

Deeper Dive into Pricing Methodology Webcast Script

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Webcast Description and Objectives: This webcast provides a deep dive into the BPCI Advanced Model pricing methodology and is intended to provide a more focused and detailed look into the Target Price construction. The webcast will provide a step-by-step explanation of target pricing construction with a focus on preliminary Target Prices. It walks through an example of preliminary Target Price calculations.

Slide #	Title	Script
1	Deeper Dive into Pricing Methodology	Welcome, BPCI Advanced Applicants. This webcast provides a deeper dive into the pricing methodology and serves as a companion to the Introduction to Pricing Methodology webcast. The Introduction to Pricing Methodology webcast provides an overview of the entire pricing methodology, while this webcast focuses more closely on the Target Pricing phase.
2	Webcast Facilitators	My name is Ashley Franklin, and I am a Public Health Analyst at CMS. I am joined here today by my colleague, Aaron Broun. We are excited to share more information on the pricing methodology within BPCI Advanced.
3	Webcast Outline	The webcast will cover an overview of Target Prices and Risk Adjustment. Then, we'll go through the steps for estimating Clinical Episode-level spending, formulating preliminary Hospital Benchmark Prices, formulating preliminary Physician Group Practice-Acute Care Hospital Benchmark Prices, creating preliminary Target Prices and creating final Target Prices.
4	Learning Objectives	At the conclusion of this webcast, you should understand how the Model calculates the preliminary Hospital and PGP-ACH Benchmark Prices, creates the preliminary Target Prices and sets the final Target Prices. For an overview of the Model's pricing methodology, please review the Introduction to Pricing Methodology webcast. We recommend reviewing the Introduction to Pricing Methodology webcast before going through this one.
5	Pricing Methodology Learning Resources	Please note that BPCI Advanced is releasing multiple resources for Applicants to learn about the Model's pricing methodology this summer! For an overview of the Model's pricing methodology, please review the Introduction to Pricing Methodology webcast. For a list of all the technical specifications and what they cover, the Pricing Methodology Technical Specifications Guide provides further information.
6	Common Terms in BPCI Advanced	Before we dive into today's learning content, this slide presents the terms that are used throughout the presentation. Each term will be defined at its first use and abbreviated at later uses.

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7	Target Price Overview	Now we will move into the first section, Target Price overview. This section will go over the essential features of BPCI Advanced Target Prices, the components of Acute Care Hospital, or ACH, Target Prices, and the components of Physician Group Practice, or PGP, Target Prices.
8	Goals of Target Pricing	<p>The essential goals for BPCI Advanced Target Prices are to:</p> <ul style="list-style-type: none"> • Encourage both high- and low-cost providers to participate in the Model • Reward Participants' improvement over time • Adjust for variations in patient care utilization and outcomes that are not under the control of providers • Allow for levels and trends of Clinical Episode spending that are distinct, according to unique provider characteristics, and • Reduce the cost of care while maintaining high-quality care
9	Hospital Target Price Key Features	<p>This slide shows the two main formulas for hospital's Benchmark and Target Prices.</p> <p>First, the Hospital Benchmark Price, or HBP, is the product of the Standardized Baseline Spending, the Patient Case Mix Adjustment, the Peer Group Historical Adjustment Factor, the Peer Group Trend Factor and the PGT Factor Adjustment.</p> <p>The SBS is standardized ACH spending across the baseline period to account for historical efficiency.</p> <p>The PCMA adjusts for the complexity of an ACH's patient case mix.</p> <p>The PGHA Factor adjusts for persistent differences in patient case mix-adjusted spending across peer groups over the entire baseline period.</p> <p>The PGT Factor projects the average value of the patient case mix adjusted spending from the baseline period to the middle of Model Year 7 for each peer group. This is a <i>prospective trend</i>.</p> <p>The PGT Factor Adjustment adjusts for realized peer group trends by recentering the benchmark price according to realized Performance Period Clinical Episode spending within each peer group nationally, otherwise known as a retrospective adjustment. The PGT Factor Adjustment is only applied during the final Target Price construction during Reconciliation.</p> <p>Next, CMS applies the CMS Discount to the HBP to calculate the preliminary Target Price. The CMS Discount accounts for the Medicare savings under the Model.</p>

