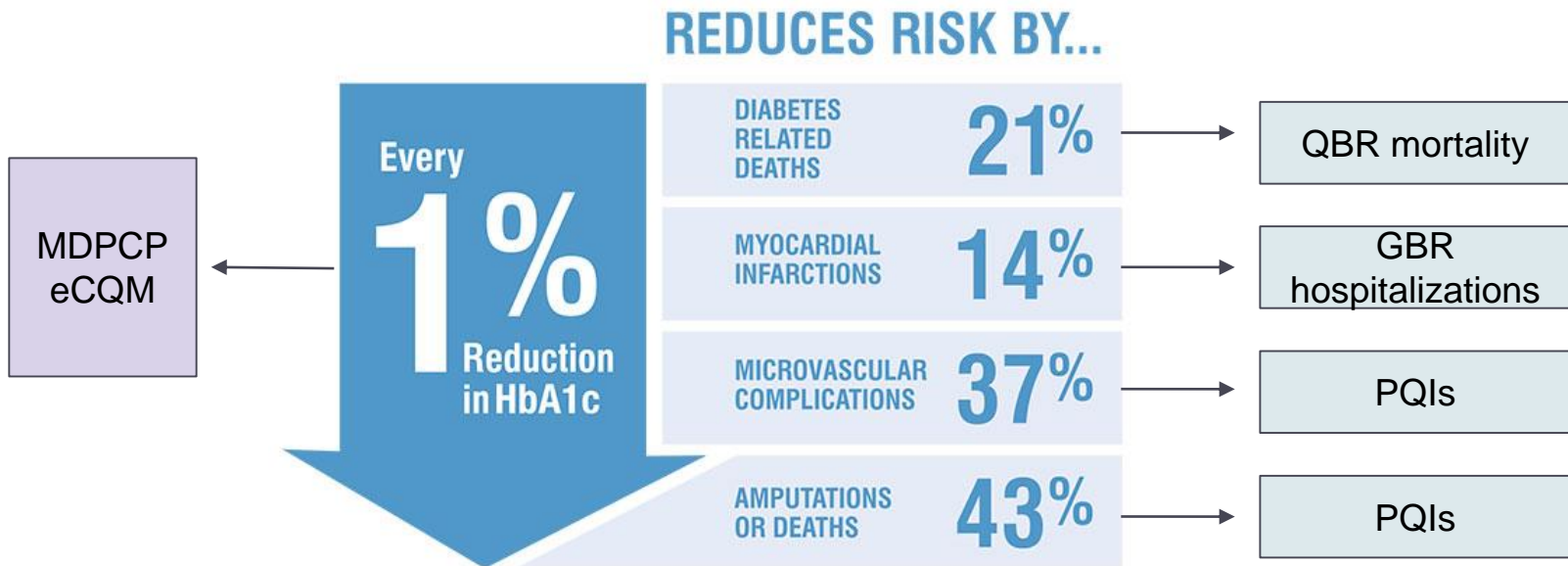
Source: Adapted from UKPDS 35. BMJ 2000;321:405-12.

Existing diabetes-specific measures in payment programs

	Outcome Based Credit	GBR	Medicaid	MDPCP	Hospital P4P	MPA
Population at risk	x		x	x		
BMI Assessment and weight counseling			x	x (PY2)		
Diabetes Incidence	x					
Population with Diabetes		x	x	x	x	
Eye Exam			x			
HbA1c Testing			x			
Medical Attention for Nephropathy			x			
HbA1c Control			x	x		
Diabetes Admissions (PQI)		x		x*	x	
ED visits		x		x		
Readmissions		x		x*	x	

* Measure is included in larger MDPCP utilization measures, but not called out specifically

Alignment Example: Medicare Performance Adjustment

- Goal is to add diabetes-related quality measures to the MPA quality adjustment for Y3
- Open questions:
  - Should we be aligning with diabetes prevention or management measures under the MPA?
  - Should we use measures that are already implemented in our programs or new unique measures that align with existing measures?
  - What measures do we think hospitals and their ambulatory partners have influence on?
- Showing measure matrix to Total Cost of Care Work Group and other stakeholders to illustrate where MPA measures could align

HSCRC Hospital Quality Strategy under the TCOC Model

▶Develop hospital pay-for-performance programs that incentivize Maryland to be a leader in value
▶Continue to conduct and expand monitoring of quality outcomes
▶Monitor and report on health disparities
▶Measure and report on population health
▶Consider approaches to measuring hospital commitments to community benefit investments to reduce disparities and achieve health equity
▶Consider outpatient Quality measures; quality in other settings of care
▶Identify additional data sources (e.g. electronic medical records); optimize use of non-traditional data sources
▶Further invest in quality assurance and coding audits

