Total Cost of Care (TCOC) Workgroup

December 4, 2019

Agenda

1. MPA Collection Timeline for Y3
2. Maryland Cost Drivers
3. Comprehensive Review of MPA Approach
    i. Goals & principles of the MPA
    ii. Options for different attributions methods
4. Benchmarking Update
    i. Update on the benchmarking
    ii. Geographic vs. PCP-based attributions
5. CTI Payment Methodology Finalization

2020 MPA Implementation: Hospital Submission Requirements

New Tool: MATT

- MPA Attribution Tracking Tool (MATT): new tool to streamline the submission of MPA provider information
  - Planned launch: January 2020
- Hospitals will use MATT to:
  - Input annual MPA NPI submission lists
  - Check their list during the review period
  - Manage PHI data access (annual and monthly)
- Planning to have a training in January 2020 to introduce MATT and explain its functionality
- Hospitals will be able to select who gets access to MATT

MPA Information Submission and Review Timeline

Timing	Action

January 2020	• Submit annual NPI lists through MATT (see next slide)
	  • Required for MDPCP Hospital-Based CTOs: MDPCP Participant List
	  • Required for Hospital-Based ACOs: ACO Participant List
	  • Voluntary: full-time, fully employed provider list

February 2020	• Hospitals notified of potential overlaps • HSCRC runs attribution algorithm
March 2020	• Preliminary provider-attribution lists available to hospitals through MATT • Official review period begins (2 weeks following preliminary list release) • HSCRC reruns attribution algorithm for implementation
April 2020	• **Voluntary: Hospitals can elect to address Medicare Total Cost of Care (TCOC) together and combine MPAs**

MATT Functionality

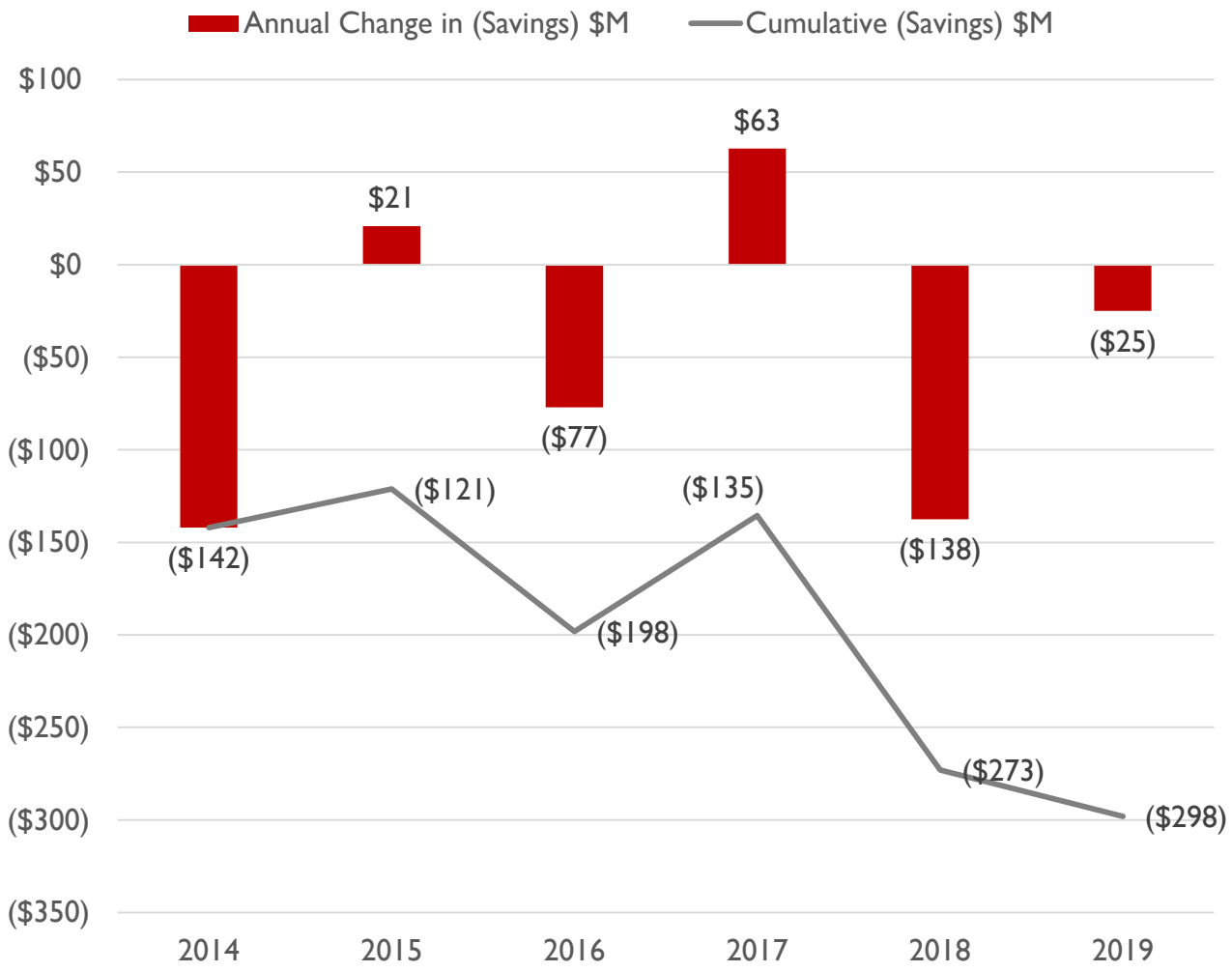
- Annual Submission
  - Similar to prior year but now through MATT
  - List submission
    - Required if applicable: NPI lists for affiliated MDPCP Hospital-Based CTOs
    - Required if applicable: NPI lists for Hospital-Based ACOs
    - Voluntary: NPI lists for employment
  - For any submitted lists, must assign specific providers to specific hospitals
    - Note for MDPCP- providers in same practice should be linked with same hospital
  - Must attest lists are accurate and represent a care coordination relationship with attributed Medicare beneficiaries
- Monthly submission
  - After the review period, hospitals will be required to review their lists in MATT monthly and provide termination/continuation/addition information
  - Failure to provide timely updates to MATT will result in hospital no longer having access to PHI level data in MADE

Drivers of Maryland FFS Medicare Savings: 2018 to YTD 2019

Background

- Analysis reflects June 30, 2019 YTD with 3 months' run out
- Analysis based on comparison of Maryland trend to US trends in 5% sample in each cost bucket and differs from the $298 M disclosed in Commission reporting
  - Impact of differing MD versus National mix between cost buckets is not shown
  - 5% sample does not tie to CMMI true national numbers used in overall scorekeeping
- Comparison is to US total with no risk adjustment or modification - reflects overall scorekeeping approach
- Visit counts are based on same beneficiary and date of service and are intended as approximations
- IP reflects patient day count

Run Rate (Savings) by Year



- Maryland's results have typically fluctuated by year
- 2019 total results are not atypical versus other odd years
- We are on target to meet our run rate requirement from CMS in 2019

Savings, 2013 to 2018 vs 2018 to YTD 2019

	2013 to 2018, Average		2018 to YTD 2019	
	Average Run Rate (Savings) Cost $ M	% of Savings	Run Rate (Savings) Cost $ M	% of Savings
Inpatient Hospital	($31)	56.9%	($32)	87.2%
SNF	($6)	10.6%	$1	-3.1%
Home Health	$9	-16.8%	($1)	3.0%
Hospice	$7	-13.3%	($10)	27.6%
Total Part A	($20)	37.4%	($42)	114.6%
Outpatient Hospital	($57)	106.4%	($31)	83.2%
ESRD	($2)	3.7%	($3)	7.9%
Outpatient Other	($3)	5.2%	($3)	8.8%
Clinic	$0	-0.1%	$0	0.5%
Professional Claims	$28	-52.6%	$43	-114.9%
Total Part B	($34)	62.6%	$5	-14.6%
Total	**($54)**		**($37)**	
OP Hospital Net of Professional	($29)		$12	

- Part A savings, IP hospital costs in particular, helped to offset growing Part B costs in 2019
- Professional claims grew at the fastest rate resulting in net increases in Part B costs in 2019
- MDPCP fees cause larger than normal increase in Professional Claims (~$30 million). Adding back this increase puts professional in line with historical run rate.