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10	Physician Group Practice Target Price Key Features	<p>For PGPs, there are extra steps in the calculation. Given that PGPs initiate Clinical Episodes at multiple ACHs, the PGP-ACH Target Price builds off of the ACH price and incorporates a Relative Case Mix.</p> <p>The HBP, whose calculation was shown on the previous slide, provides the initial dollar value of a PGP’s Benchmark Price for Clinical Episodes initiated at a specific ACH. All components of the ACH-HBP are the same, but the Model will calculate a Clinical Episode Category, or CEC-specific HBP for each ACH where the PGP triggers Clinical Episodes.</p> <p>The Relative Case Mix measures whether the overall case mix of a PGP’s Clinical Episodes at an ACH presents a higher or lower expenditure risk, compared to the case mix of Clinical Episodes at the ACH overall.</p>
11	Risk Adjustment Overview	<p>Now that we have gone over an overview of the Target Pricing calculations, we will take a look at risk adjustment. Risk adjustment is based on a hospital’s patient case mix and peer group.</p>
12	Stage 1: Patient Case Mix	<p>This slide shows the list of patient characteristics that are included in the pricing calculation as risk adjusters. The coefficients for each of the risk adjusters can be found in the Preliminary Target Price Summary Workbooks. Of note, the COVID-19 infection rate was a newly added patient case mix characteristic in response to Participant concerns about COVID-19 Clinical Episode exclusions. Rather than excluding Clinical Episodes in which a beneficiary has a COVID-19 diagnosis, the infection rate adjusts for the effect of community-level COVID-19 rates on episode spending.</p>
13	Stage 2: Peer Groups	<p>Next, the Model uses the following ACH peer group characteristics to construct Target Prices:</p> <ul style="list-style-type: none"> • Major teaching hospital status • Urban or rural classification • Safety net indicator • Census division, and • Bed size <p>Note that the Model provides data on these peer group characteristics quarterly. Now I’m going to hand the mic to my colleague Aaron to tell us more about Target Price calculations.</p>

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14	CMS Target Price Calculation Steps	<p>Thanks, Ashley! My name is Aaron Broun, and I'm a Social Science Research Analyst on the BPCI Advanced Model team. Now that we have covered Target Pricing and risk adjustment, we will go through Target Pricing step-by-step. There are 20 steps in total, and they cover:</p> <ul style="list-style-type: none"> • Estimating Model of Clinical Episode-Level Spending • Formulating Preliminary Hospital Benchmark Prices • Formulating Preliminary PGP-ACH Benchmark Prices • Creating Preliminary Target Prices, and lastly, • Creating Final Target Prices
15	Estimate Clinical Episode-Level Spending	<p>Estimating Clinical Episode-level spending covers the first six steps of the process.</p>

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16	<p>Estimate Model of Clinical Episode-Level Spending</p>	<p>On this slide you can see the first six steps for estimating Clinical Episode-level spending. Note that these steps correspond to the steps in the Target Price Specifications.</p> <p>In Step 1, the Model sets a Clinical Episode minimum where an ACH must have initiated at least 41 Clinical Episodes for a specific CEC in the baseline period to receive Target Prices for this CEC. The Clinical Episode minimum requirement reduces low volume uncertainties. Please note that PGPs do not need to meet the Clinical Episode minimum to participate, but they will only receive preliminary Target Prices for the ACHs where they initiated Clinical Episodes that meet the Clinical Episode minimum requirement.</p> <p>In Step 2, the Model estimates a compound log-normal risk adjustment model and calculates Clinical Episode spending while accounting for patient characteristics, peer group characteristics and quarter-year flags.</p> <p>In Step 3, the Model calculates the Clinical Episode-level patient case mix adjustment amount based on patient characteristics. This will be a component for the PCMA and the PGP Relative Case Mix.</p> <p>In Step 4, the Model estimates peer groups and peer group trends using ordinary least squares, or OLS, regression at the ACH-quarter level, weighted by the number of Clinical Episodes initiated at the ACH-quarter level.</p> <p>In Step 5, the Model then multiplies the predicted ratio from Step 4 and the Clinical Episode-level patient case mix adjustment amount from Step 3.</p> <p>In Step 6, the Model uses the Clinical Episode-level file to calculate the average observed and average predicted Clinical Episode spending for each ACH. This is an input for the ACH Historical Adjustment component, coming up in Step 8.</p>