Leveraging Existing Demographic Data to Highlight Disparities and Increase Equity

▶ Monitor Quality Outcomes by Race
  ▶ Highlight Disparities to increase equity
▶ Validate Race Data
  ▶ Review literature citing relevance of claims based data
  ▶ Validate casemix data; if data is accurate then it will resemble census data

# Race Data Analysis

Hypothesis: If hospital race data is accurate, then demographics will resemble those suggested by US Census

1. Attribute black/white zipcode population totals to hospital PSAP
2. Compare black proportion from census to black hospital discharge proportion
3. Conduct correlation analysis (> .8 indicates a strong positive relationship)

Race Data Results

Race Data (Black)
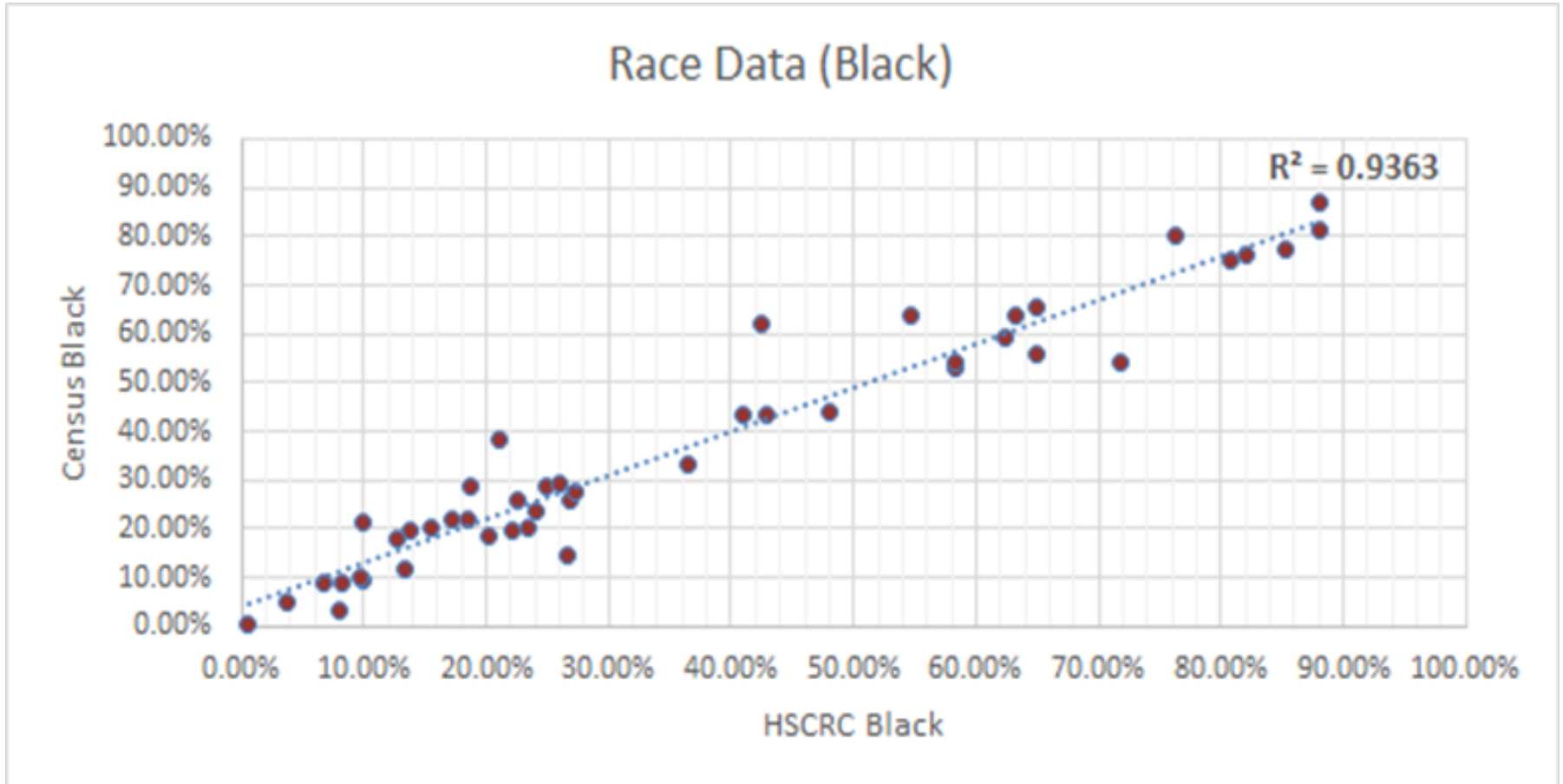
HSCRC Hospital Quality Strategic Planning