Note: amounts above reflect change in each individual bucket, mix impact of different shares of each bucket would also impact overall savings, also amounts represent 5% sample data. Therefore will not tie to total actual savings of $25 million.

Amounts may not add up due to rounding.

Overview of Savings, growth rates

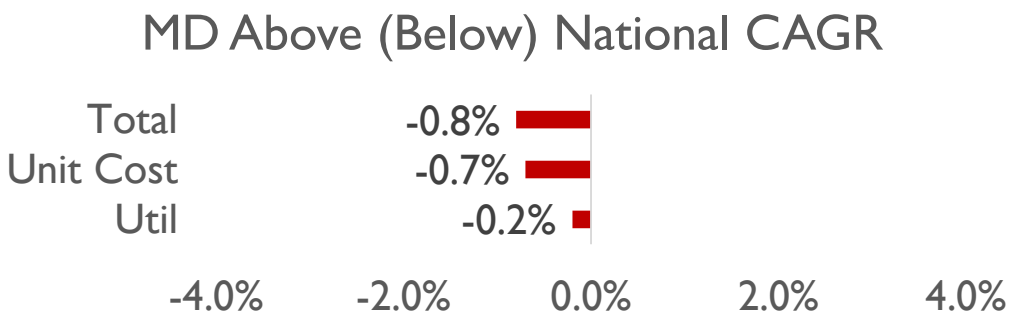
	% of MD Spend	MD CAGR 2013-18	MD CAGR 2018-19	National CAGR 2013-18	National CAGR 2018-19
Inpatient Hospital	39.0%	-0.6%	0.6%	0.2%	2.8%
SNF	6.4%	-2.1%	-2.5%	-1.3%	-3.0%
Home Health	3.3%	2.2%	0.7%	-0.9%	1.6%
Hospice	2.4%	5.2%	-3.3%	1.7%	8.4%
Total Part A	51.1%				
Outpatient Hospital	17.0%	3.3%	2.9%	6.7%	8.6%
ESRD	2.4%	1.4%	1.3%	2.3%	4.7%
Outpatient Other	1.3%	4.9%	6.7%	7.1%	13.7%
Clinic	0.1%	9.5%	8.2%	9.1%	11.4%
Professional Claims	28.1%	3.1%	12.9%	2.0%	8.7%
Total Part B	48.9%				

- Maryland's IP Hospital growth rate increased, but much less than the 2.8% national rate
- 2018-19 growth rates in Maryland decreased, with the exception of IP Hospital, OP Other, and Professional Claims, while growth rates increased almost across the board nationally
- National shrunk more quickly in SNF and grew more quickly in Home Health, suggesting more rapid post-acute transition nationally

CAGR = Compound Annual Growth Rate, amounts may not add up due to rounding. % of spend reflects 2019 values.

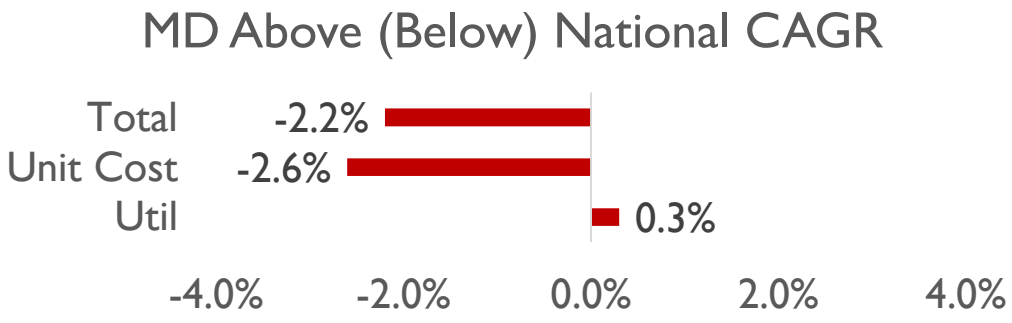
Inpatient Cost Variation by Source

2013 to 2018 CAGR, IP Utilization and Cost Per Day



CAGRs	Utilization	Unit Cost	Total
MD	-2.9%	2.4%	-0.6%
National	-2.8%	3.1%	0.2%
MD Above/(Below) National	**-0.2%**	**-0.7%**	**-0.8%**

2018 to YTD 2019 CAGR, IP Utilization and Cost per Day



CAGRs	Utilization	Unit Cost	Total
MD	-3.1%	3.8%	0.6%
National	-3.4%	6.4%	2.8%
MD Above/(Below) National	**0.3%**	**-2.6%**	**-2.2%**

- Trends in 2018 and 2019 appear similar, with Maryland slowing the growth in costs per day but increasing utilization as compared to the nation

Amounts may not add up due to rounding.

MD vs Nation, OP Hosp. CAGR, '18 to YTD '19

2018 to YTD 2019		MD Above (Below) National CAGR				
	% of National Spend	Utilization	Unit Cost	Total	Run Rate (Savings) Cost, $M	% of Savings
Part B Rx	20.2%	11.5%	-28.3%	-15.5%	($22.0)	71.2%
Imaging	12.5%	5.1%	-9.8%	-3.6%	($3.1)	9.9%
Proc-Major Cardiology	10.4%	1.5%	1.1%	2.7%	$0.9	-3.0%
E&M - ER	10.3%	-23.2%	41.1%	-1.2%	($0.9)	2.8%
Proc-Minor	8.8%	7.3%	-14.4%	-5.9%	($3.2)	10.2%
E&M - Other	6.4%	1.9%	-2.9%	0.1%	$0.1	-0.3%
Proc-Major Other	6.0%	5.6%	-8.1%	-2.0%	($0.5)	1.6%
Proc-Endocrinology	5.5%	6.5%	-9.4%	-1.9%	($0.5)	1.6%
Lab	4.9%	5.6%	-6.5%	0.0%	($0.0)	0.0%
Proc-Ambulatory	4.8%	5.4%	-3.5%	2.5%	$0.6	-2.0%
Proc-Oncology	3.8%	2.6%	-3.4%	-0.6%	($0.3)	1.0%
Proc-Major Orthopaedic	2.8%	4.0%	0.7%	5.8%	$0.6	-1.9%
Proc-Eye	1.7%	-0.4%	-3.0%	-3.1%	($0.3)	0.8%
Other Professional	1.5%	7.5%	-11.0%	-1.9%	($1.8)	6.0%
DME	0.2%	0.8%	-3.2%	-2.1%	($0.6)	2.0%
Proc-Dialysis	0.0%	-8.1%	7.4%	-0.6%	($0.0)	0.0%

- From 2018 to 2019 OP Hospital utilization broadly increased more than the nation while unit costs were lower than the nation
- Part B Rx stands out as the most significant driver of cost savings
- Approximately $6.0 M savings in Imaging and Minor Procedures, which tend to include low value care (only $1.3 M increase in professional)

% of spend reflects 2019 MD amounts.