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17	Walk Through of Steps 1–6	<p>Let’s see an example applying steps 1 through 6 that we just covered:</p> <p>In the first row of the table, you can see for ACH H1001, Clinical Episode 1, the observed spending of \$10,000 is divided by the patient case mix adjustment amount calculated in Step 3, \$8,500, to obtain the 1.18 value for Step 4a. The predicted ratio from OLS found in Step 4b, 1.25, is multiplied by the patient case mix adjustment amount, \$8,500, to obtain the predicted Clinical Episode spending of \$10,625 for Step 5.</p> <p>Once we have the observed and predicted Clinical Episode spending for all five Clinical Episodes for ACH H1001, at Step 6, the Model averages these spending values to obtain the average observed spending, \$24,500, and the average predicted spending, \$27,469.</p>
18	Formulate Preliminary Hospital Benchmark Prices	<p>The next steps, 7 to 13, will cover the formulation of preliminary Hospital Benchmark Prices.</p>

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19	<p>Formulation of the Preliminary Hospital Benchmark Price</p>	<p>In Step 7, the Model takes the average of the observed Clinical Episode spending for the national set of Clinical Episodes in the Clinical Episode Category. This is an input to SBS in Step 9 and the denominator for preliminary PCMA in Step 10.</p> <p>In Step 8, the Model calculates the ACH Historical Adjustment as the ratio of average observed to average predicted Clinical Episode spending for each ACH while controlling for patient and peer group characteristics. A value less than one indicates an ACH’s baseline period spending was lower than the average ACH, and a value greater than one indicates an ACH’s baseline period spending was higher than the average ACH. This adjustment is an input for the next step, calculating the ACH’s SBS component.</p> <p>In Step 9, the Model calculates the SBS by multiplying the average observed Clinical Episode spending from Step 7 by the ACH Historical Adjustment from Step 8.</p> <p>In Step 10, the Model then divides the average Clinical Episode-level case mix adjustment amount from Step 3 by the average observed Clinical Episode spending from Step 7 to calculate the preliminary PCMA. Note that the preliminary PCMA is calculated using all of an Episode Initiator’s baseline period Clinical Episodes.</p> <p>In Step 11, the Model calculates the PGHA by predicting the ACH’s patient case mix adjusted spending in each of the 16 quarters from the baseline using the OLS coefficients from Step 4 and the ACH’s peer group characteristics, and then averaging the results.</p> <p>In Step 12, the Model calculates the PGT by predicting the ACH’s patient case mix adjusted spending in the middle quarter of the Model Year using the OLS coefficients from Step 4 and the ACH’s peer group characteristics, and then dividing the value by the PGHA.</p> <p>In Step 13, the Model calculates the preliminary HBP by multiplying the SBS from Step 9, the preliminary PCMA from Step 10, the PGHA from Step 11 and the PGT from Step 12 for each ACH.</p>

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20	Walk Through of Steps 7–13	<p>Now we will apply these steps to the ACH H1001 example we saw before. In Step 7, we have the average observed Clinical Episode spending of \$40,530, based on national data. For Step 9, the SBS, the Model multiplies \$40,530 from Step 7 with the Historical Adjustment of 0.89 from Step 8 to obtain \$36,072.</p> <p>Now let's look at Step 10, the preliminary PCMA. The Model obtains a value of 0.57 by dividing the average of the Clinical Episode-level case mix adjustment amounts from Step 3, \$23,060, by the average observed Clinical Episode spending of \$40,530 from Step 7.</p> <p>In Step 11, the PGHA is calculated by averaging the OLS coefficients from Step 4b and the peer group characteristics across 16 quarter-years.</p> <p>Then, for Step 12, the PGT is calculated by taking the OLS coefficient from Step 4b and peer group characteristics for the middle quarter and dividing by the 1.51 PGHA.</p> <p>Finally, looking at Step 13, to obtain the preliminary HBP of \$27,942, the SBS is multiplied by the PCMA, PGHA and PGT – from steps 10 through 13 respectively.</p>
21	Formulate Preliminary PGP-ACH Benchmark Prices	<p>Steps 14 and 15 in the Target Pricing process go over the formulation of preliminary PGP-ACH Benchmark Prices.</p>
22	Formulation of the Preliminary PGP-ACH Benchmark Price	<p>In Step 14, the Model calculates the average preliminary PCMA at the PGP-ACH level by averaging all of the Clinical Episode-level patient case mix adjustment amounts over all of the Clinical Episodes for the PGP-ACH combination and dividing by the average observed Clinical Episode spending. Then the Model calculates the preliminary Relative Case Mix as the ratio of PGP-ACH preliminary PCMA to ACH preliminary PCMA.</p> <p>In Step 15, the Model calculates the preliminary PGP-ACH Benchmark Price by multiplying the preliminary HBP from Step 13 and the preliminary Relative Case Mix from Step 14.</p>