▶ HSCRC is seeking expert advice to outline a 5 year strategy for updating hospital performance measures and measurement approaches

▶ The strategic plan will outline the overall objectives of the programs, identify candidate measures for adoption, suggest options for program structure redesign (e.g., simplification, consolidation), and specify key tasks and timing for implementation of the strategic plan

▶ The strategic plan will consider various frameworks for national alignment, including the CMS Meaningful Measures framework

▶ Key tasks

  ▶ Meet with key HSCRC internal and external stakeholders

  ▶ Use the evaluation framework for assessing HSCRC's current performance based payment measures and methodologies.

  ▶ Identify/affirm important strategic areas that the HSCRC should focus on under the TCOC model, and where appropriate align with frameworks

  ▶ Identify strategic objectives and implementation timeline.

Outcome-Based Credits

Total Cost of Care and Population Health Improvement

- Total Cost of Care Model requires a focus on population health improvement for all Marylanders that includes:
  - Prevention to keep Marylanders healthy
  - Early intervention to ensure Marylanders do not progress to disease
  - Improved management for Marylanders with established conditions

- Provides an opportunity for statewide alignment of all sectors to focus on Population Health Goals
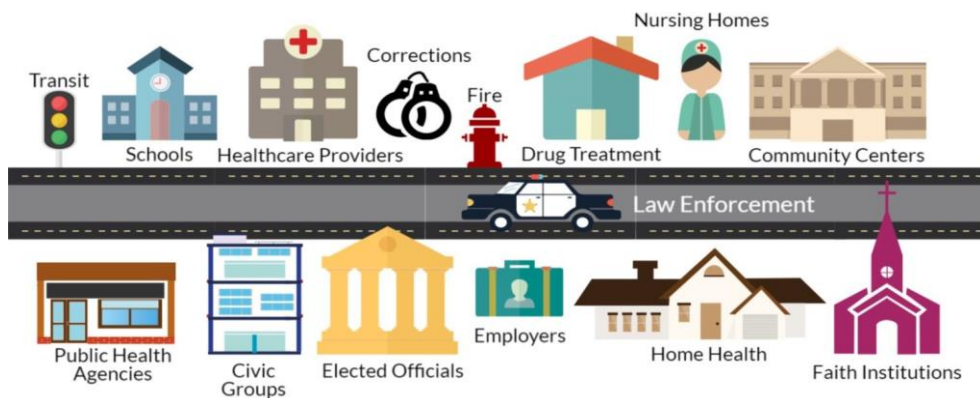
Unique Population Health Opportunity – Outcomes-Based Credits

- The State may invest in programs that do not immediately generate a reduction in cost, but do help prevent or delay disease onset
- As part of the Model, Maryland has a unique, first in the nation opportunity to receive outcomes-based "credits" for preventing or delaying disease onset
  - Improvements in all-payer, statewide population health may be able to offset some federal TCOC investments in Maryland .
  - No additional upfront investment from CMS.
  - All-payer, population-wide measures
  - Ability to develop "credits" annually