MD vs Nation, Professional CAGR, '18 to YTD '19

2018 to YTD 2019		MD Above (Below) National CAGR				
	% of National Spend	Utilization	Unit Cost	Total	Run Rate (Savings) Cost, $M	% of Savings
ASC	3.9%	1.2%	1.3%	2.6%	$1.6	3.8%
Proc-Ambulatory	3.0%	-2.9%	2.6%	-0.3%	($0.1)	-0.3%
DME	6.5%	1.4%	3.5%	5.2%	$3.2	7.4%
Proc-Endocrinology	1.5%	1.5%	-2.5%	-1.0%	($0.2)	-0.4%
Proc-Eye	1.7%	0.8%	0.9%	1.7%	$0.4	0.9%
Proc-Major Orthopaedic	1.6%	-2.6%	2.4%	-0.3%	($0.1)	-0.2%
Proc-Dialysis	0.7%	-3.0%	2.7%	-0.3%	($0.0)	-0.1%
E&M - Specialist	19.0%	0.0%	-0.7%	-0.7%	($1.9)	-4.5%
Proc-Major Other	2.2%	-1.1%	1.8%	0.7%	$0.2	0.5%
Proc-Minor	6.0%	0.2%	0.5%	0.7%	$0.6	1.3%
Imaging	7.3%	-0.7%	1.2%	0.6%	$0.7	1.7%
Proc-Major Cardiology	1.8%	0.5%	24.8%	25.3%	$8.9	20.8%
Proc-Oncology	1.4%	-0.1%	-1.1%	-1.3%	($0.3)	-0.7%
Other Professional	7.2%	-1.3%	1.8%	0.4%	$0.3	0.8%
Lab	9.5%	0.2%	-1.6%	-1.4%	($1.9)	-4.5%
E&M - PCP	11.3%	0.6%	18.8%	19.6%	$31.4	73.6%
Part B Rx	15.5%	0.2%	-0.3%	0.0%	($0.1)	-0.2%

- E&M PCP account for the MDPCP fees and largely explain the Professional Claim increases from 2018 to 2019
- Major Cardiology is also a significant driver, with big increases in unit costs vs the nation
- Lab and Specialists are the only meaningful drivers of Professional Claims savings vs the nation

% of spend reflects 2019 MD amounts.

Comprehensive Review of MPA Approach

- Goals & principles of the MPA
- Options for different attributions methods

Objectives for the MPA

- Primary Objectives:
  1. Satisfy the Maryland TCOC Agreement that the MPA "must result in the attribution to one or more Regulated Maryland Hospitals of at least 95 percent of Maryland Medicare Beneficiaries who are enrolled in both Part A and Part B."
  2. Incentivize hospitals to manage the TCOC of "their" population.
- Secondary Objectives:
  1. Qualify the Maryland TCOC Model as an Advanced Alternative Payment Model for the purposes of MACRA.
  2. Allow the HSCRC to develop methodologies to ensure that revenues follow patients while complying with the Maryland TCOC Agreement requirement that hospital payments be:
     1. "directly population-based, such as prospectively tying hospitals' reimbursement to the projected utilization of services by **a specific population or subpopulation of Maryland residents**," OR
     2. "establishes a fixed budget for Regulated Maryland Hospitals for services projected to be furnished."

Reminder: Assessing options for revising the MPA

	Incorporate CTI into the MPA	Do not Incorporate CTI into the MPA
Don't Change MPA Attribution	**A** • Makes CTI the first layer in the MPA attribution • Aligns CTI beneficiaries with MPA attribution	**B** • Current MPA remains the best approach • Mismatch with CTI and MPA attributed beneficiaries
Change MPA Attribution	**D** • Replace primary care with CTI-based attribution • Remainder would be allocated based on geography • Assumes primary care strategy could be a CTI	**C** • Switch MPA attribution to be based on geography • Exclude CTI attributed beneficiaries

Potential criteria to assess MPA attribution options

- At the last TCOC Workgroup, stakeholders requested a discussion of the criteria that will be used to assess different options for attributing beneficiaries under the MPA.
- Staff have proposed several criteria for assessing MPA attribution options but want stakeholder feedback from hospitals before beginning to assess the MPA attribution options.
- Once the criteria have been established, HSCRC staff will apply the assessment criteria to the MPA attribution options and report back to the TCOC Workgroup.

Potential criteria to assess MPA attribution options

	Predictability	Accuracy	Proportionality
Definition	The MPA is predictable if… Medicare beneficiaries only change attribution based on something knowable to hospitals.	The MPA is accurate if… Medicare beneficiaries are attributed to the hospital that has the closest relationship with the beneficiary.	The MPA is proportional if… Each hospital is attributed the right share of the overall total cost of care.
Assessment Criteria	A hospital can predict whether a beneficiary will be attributed to them in the following year. Probability that a beneficiary in Yr1 will be attributed in Yr2.	Beneficiaries are attributed to the hospital/system that provides the majority of their total cost of care. Percent of beneficiaries that receive the plurality of their TCOC from the hospital.	Each hospital is attributed a share of the TCOC equal to their share of statewide hospital revenue. Ratio of attributed TCOC to the hospital's revenue.

Options for the MPA Attribution

- HSCRC staff will apply the assessment criteria to each of the MPA attribution options:
  - Geographic attribution
  - Primary care based attribution (separately for referral, MDPCP, and ACO)
  - Plurality of hospital care (proxy for the attribution using the care transition CTI)
- Once the assessment of the each attribution type is completed, staff will analyze which beneficiaries are driving problems with the attribution approach and identify the pro/cons of modifications to the attribution.
- Options include (not exhaustive):
  - Lengthening the attribution period (attribution for 2 or more years)
  - Tiering attribution between hospitals (community hospitals vs tertiary hospital)
  - Alternative attribution for rural vs urban hospitals

Update on Benchmarking to TCOC Workgroup

December 4, 2019

Outline

1. Benchmarking Overview
2. Process Review
3. Outcomes by County
4. Open Items
5. Sample County Analysis

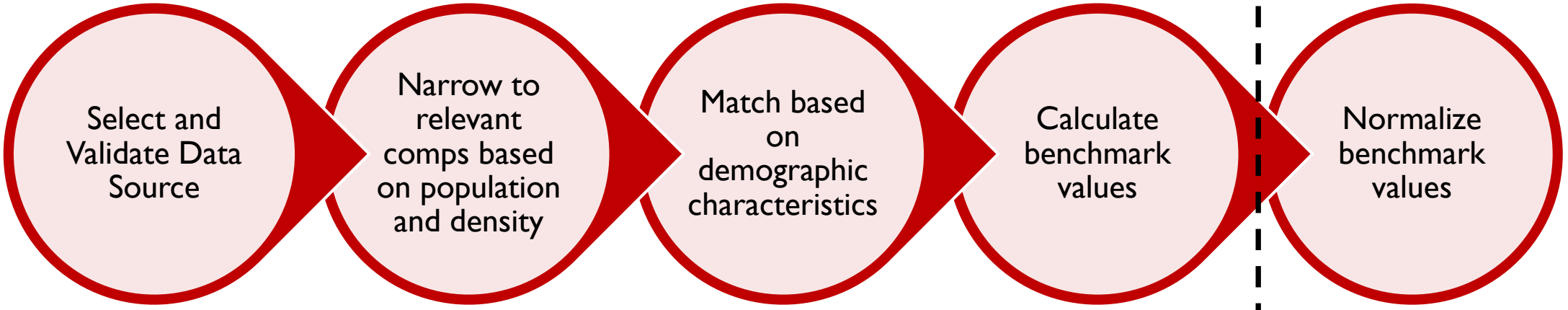
Benchmarking Overview

- Goal: Create a tool to allow the incorporation of TCOC benchmarks into appropriate methodologies at a granular level and guide the State on areas of strength and weakness in terms of cost and quality
- Focus on Medicare FFS and Commercial under 65, will explore Medicaid and other areas but likely to be limited to these two benchmarks in the next year

Model Goals

- In 2019, CMS and Maryland set out to broaden the model to encompass system-wide goals in the new 10-Year Total Cost of Care Model, with objectives to:
  - Demonstrate that Maryland could control growth in spending and improve the health of the population, moving from a hospital per capita model to a system-wide model
  - Create a permanent model that met spending and health improvement goals in per capita model
- Achieving these goals requires both
  - Reducing Medicare total spending per capita in line with nearby comparable states to meet savings target
- And
  - Creating a per capita all-payer system that is **more** efficient and effective than other national models