Diabetes in Maryland

Burden of Disease, Maryland, 2017

Source: IHME Global Burden of Disease 2017
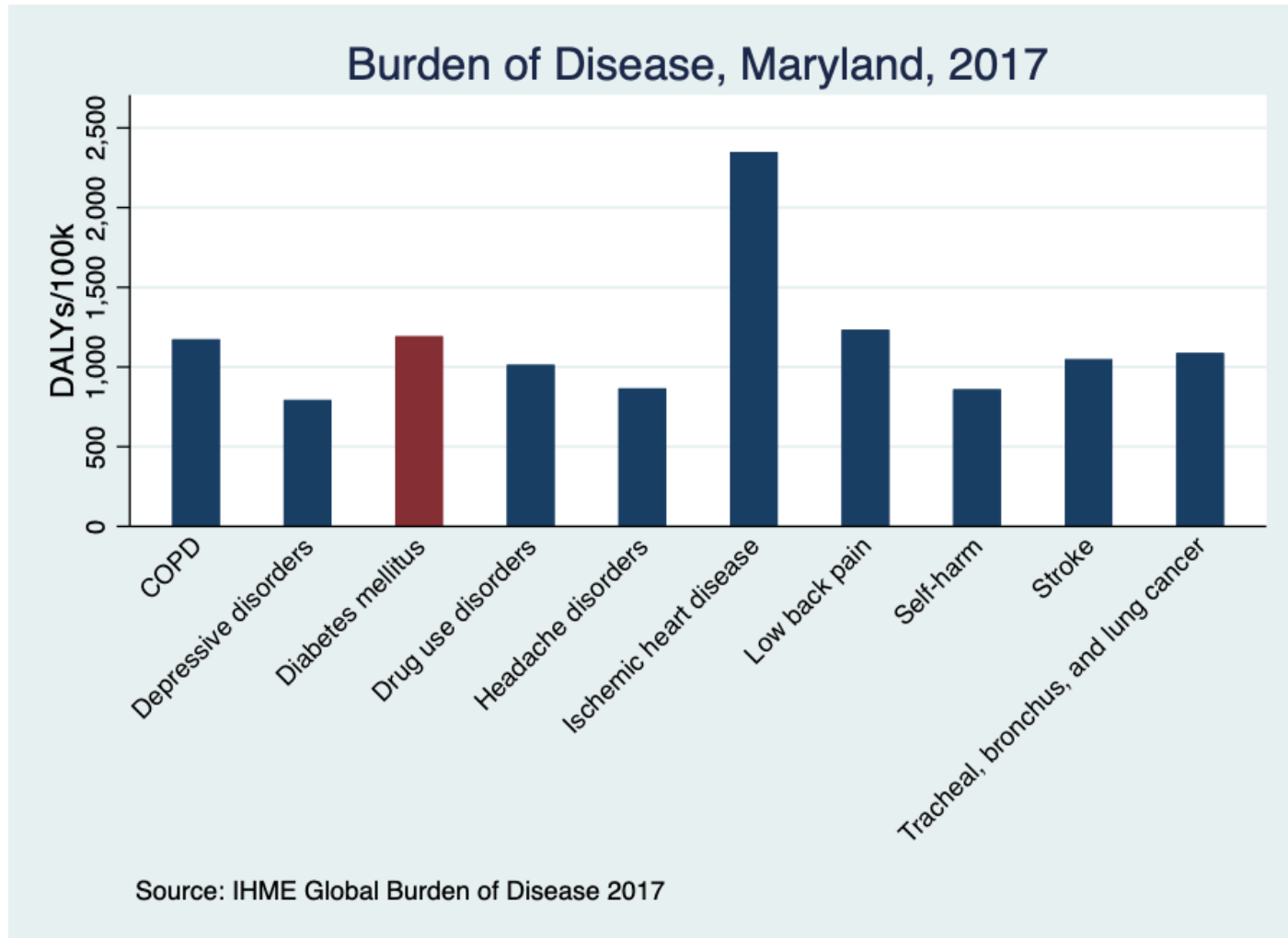
Interventions

Engagement

Close partnerships between consumers, prevention program providers, hospitals, and community organizations

All Payer Population

Broad penetration of diabetes prevention programs (DPP) for all payer populations

Statewide access

Rapid scaling up of prevention programs in every Maryland community

Diabetes Cost Scenarios

Example Diabetes Onset Scenarios

COST DIFFERENTIAL

No intervention: Uncomplicated diabetes → Complications

Delayed Incidence: Pre-diabetes → Uncomplicated diabetes

Prevention: Pre-diabetes

Age: 50 55 60 65 70
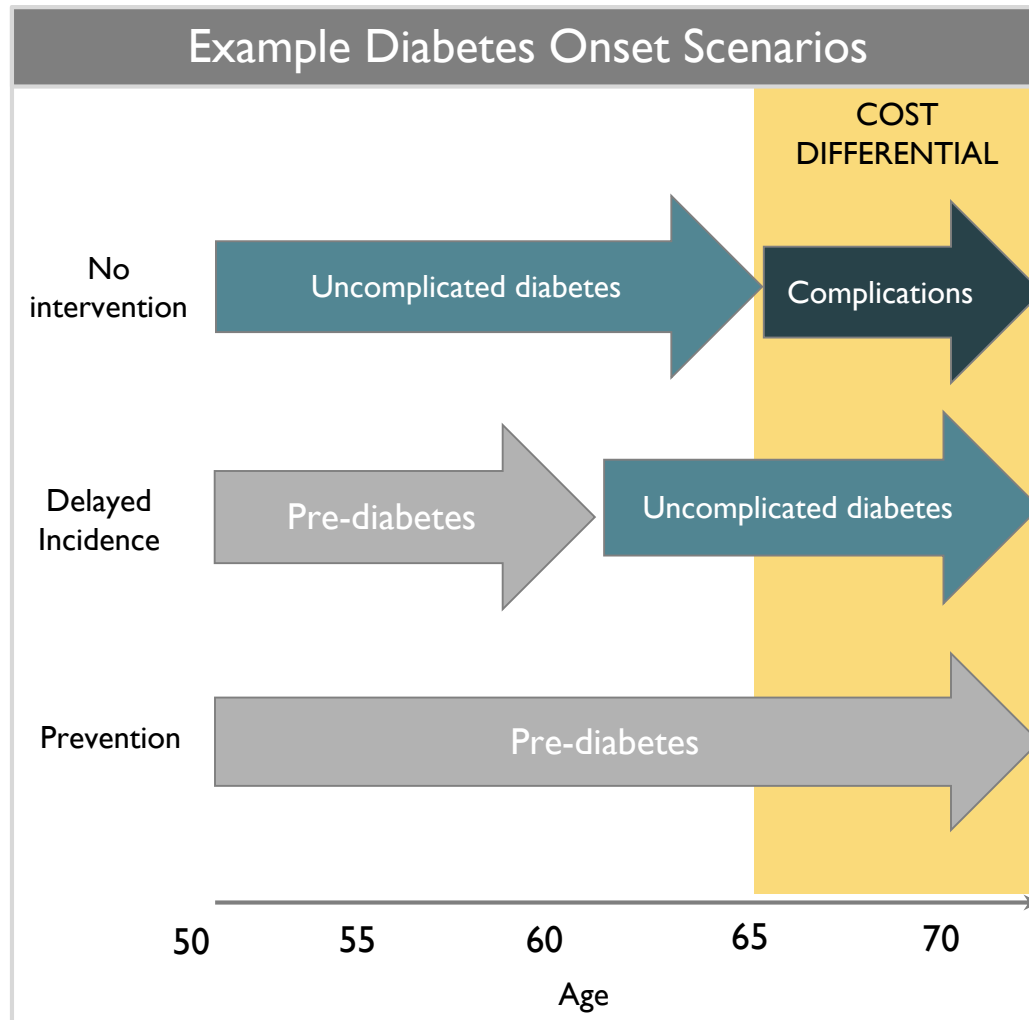
Methodology Components

1. Population Health Improvement
- Compare Maryland diabetes incidence rate to a synthetic control rate using BRFSS

2. Cost estimates
- Assign a value to annual Medicare cost reductions associated with improvements
- Develop mechanism to calculate annual attributable costs of diabetes to Medicare using Medicare claims

3. Credit Calculation
- Calculate averted cases of diabetes.
- Use actuarial mechanism to attribute cost estimates to averted cases to calculate the expected savings to Medicare once the person reaches Medicare.

1. Estimate Population Health Improvement

☐ Performance measure: Diabetes incidence* from BRFSS (age 35-74)

☐ Synthetic control approach identifies a control group in the pre-intervention time period that closely resembles Maryland.