Process Review



- **MC**: County Level, 100% Maryland claims, 5% US Sample (A+B)
- **CO**: MSA Level, APCD for Maryland, Milliman CSHD (See appendix 3) for national
- Remove estimated medical education costs from all data

- Limit to reasonable matches

- **MC**: Median Income, Deep Poverty %, Regional Price Parity, Hierarchical Conditioning Categories (HCC)
- **CO**: Same except add Government payer, share and Health and Human Services (HHS) Platinum risk scores instead of HCC (HCC Medicare only)

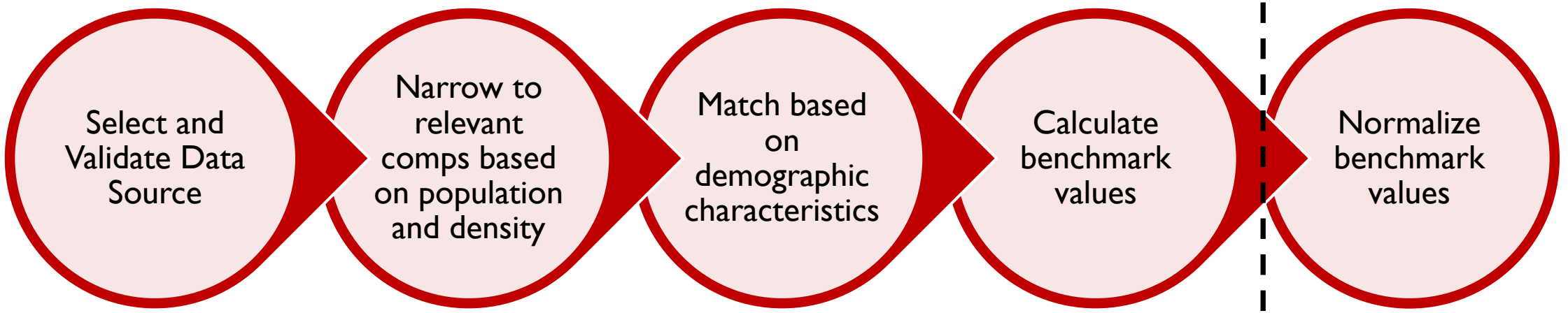
- Simple average of benchmarks at MSA/County level.
- **MC**: 20 comps for 5 large urban counties, 50 for rest
- **CO:** 20 comps for all MSA'S

IN PROCESS

- Regression analysis to adjust for remaining variation
- Use regression to map benchmarks to hospital level
  - **MC**: County to MPA/PSAP
  - **CO:** MSA to MPA/PSAP

See appendix 2 for additional detail on the benchmark process.

Benchmarking Process – Example, Anne Arundel



- **MC**: County Level, 100% Maryland claims, 5% US Sample (A+B)
- **CO**: MSA Level, APCD for Maryland, Milliman CSHD (See Appendix 2) for national
- Remove estimated medical education costs from all data

- **MC**
  - Anne Arundel is a 1 on the Urban/Rural scale, meaning most urban. There are 432 possible matches nationally.
  - Further sub-divided this bucket by density and size. Anne Arundel is still in the largest, most dense group, as are Montgomery, Prince Georges and Baltimore City and County. There are 78 possible matches nationally.
- **CO**
  - Anne Arundel is included in the Baltimore MSA, which is matched to national MSAs with similar or larger population and density

- **MC**: Anne Arundel will select the 20 counties from the pool of 80 in the prior step that are the closest match to it on the demographic characteristics listed on the prior slide.
- **CO**: Baltimore MSA will select the 20 counties from the pool in the prior step that are the closest match to it on the demographic characteristics on the prior slide.

- **MC**: Benchmark values are the simple average of the 20 best match counties
- **CO:** Benchmark values are the simple average of the 20 best match MSAs.

IN PROCESS

- Demographic values and TCOC will be calculated for the AAMC PSAP for both MC and CO
- MC Anne Arundel County TCOC Benchmarks and CO Baltimore MSA TCOC Benchmarks will be adjusted to match the AAMC PSAP demographics using a regression analysis.
- AAMC TCOC will be evaluated against the regression adjusted values.

Example: MSAs making up Baltimore CO Benchmark

- MSAs matched to Baltimore[1]

MSA	MSA Name	APCD/CHSD Medical Member Months	Platinum Risk Score	MD Normalized Risk Score	Regional Price Parity	Deep Poverty Percent	Median Income	Teaching Days Percent	Benefit Levels Adjustment Factor
Baltimore Area (MD8)		**9,562,063**	**1.38**	**1.02**	**107.16**	**4.8%**	**$81,756**	**46.4%**	**1.01**
29404	Lake County-Kenosha County, IL-WI	1,813,498	1.31	0.97	103.80	4.4%	$77,736	27.5%	1.01
15764	Cambridge-Newton-Framingham, MA	3,340,026	1.34	0.99	111.10	4.3%	$86,515	33.0%	1.03
25540	Hartford-West Hartford-East Hartford, CT	3,007,043	1.35	1.00	101.50	5.0%	$72,945	56.2%	1.00
35300	New Haven-Milford, CT	1,719,964	1.32	0.98	111.40	6.0%	$64,872	73.2%	1.01
14454	Boston, MA	2,311,167	1.33	0.98	111.10	6.2%	$78,637	37.4%	1.03
49340	Worcester, MA-CT	3,576,593	1.39	1.03	103.60	5.0%	$68,469	42.0%	1.02
26420	Houston-The Woodlands-Sugar Land, TX	19,534,495	1.33	0.99	101.60	6.1%	$64,297	18.6%	1.00
23104	Fort Worth-Arlington, TX	6,228,946	1.43	1.06	100.20	5.7%	$62,638	12.1%	1.01
39300	Providence-Warwick, RI-MA	1,357,005	1.37	1.02	99.70	5.7%	$61,493	38.6%	1.01
16974	Chicago-Naperville-Arlington Heights, IL	8,623,183	1.28	0.95	103.80	6.3%	$66,154	35.1%	1.00
33460	Minneapolis-St. Paul-Bloomington, MN-WI	8,824,110	1.22	0.90	102.30	4.3%	$74,430	19.9%	1.01
42644	Seattle-Bellevue-Everett, WA	13,809,792	1.22	0.90	110.50	5.0%	$82,088	15.8%	1.01
15804	Camden, NJ	4,959,924	1.45	1.07	105.90	4.6%	$75,256	37.8%	1.04
19124	Dallas-Plano-Irving, TX	17,981,961	1.31	0.97	100.20	5.5%	$66,548	16.3%	1.00
35084	Newark, NJ-PA	6,396,247	1.39	1.03	122.00	4.6%	$81,851	45.8%	1.01
22744	Fort Lauderdale-Pompano Beach-Deerfield Beach	4,636,612	1.49	1.11	107.60	6.3%	$54,895	8.8%	1.01
37100	Oxnard-Thousand Oaks-Ventura, CA	755,993	1.19	0.88	117.20	4.0%	$81,972	13.7%	1.01
12060	Atlanta-Sandy Springs-Roswell, GA	8,943,814	1.28	0.95	96.30	6.7%	$62,781	12.9%	1.00
14860	Bridgeport-Stamford-Norwalk, CT	2,492,452	1.28	0.95	120.10	4.0%	$89,773	76.4%	1.01
47664	Warren-Troy-Farmington Hills, MI	4,481,543	1.45	1.08	95.90	4.4%	$66,738	60.7%	1.00

1. See Appendix 3 for data use limitations and additional background on commercial analysis. Other MSAs and Medicare counties comparison to be provided in supplemental data file

Example: Calculation of CO Demographic Adjustment

- Table shows demographics for Baltimore MSA and benchmark used in commercial demographic regression adjustment[1]