Synthetic MD weights

MA,29 DE,0%
NJ,16%
VA,32%
DC,19%
CT,30%

Weighted performance of other similar states based on pre-2019 diabetes incidence trends and other characteristics, such as race.
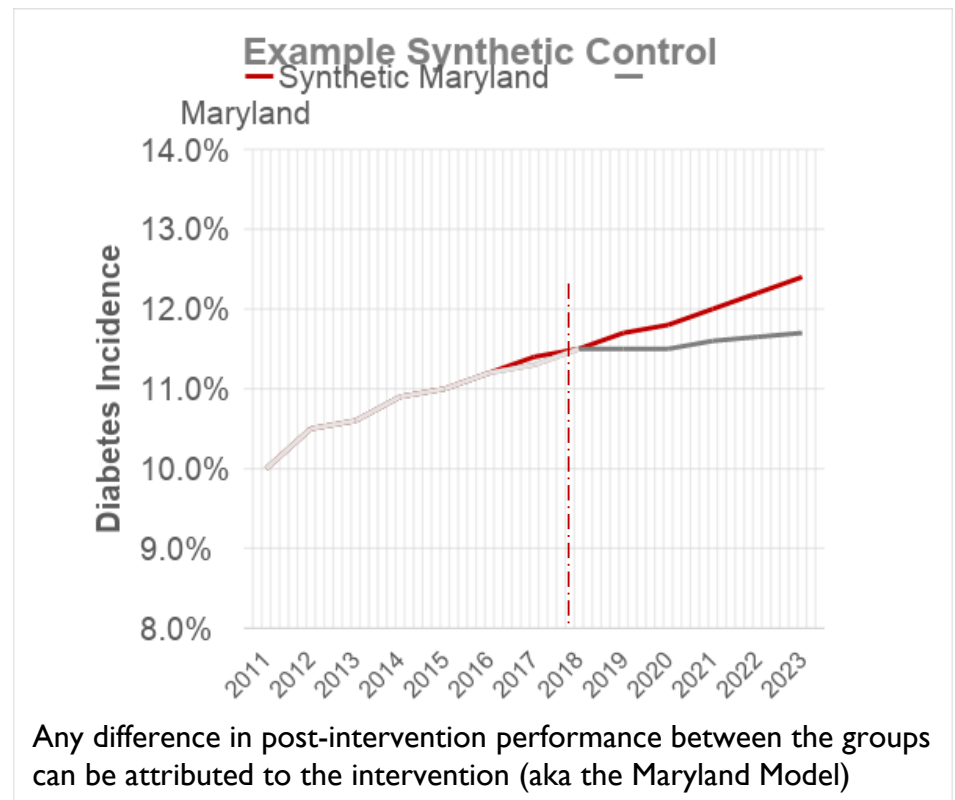
Example Synthetic Control

— Synthetic Maryland
Maryland —

Diabetes Incidence: 14.0%, 13.0%, 12.0%, 11.0%, 10.0%, 9.0%, 8.0%

2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

Any difference in post-intervention performance between the groups can be attributed to the intervention (aka the Maryland Model)

*Incidence = newly diagnosed with the condition

2. Calculate Cost Estimates from Medicare Claims
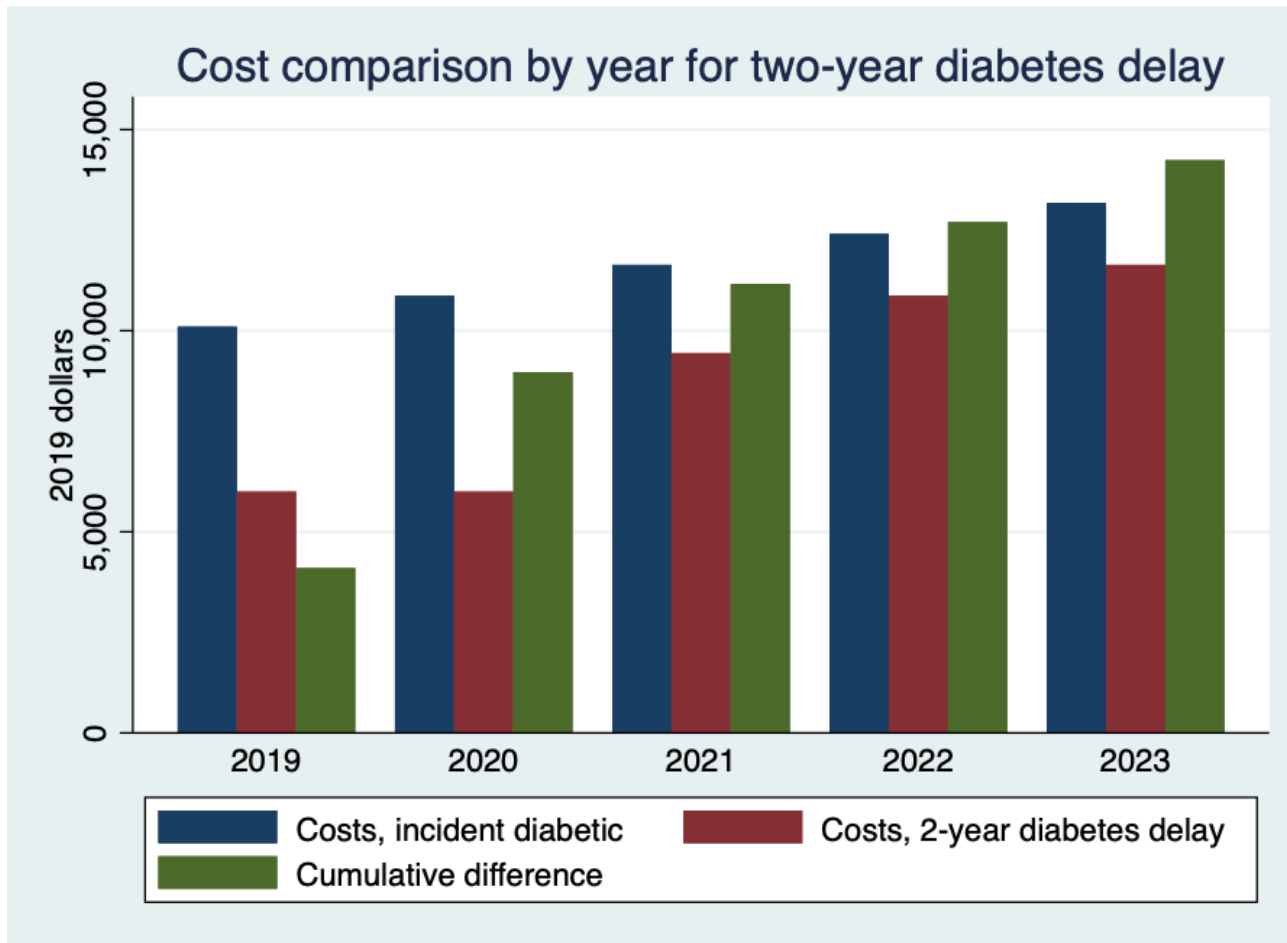
Each delayed case of diabetes is worth ~$14,000 over 5 years

□ First-year cost of diabetes: $4,100
□ Cost increases by ~$800/year in subsequent years
□ We assume a delayed case stays diabetes-free for 2 years

More on Diabetes Cost Estimates

Cost comparison by year for two-year diabetes delay

3. Credit Calculation

Calculate averted diabetes cases, then apply cost estimates

Averted cases of diabetes × **Cost estimates** = **Diabetes Credit**

Averted cases = Performance improvement x Maryland population Age 45+.

MHAC Cost Weight Update

ICD-10, Grouper Version 36 Weights now available

PPC NUMBER	Description	v33 Weights	v33 Rank	v36 Weights	v36 rank
4	Acute Pulmonary Edema and Respiratory Failure with Ventilation	2.7409	1	1.6458	1
37	Post-Procedural Infection & Deep Wound Disruption Without Procedure	1.2701	7	1.3263	2
16	Venous Thrombosis	1.4346	3	1.1853	3
35	Septicemia & Severe Infections	1.3722	4	1.1829	4
67	Pneumonia Combo (weighted average)	1.3002	6	1.1252	5
60	Major Puerperal Infection and Other Major Obstetric Complications	0.1729	13	1.0811	6
9	Shock	1.5133	2	1.0584	7
41	Peri-Operative Hemorrhage & Hematoma with Hemorrhage Control Procedure or I&D Procedure	1.0951	8	1.0216	8
7	Pulmonary Embolism	1.3671	5	0.9112	9
42	Accidental Puncture/Laceration During Invasive Procedure	0.4466	11	0.6292	10
49	Iatrogenic Pneumothorax	0.6090	10	0.4974	11
3	Acute Pulmonary Edema and Respiratory Failure without Ventilation	0.7958	9	0.4310	12
28	In-Hospital Trauma and Fractures	0.3353	12	0.3724	13
61	Other Complications of Obstetrical Surgical & Perineal Wounds	0.1172	14	0.1765	14

New weights reduce the range between the highest and lowest ranked PPC.