County/MD Region	County/MD Region Description	APCD/CHSD Medical Member Months [1]	Platinum Risk Score [2]	MD Average Platinum Risk Score [3]	MD Normalized Risk Score [4]=[2]/[3]	Total Population [5]	Population Density [6]	Regional Price Parity [7]	Deep Poverty Percent [8]	Median Income [9]	Benefit Levels Adjustment Factor [11]	Teaching Days Percent [12]
						Regression Estimated Coefficient			1,471.8 (p=0.016)	2.6 (p=0.000)	778.0 (p=0.101)	5.9 (p=0.863)
MD8 (Baltimore Area)	**Baltimore, Columbia, Towson + Cecil**	**9,562,063**	**1.38**	**1.35**	**1.02**	**2,845,395**	**1,105**	**107**	**4.8%**	**$81,756**	**1.01**	**46.4%**
24003	Anne Arundel County, MD	2,152,966	1.32	1.35	0.97	564,600	1,361	107	3.0%	$94,502	1.01	28.1%
24005	Baltimore County, MD	2,577,788	1.45	1.35	1.07	828,637	1,385	107	4.5%	$71,810	1.01	50.7%
24013	Carroll County, MD	726,062	1.29	1.35	0.95	167,319	374	107	2.7%	$90,510	1.02	26.2%
24015	Cecil	264,975	1.36	1.35	1.01	102,416	296	106	4.6%	$70,516	1.01	37.2%
24025	Harford County, MD	991,630	1.33	1.35	0.99	250,132	572	107	4.0%	$83,445	1.02	27.3%
24027	Howard County, MD	1,351,615	1.20	1.35	0.89	312,495	1,246	107	2.5%	$115,576	1.02	28.7%
24510	Baltimore City, MD	1,497,027	1.61	1.35	1.19	619,796	7,657	107	11.5%	$46,641	1.00	66.5%
Benchmark		**6,239,718**	**1.34**	**1.35**	**0.99**	**2,651,428**	**1,050**	**106**	**5.2%**	**$72,004**	**1.01**	**34.1%**
Ratio (MD/BM)		*1.53*	*1.03*	*1.00*	*1.03*	*1.07*	*1.05*	*1.01*	*0.92*	*1.14*	*1.00*	*1.36*

- Similar process will be used to adjust benchmark values for Medicare and for individual hospital PSAs (or MPA on Medicare)

1. See Appendix 3 for data use limitations and additional background on commercial analysis. Other MSAs to be provided in supplemental data file

Example: Application of CO Demographic Adjustment

- Risk adjustment and demographic regression values are applied to create a predicted Total Cost of Care. Maryland and benchmark values are then restated in terms of the average Maryland value[1]

		PMPM Allowed Total Dollars					
County/MD Region	County/MD Region Description	Unadjusted PMPM Allowed Total $ [13]	Risk Score Adjusted PMPM Allowed Total $ [14]=[13]/[4]	Predicted (Regression) PMPM Allowed Total $ [15]	O/E Ratio [16]=[14]/[15]	Avg.MD PMPM Allowed Total $ [17]	Regression Adjusted PMPM Total Allowed $ [18]=[16]X[17]
MD8 (Baltimore Area)	**Baltimore, Columbia, Towson + Cecil**	**$331**	**$324**	**$412**	**0.79**	**$330**	**$259**
24003	Anne Arundel County, MD	$309	$317	$418	0.76	$330	$250
24005	Baltimore County, MD	$363	$339	$380	0.89	$330	$294
24013	Carroll County, MD	$318	$334	$409	0.81	$330	$269
24015	Cecil	$345	$342	$381	0.90	$330	$296
24025	Harford County, MD	$317	$321	$411	0.78	$330	$258
24027	Howard County, MD	$288	$324	$471	0.69	$330	$227
24510	Baltimore City, MD	$361	$303	$410	0.74	$330	$243
Benchmark		$385	$390	$393	0.99	$330	$327
Ratio (MD/BM)		*0.86*	*0.83*	*1.05*	*0.79*	*1.00*	*0.79*

- Similar process will be used to adjust benchmark values for Medicare and for individual hospital PSA (or MPA on Medicare)

1. See Appendix 3 for data use limitations and additional background on commercial analysis. Other MSAs to be provided in supplemental data file

County Level Outcomes

Preliminary County Level Outcomes[1]

	CY 2017 Commercial % Over (Under) Benchmark Demographic-Adjusted Total Cost of Care	CY2018 Medicare % Over (Under) Benchmark Risk-Adjusted Total Cost of Care	Commercial Relative Rank	Medicare Relative Rank
24027 Howard	-30.7%	8.6%	1	4
24003 Anne Arundel	-23.6%	8.4%	5	3
24009 Calvert	-25.1%	9.1%	4	5
24031 Montgomery	-20.9%	1.9%	9	2
24033 Prince Georges	-17.3%	-0.9%	13	1
24035 Queen Anne's	-21.4%	11.4%	7	7
24510 Baltimore City	-25.7%	15.0%	3	13
24011 Caroline	-17.3%	10.0%	14	6
24039 Somerset	-29.1%	19.7%	2	18
24019 Dorchester	-17.7%	11.8%	12	9
24017 Charles	-19.8%	13.8%	10	12
24037 Saint Marys	-15.5%	13.3%	15	11

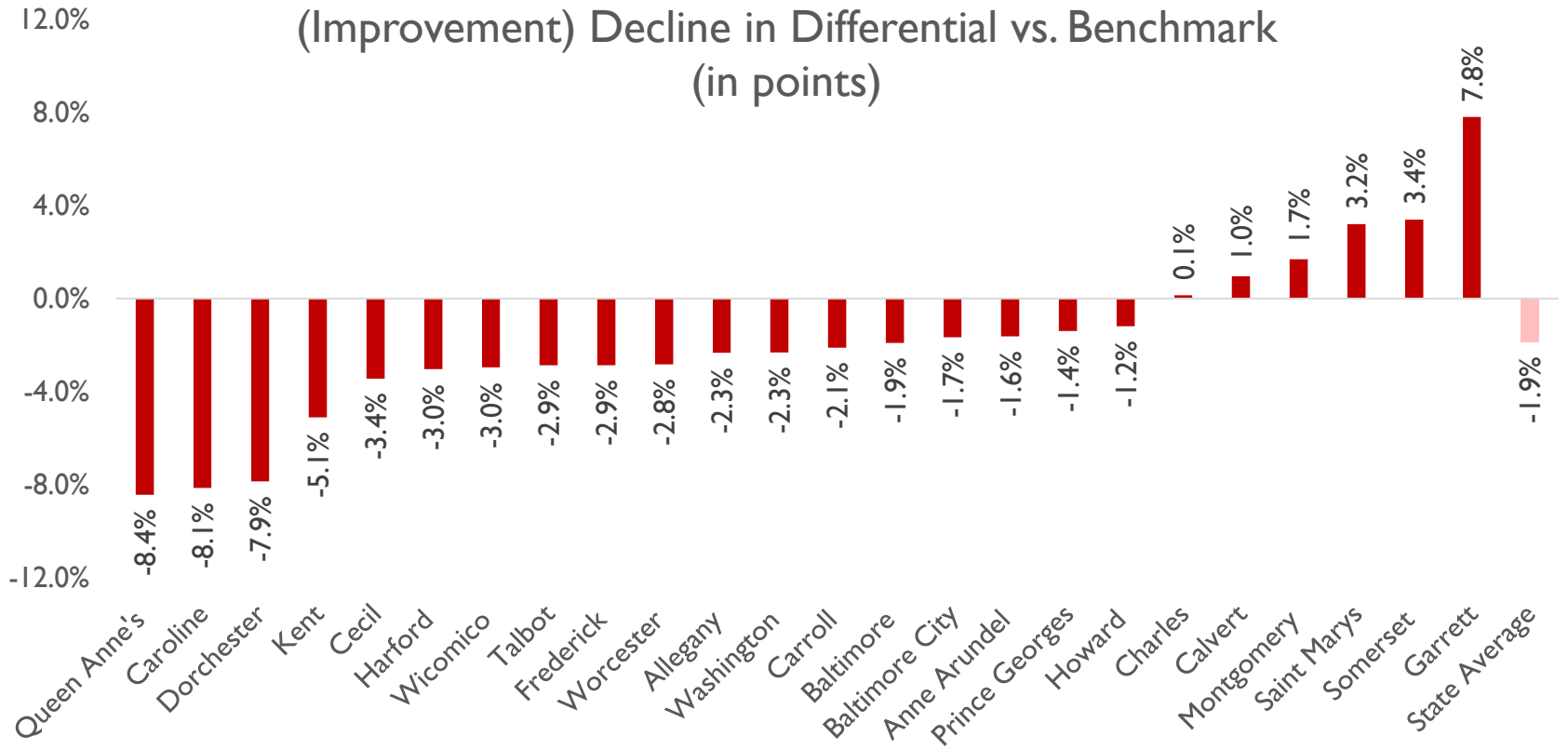
	CY 2017 Commercial % Over (Under) Benchmark Demographic-Adjusted Total Cost of Care	CY2018 Medicare % Over (Under) Benchmark Risk-Adjusted Total Cost of Care	Commercial Relative Rank	Medicare Relative Rank
24045 Wicomico	-22.5%	22.6%	6	20
24013 Carroll	-18.0%	19.0%	11	17
24021 Frederick	-13.5%	12.7%	19	10
24025 Harford	-21.2%	23.4%	8	22
24043 Washington	-14.9%	15.4%	17	14
24023 Garrett	-0.2%	11.4%	24	8
24029 Kent	-12.4%	15.9%	20	16
24001 Allegany	-15.2%	23.3%	16	21
24041 Talbot	-6.3%	15.7%	23	15
24015 Cecil	-9.7%	19.9%	22	19
24047 Worcester	-14.4%	26.0%	18	24
24005 Baltimore County	-10.2%	24.8%	21	23