Largest rank changes are for PPCs 60, PPC 37, PPC 9, and PPC 7

Impact on Policy Modeling

- **Staff recommends implementing updated weights without additional adjustments**
  - 3M strongly encourages implementation of new weights, which were calculating using a much larger claims database and updated PPC logic
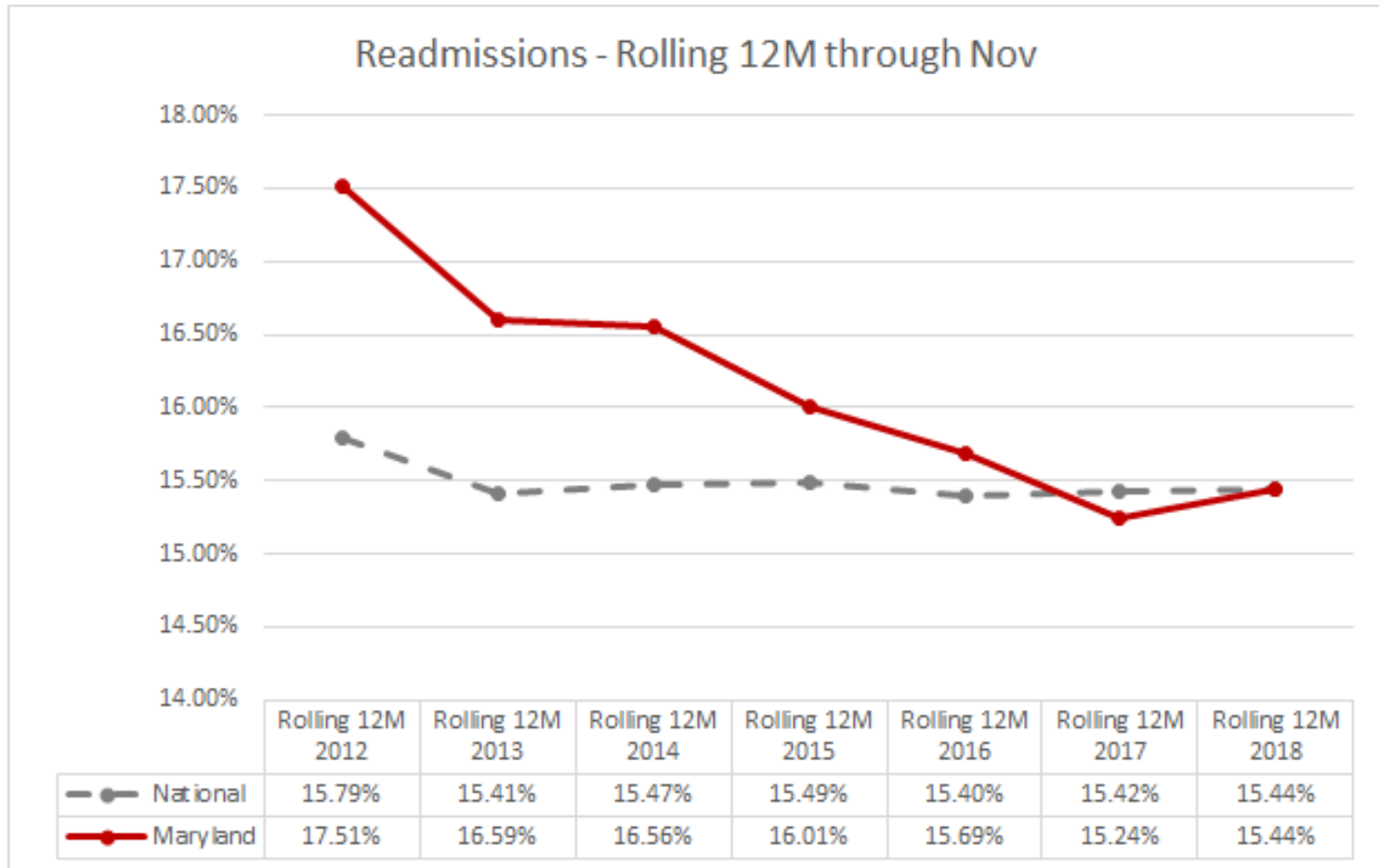
Hospital Scores	v33 Cost Weights	v36 Cost Weights
Median	63%	63%
Average	62%	62%
Min	17%	20%
Max	100%	100%
25th	47%	51%
75th	76%	76%

Hospital Revenue Adjustments	v33 Weights	v36 Weights
# Hospitals Penalized	20	21
# Hospitals No Adjustment	9	7
# Hospitals Rewarded	18	19
Net Revenue Statewide	**-$7,041,420**	**-$7,606,893**
	-0.08%	-0.08%
Total Penalties	-$15,701,800	-$15,538,435
% Inpatient Revenue	-0.17%	-0.17%
Total Rewards	$8,660,380	$7,931,542
% Inpatient Revenue	0.09%	0.09%
Average % Adjustment	-0.09%	-0.09%
Realized Risk	0.28%	0.28%

Readmission Subgroup Update

Readmissions in All-Payer Model

Readmissions - Rolling 12M through Nov

	Rolling 12M 2012	Rolling 12M 2013	Rolling 12M 2014	Rolling 12M 2015	Rolling 12M 2016	Rolling 12M 2017	Rolling 12M 2018
National	15.79%	15.41%	15.47%	15.49%	15.40%	15.42%	15.44%
Maryland	17.51%	16.59%	16.56%	16.01%	15.69%	15.24%	15.44%

Readmission Sub-group

- Sub-group met on Tues, Feb 26; will meet again Tues, Apr 30.

- All meetings are open to the public (i.e. non-members can also join)

Next Work Group Meeting:

Wednesday, May 15