- Amounts do not reflect:
  - Commercial 2018 data
  - Normalizing Medicare Demographics
  - Updated HCC Scores from CMS & Refined Medical Education Strip
  - Commercial Medical Education Strip
- Anticipate these modifications will collapse the relative range of values but not change the rankings dramatically.

1. See Appendix 3 for data use limitations and additional background on commercial analysis.

Preliminary County Level Outcomes, Medicare Change '17 to '18

- Maryland generally improved against the Medicare benchmarks from 2017 to 2018, consistent with State results against the nation.



- For example, Queen Anne's county in 2018 is 11.4% above the benchmark (see prior slide), from 2017 to 2018 this graphic shows an 8.4 point improvement meaning Queen Anne's was 19.8% above benchmark in 2017.
- Larger counties have smaller variations.

MC Sample County Cost Comparison – Anne Arundel[1]

Cost Values

2018	Anne Arundel	Benchmark	Above (Below) Benchmark
Total PBPY IP Cost	$4,183	$3,808	9.8%
Total PBPY OPPS	$2,026	$1,813	11.7%
Total PBPY Post Acute Cost	$1,384	$1,826	-24.2%
Total PBPY Other OP	$363	$413	-12.1%
Total PBPY Professional Cost	$3,816	$3,659	4.3%
Total PBPY Cost	$11,772	$11,519	2.2%
Less: Education Costs	-$218	-$200	9.0%
Net PBPY Costs	$11,555	$11,320	2.1%
Total PBPY Cost, Risk Adj.[1]	$11,555	$10,663	8.4%
Total PBPY Cost, Demographic Adj.[1]	TBD	TBD	

IP and OP Metrics

2018	Anne Arundel	Benchmark	Above (Below) Benchmark
IP Admissions 1000	265	299	-11.4%
LOS	5.5	5.6	-2.8%
Cost per IP Day	$2,895	$2,268	27.6%
SNF Days per 1000	1,560	1,753	-11.0%
ED Visit per 1000	430	396	8.6%
PCP Visits per 1000	5,816	5,471	6.3%
Specialist Visits per 1000	9,524	10,463	-9.0%
Obs Hours per 1000	2,068	1,530	35.2%

- Amounts do not reflect:
  - Demographic Normalization
  - CMS HCC Scores

1. Other MSAs to be provided in supplemental data file

CO Sample County Cost Comparison – Anne Arundel[1]

Commercial benchmarking contractor stated all values using a standard RVU methodology (similar to ECMADs). Therefore unit costs and utilization can be compared across settings on the same basis.

2017	Anne Arundel	Benchmark	Above (Below) Benchmark
Inpatient Cost per RVU	$66.83	$90.43	-26.1%
Inpatient RVUs PMPY	10.81	11.57	-6.6%
Total Inpatient PMPY	$722.29	$1,037.77	-30.4%
Outpatient Cost per RVU	$71.38	$98.19	-27.3%
Outpatient RVUs PMPY	14.45	16.37	-11.7%
Total Outpatient PMPY	$1,031.63	$1,600.32	-35.5%
Professional and Other Cost per RVU	$39.72	$53.02	-25.1%
Professional and Other RVUs PMPY	49.33	37.59	31.2%
Total Professional PMPY	$1,959.59	$1,986.17	-1.3%
Total PMPY	$3,713.51	$4,624.25	-19.7%
Total PMPY Risk Adj.	$3,808.94	$4,685.73	-18.7%
Total PMPY Demographic Adj.	$3,004.18	$3,929.68	-23.6%

- Amounts do not reflect:
  - 2018 data
  - Medical Education Strip

1. See Appendix 3 for data use limitations and additional background on commercial analysis. Other MSAs to be provided in supplemental data file

Next Steps

- Data shared as part of this presentation includes only Geography level analytics and not Hospital-Attributed Population analytics.
- HSCRC will distribute a file containing county level information as a follow up to this meeting
- Open items on Geography analytics
  - Commercial Medical education strip
  - Updates for Medicare calculated HCC scores & Refined medical education strip
  - Medicare demographic regression
  - Commercial data update to 2018 (data became available in November 2019)
  - Expect these adjustments to collapse variation between high and low cost areas to some degree although overall rankings are unlikely to change materially
- Updated Geography analytics and Hospital-Attributed Population analytics available in Jan/Feb 2019
- Release greater detail on cost variation drivers – Spring 2020

Update on the CTI Methodology

Administrative Updates on CTI Methodology

- HSCRC staff released a CTI User Guide that documents how the CTI reconciliation payments will be performed, including:
  - Identifications of the CTI Episodes
  - Calculation of the CTI Episode Costs
  - Calculation of the update factor for the CTI
  - Setting the Target Prices for the CTI Episode
- HSCRC is asking for comments on the CTI methodology (please send to hscrc.care-transformation@Maryland.gov) and will address questions, concerns, and recommendations at the next TCOC Workgroup Meeting. Please submit comments by January 15th, 2020.
- Next steps will be a report to the HSCRC Commission on the methodology, the first couple approved CTIs, and overlaps with other policies.

Change in Standardized Costs

- Based on recommendations from stakeholders, HSCRC will not use CMS' standardized prices in the calculation of the CTI episodes costs.
  - Standardization is primarily used to eliminate the variation in costs caused by differences in the wage index and other geographic factors;
  - But standardized costs are not used for regulated hospital costs (HSCRC rate orders are used instead) and standardization has a limited impact on post-acute care and physician costs.
- Therefore, HSCRC will use the actual paid amount for all costs paid under the Medicare fee schedules. This significantly simplifies the methodology.

Change in the Risk-Adjustment

- Initially, HSCRC intended to follow the risk adjustment used by the federal BPCI-A model. However, the BPCI-A Model is complicated and does not work well for small hospitals.
  - HSCRC moved to a simpler APR-DRG methodology for ECIP.
  - This model follows CMMI's CJR model.
- For hospital initiated CTIs, we will follow the CJR approach and use the APR-DRG risk adjustment. We will risk adjust based on HCC strata.
  - All beneficiaries will be divided into HCC strata and then risk adjusted between those strata.
  - This is equivalent to the APR-DRG approach but using the HCCs instead.

Next TCOC WG Meeting:
January 29, 2020

Future meetings

- TCOC Work Group meetings
  - January 29, 2020
  - February 26, 2020
- HSCRC Commission meetings
  - January 8, 2020

Glossary

- **Accountable Care Organizations (ACO):** groups of doctors, hospitals, and other health care providers, who come together voluntarily to give coordinated high quality care to the Medicare patients they serve
- **All Patients Refined Diagnosis Related Groups (APR-DRG):** classification system that includes reason of admission, severity of illness, and risk of mortality
- **All Payer Claims Database (APCD)**
- **Ambulatory Surgery Centers (ASC):** facilities focused on providing same-day surgical care, including diagnostic and preventive procedures
- **Bundled Payments for Care Improvement Advanced (BPCI-A):** a voluntary CMS episode payment model spanning 35 clinical episodes
- **Care Transformation Initiative (CTI):** An intervention, care protocol, population health investment or program undertaken by a hospital or group of hospitals to reduce unnecessary hospital utilization and/or Medicare TCOC
- **Care Transformation Organization (CTO):** MDPCP entity that hires and manages an interdisciplinary care management team capable of furnishing an array of care coordination services to Maryland Medicare beneficiaries attributed to Participant Practices
- **Care Transformation Steering Committee (CT-SC):** Committee convened by the Health Services Cost Review Commission (HSCRC) to review, prioritize and advise CTI development; members consist of key hospital, payer and health policy representatives and meetings are held monthly for the public
- **Claim and Claim Line Feed (CCLF):** Medicare data file which contains claims, beneficiary services, and data from hospital and non-hospital utilization
- **Compound Annual Growth Rate (CAGR):** constant rate of return over the time period
- **Comprehensive Care for Joint Replacement (CJR):** a voluntary CMS episode payment model for hip and knee replacements
- **Consolidated Healthcare Services Database (CSHD):** Milliman's commercial claims database
- **Durable Medical Equipment (DME):** any equipment that provides therapeutic benefits to a patient in need because of certain medical conditions and/or illnesses
- **Equivalent Case Mix Adjusted Discharges (ECMAD):** allows you to compare between inpatient and outpatient discharges
- **Evaluation and Management (E&M):** a category of medical codes that include services for patient visits
- **Hierarchical Conditioning Categories (HCC):** a risk adjustment model to predict health care spending

Glossary (cont.)

- **Inter-Hospital Cost Comparison (ICC):** Methodology to evaluate how cost efficient a hospital is relative to select peers and how related costs are to charges
- **Length of Stay (LOS):** the duration in which the patient is in the hospital
- **Maryland Primary Care Program (MDPCP):** A voluntary program open to all qualifying Maryland primary care providers that provides funding and support for the delivery of advanced primary care throughout the state
- **Medicare Access and CHIP Reauthorization Act (MACRA):** Legislation that changed the way Medicare rewards clinicians for value over volume by giving bonus payments for participation in eligible alternative payment models (APMs)
- **Medicare Performance Adjustment (MPA):** An annual adjustment to individual hospital Medicare revenues to reward or penalize a hospital's performance on controlling total costs of care for an attributed population
- **Metropolitan Statistical Area (MSA):** a defined geographical region
- **MPA Attribution Tracking Tool (MATT):** automates the process of gathering and maintaining provider data required for the creation of the MPA attribution and granting hospitals PHI access
- **National Provider Identifier (NPI):** a unique 10-digit identification number issued to health care providers in the United States by the Centers for Medicare and Medicaid Services (CMS)
- **Per Member Per Month (PMPM)/Per Beneficiary Per Year (PBPY)**
- **Primary Care Provider (PCP):** the clinician that manages overall patient care
- **Primary Service Area (PSA)**: hospital's service area zip codes as indicated in hospital's GBR agreement
- **Primary Service Area Plus (PSAP):** hospital-specific service area zip codes based on PSA, adjusted for unclaimed zip codes and zip codes served by more than 1 hospital
- **Protected Health Information (PHI):** health data created, received, stored, or transmitted by HIPAA-covered entities and their business associates in relation to the provision of healthcare, healthcare operations, and payment for healthcare services
- **Relative Value Unit (RVU):** the multiplier applied to determine the Medicare fee for a service
- **Total Costs of Care (TCOC):** Medicare costs in Parts A and B services for fee-for-service beneficiaries

Appendix 1: MATT Submission Requirements

Annual Hospital Submission Requirements (via MATT)

- Required Actions:
  - Hospitals participating in Accountable Care Organizations (ACOs) and MDPCP CTOs will be required to submit their certified ACO and/or MDPCP provider lists to MATT
    - MATT can prepopulate the prior year's list or hospitals can upload a new list and hospitals will be allowed to share NPIs across hospitals
  - All hospitals will be required to attest through MATT that providers submitted to the HSCRC for the MPA Attribution are accurate and represent a care coordination relationship with attributed Medicare beneficiaries
  - All hospitals submitting NPI lists must assign providers to specific hospitals
    - Assign providers to specific hospitals (MDPCP, ACO)
- Hospitals can also submit a list of employed providers to MATT
  - MATT can prepopulate the prior year's list or hospitals can upload a new list

Monthly Hospital Submission Requirements (via MATT)

- After the review period, hospitals will be required to review their lists in MATT monthly and perform the following actions:
- Optional Actions:
  - Add new Care Coordination Attestation for NPIs attributed under the referral relationship
- Required Actions:
  - Indicate hospital participation status with hospital CTO and hospital ACO (if applicable)
  - Indicate terminations of Care Coordination Attestation (previously added referral relationship)
- Failure to provide timely updates to MATT will result in hospital no longer having access to PHI level data in MADE

Data Release: Care Coordination Attestation

- The HSCRC continues to require hospitals to attest that their list of submitted providers is accurate and represents a voluntary care coordination relationship.
- This care coordination relationship allows hospitals to receive the individually identifiable beneficiary data for voluntary coordination or management of health care services.
- This attestation will now be automated through MATT
- Attestation language (consistent with 2019 language):
  - *"The Hospital certifies that it has a Business Associate Agreement (BAA), as such term is defined by 45 CFR §164.504, or other such agreement (employment contract, ACO Agreement, etc.) that allows data sharing under HIPPA, with each Medicare-enrolled practitioner on the attached list to receive Protected Health Information (PHI) for healthcare operations and for voluntarily coordinating or managing health care and related services in a manner allowable under 45 CFR §§164.501, 164.502, and 164.504. The Hospital agrees to hold harmless the State, the HSCRC, and CRISP and to defend and indemnify these parties, individually or collectively, from any actions arising from a false certification made herein."*

Appendix 2:
Detail on Benchmark Selection and Calculation

Calculation Detail - Definitions

- Geography = County for Medicare, MSA for benchmark commercial
- Hospital-Attributed Population = (1) PSAP, Medicare and Commercial or (2) MPA, Medicare only
- Medical Education Costs = Costs of medical education as derived from Medicare Cost Report data
- Benchmark TCOC = Simple average of the TCOC for all Geographies in the peer group of a Maryland Geography
- Risk Adjustment Factor = Hierarchical Condition Category for Medicare, Health and Human Services Platinum Risk Score for Commercial
- Risk-Adjusted TCOC Benchmark = benchmark TCOC / benchmark Risk Adjustment Factor x Maryland Risk Adjustment Factor
- Demographic-Adjusted Benchmark TCOC = Risk-Adjusted Benchmark TCOC normalized for demographics and benefits (commercial only)

Calculation Process – Geography

(1) Strip out Medical Education Costs from Maryland and National Commercial (APCD) and Medicare (CCW) claims data

- IME calculated using national average IME per intern from ICC converted to per patient day cost using intern counts and total patient days (all payer) on Medicare Cost Report
- DME calculated at a hospital level from cost report data
- Remove IME and DME costs on a per day basis from all Major and Moderate teaching hospitals*

(2) For all Maryland and National Geographies calculate TCOC by excluding Medical Education Costs

- County – Medicare
- MSA - Commercial

(3) Calculate TCOC Benchmark and Benchmark Risk Adjustment Factor

- Simple average of TCOC for selected benchmark Geographies for each Maryland Geography
- Simple average of Risk Adjustment Factor for selected benchmark Geographies for each Maryland Geography

(4) Establish Demographic Regression

- Regression analysis generates adjustment factors to normalize for remaining differences between the demographic values of the Maryland Geography and the demographic values of its benchmark Geographies (see specific factors in Demographic Factors table)
- For Commercial analysis a measure of benefit differentials is also included in the regression

(5) Calculate Benchmark values and Maryland performance

- Calculate Risk-Adjusted TCOC Benchmark for each Maryland Geography
- Calculate Demographic-Adjusted Benchmark TCOC for each Maryland Geography
- Compare Maryland Geography TCOC to Demographic-Adjusted Benchmark TCOC for each payer

Calculation Process – Hospital-Attributed Population

(1) For all Maryland Hospital Attributed Populations calculate TCOC by excluding Medical Education Costs

- MPA and PSAP for Medicare
- PSAP for Commercial

(2) For all Maryland Hospital Attributed Populations calculate demographic values

- Assign at a beneficiary level where feasible (e.g. risk scores)
- Mapped from relevant geography where not available at a beneficiary level (e.g. everyone in Zip X gets zip's deep poverty)
- See Demographic Factors table for specific mappings

(3) Select a "base" Geography for each hospital

- Geography where hospital is located

(4) Calculate factors to normalize benchmark values for "base" Geography to those of Hospital-Attributed Population

- Use same regression factors determined in Step 4 of Geography process

(5) Calculate Benchmark values and Maryland performance

- Calculate Risk-Adjusted TCOC Benchmark for each Maryland Hospital-Attributed Population
- Calculate Demographic-Adjusted Benchmark TCOC for each Maryland Hospital-Attributed Population
- Compare Maryland Hospital-Attributed Population TCOC to Demographic-Adjusted Benchmark TCOC for each payer

Demographic Factors

	Medicare	Commercial
Factors used in narrowing potential matching populations for each Maryland Geography	Urban/Rural Indicator Population Size Population Density	Population Size Population Density
Factors used in selecting matching national Geographies for each Maryland Geography	HCC Score Deep Poverty % Median Income Regional Price Parity	HHS Platinum Risk Score Deep Poverty % Median Income Regional Price Parity % Spending from Government Payers
Factors used in risk adjusting and normalizing benchmark values to Maryland Geography and Maryland Hospital-Attributed Population (parenthesis indicates level of detail at which value is mapped to a beneficiary)	HCC Score (Beneficiary) Deep Poverty % (Zip) Median Income (Zip) Regional Price Parity (MSA)	HHS Platinum Score (Beneficiary) Deep Poverty % (County) Median Income (County) Benefit Levels (County) % Teaching (County), to be replaced by Medical Education strip

Appendix 3:
Benchmarking Commercial Data Limitations and Background

2017 Benchmark and Maryland APCD – Milliman Caveats and Limitations

- *The 2017 Benchmark and Maryland APCD processed and summarized data have been prepared for the use of HSCRC. This presentation is intended solely for educational purposes and presents information of a general nature. It is not intended to guide or determine any specific individual situation and persons should consult qualified professionals before taking specific actions. Milliman does not intend to benefit or create a legal duty to any third party recipient of its work.*
- *This information is intended to be used to benchmark Maryland's CY 2017 commercial cost and utilization for medical services. This information may not be appropriate for other purposes.*
- *In preparation of this analysis, Milliman relied upon the accuracy of data and information provided to it by HSCRC, CMS, and its data partners. This information has not been audited, although it was reviewed for reasonableness. If the underlying data or information is inaccurate or incomplete, the results of the analysis may likewise be inaccurate or incomplete.*

2017 Commercial Benchmark Data Source

- Milliman's 2017 benchmark data is sourced from multiple insurance companies, TPAs, and large employers across the nation. Milliman processes eligibility and detailed claims information and calculate additional metrics such as risk scores and relative value units.
  - Benchmarks are created by the Metropolitan Statistical Area (MSA) of the member.
  - The data used in this analysis is limited to commercially insured members under age 65.
  - Milliman has applied completion factors to the utilization and allowed amounts.
  - This analysis is based on the Milliman 2017 benchmark exhibits dated 11/01/2019.

Milliman Consolidated Healthcare Services Database (CHSD)

- Milliman CHSD overview:
  - Approximately 82 million unique lives (102 million including MarketScan)
  - 2010 to 2017
  - One third of employer-sponsored healthcare market
- Value-added fields readily available:
  - MSA, state
  - Risk scores
  - Service category
  - GlobalRVUs
  - Waste measures

2017 Maryland Commercial Data Source

- 2017 Maryland's All Payer Claims Database (APCD) is used for the 2017 Maryland commercial values. Milliman processed eligibility and detailed claims information and calculated metrics consistent with the 2017 benchmark data.
  - This data is available at the member county and Metropolitan Statistical Area (MSA).
  - The data used in this analysis is limited to commercial members under age 65.
    - Enrollment and payments were reconciled to each Maryland payers financial reports.
    - Payers with incomplete or invalid APCD submissions were excluded.
  - Milliman calculated and applied completion factors to the allowed amounts.
  - This analysis is based on the Milliman prepared 2017 APCD exhibits dated 08/30/2019.

GlobalRVUs Overview

Global All services are assigned RVUs

- Inpatient, outpatient, professional and Rx RVUs
- RVUs are imputed for services that fail to adjudicate

RVUs Relative Value Units

- Services requiring similar resources have approximately the same RVUs
- RVUs are calibrated to nationwide Medicare

GlobalRVUs – Utilization Efficiency Analysis

- Risk-adjusted RVUs is a provider efficiency measurement
  - Risk adjustment accounts for differences in the populations' morbidity
  - RVUs are independent of unit price
- For example:

	Provider A	Provider B
(1) Risk Score	1.50	1.50
(2) RVUs PMPM (Case-mix & severity adjusted utilization)	45	30
(3) Risk Adjusted RVUs (3) = (2)/(1)	30	20

- Provider B is more efficient than Provider A after normalizing for risk and unit price
  - Provider B's risk adjusted RVU PMPM is lower value than Provider A.

GlobalRVUs – Separating Efficiency and Unit Price

Primary Care Group	Risk Adjusted Allowed PMPM	**Relative to Group A**	Risk Adjusted RVUs PMPM	**Relative to Group A**	Allowed per RVU	**Relative to Group A**
Area Average	$370.49	**1.01**	6.16	**0.96**	$60.11	**1.06**
Group A	$366.84	**1.00**	6.44	**1.00**	$56.95	**1.00**
Group B	$377.04	**1.03**	5.87	**0.91**	$64.18	**1.13**
Group C	$344.95	**0.94**	5.90	**0.92**	$58.45	**1.03**
Group D	$371.92	**1.01**	6.04	**0.94**	$61.56	**1.08**
Group E	$366.31	**1.00**	5.91	**0.92**	$62.00	**1.09**
Group F	$393.11	**1.07**	6.44	**1.00**	$61.05	**1.07**