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23	Walk Through Steps 14–15	<p>Returning to ACH H1001, the example now shows the ACH along with ACH H1002 under PGP P001.</p> <p>Looking at the first row, for Step 14a, the PGP-ACH preliminary PCMA of 0.49 for P001-H1001 is calculated by dividing the average of the Clinical Episode-level patient case mix adjustment amounts over all Clinical Episodes for the PGP-ACH combination, by the average observed Clinical Episode spending of \$40,530 from Step 7.</p> <p>Then, in Step 14b, the preliminary Relative Case Mix is calculated by dividing the PGP-ACH preliminary PCMA of 0.49 from Step 14a by the ACH preliminary PCMA of 0.57 from Step 10, resulting in 0.86.</p> <p>Finally, for Step 15, the preliminary PGP-ACH Benchmark Price: multiply the preliminary HBP of \$27,942 from Step 13 by the preliminary Relative Case Mix of 0.86 from Step 14b to yield \$24,030.</p>
24	Create Preliminary Target Prices	<p>The next section, steps 16 to 18, covers the creation of the preliminary Target Prices.</p>
25	Create Preliminary Target Prices	<p>In Step 16, the Model applies the CMS Discount Factor, which reduces the Target Price. The CMS Discount Factor is intended as the Medicare savings under the Model. The CMS Discount Factor is 2% for medical Clinical Episodes and 3% for surgical Clinical Episodes.</p> <p>In Step 17, the Model converts the preliminary Target Prices into real dollars by multiplying the Target Price by a ratio of the sum of real Clinical Episode spending to the standardized allowed spending amount at the Episode Initiator-Clinical Episode level.</p> <p>In Step 18, the Model adjusts the preliminary Target Prices during the Model Year to account for the most recently available Medicare payment rates released in the Federal Register. Adjustments are made for standardized Clinical Episode Spending updates, risk adjustments and the rest of the Target Price construction.</p>

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26	Walk Through of Steps 16–18	<p>Now let's go back to the example data. Looking at Step 16 in the preliminary ACH Target Price calculation, a CMS Discount of 3% is applied to the preliminary HBP from Step 13 to get a preliminary ACH Target Price of \$27,104, or \$27,375 in real dollars.</p> <p>In the PGP-ACH table, the discount is also applied for PGPs using the PGP-ACH Benchmark Prices from Step 15. The preliminary Target Prices are then multiplied by the preliminary ratio of real dollars to payment standardized dollars to obtain the preliminary Target Price of \$23,775 in real dollars for Step 17.</p>
27	Create Final Target Prices	<p>Finally, you will go over the creation of the final Target Prices in steps 19 to 20. Note that this section is retrospective. These calculations are not included in the preliminary Target Pricing workbook and will be completed with data from the Performance Period.</p>
28	Create Final Target Prices	<p>In Step 19, the Model retrospectively calculates the PGT Factor Adjustment by first multiplying the modified updated PCMA by the ACH's PGHA, PGT, SBS and count of Performance Period Clinical Episodes. This product is the denominator of the uncapped PGT Factor Adjustment. The Model then sums the total observed Clinical Episode spending from all ACHs in the peer group. This total is the numerator of the uncapped PGT Factor Adjustment. Finally, the PGT Factor Adjustment is capped at 5%.</p> <p>In Step 20, the Model creates the Final Target Prices. For ACHs, the Model updates the Clinical Episode-level PCMA to account for the realized case mix of the Model Year Clinical Episodes and multiplies it by the PGT Factor Adjustment. For PGPs, the Model updates the Relative Case Mix so the Performance Period case mix of the PGP's episodes at an ACH is compared to the baseline period case mix. The HBP in the PGP-ACH Benchmark Price formula is only updated with the PGT Factor Adjustment.</p>
29	Walk Through of Steps 19–20	<p>Returning to the example data: the table now shows the Target Pricing components for four hospitals that belong to two peer groups. On the left, the total observed Clinical Episode spending covers all of the Clinical Episodes triggered at the ACH, which is why these numbers look higher than usual. Note that the PCMA in the fourth column has also been updated at this time.</p>

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30	<p>For a Given Clinical Episode Category and Performance Period:</p>	<p>This slide shows the calculation of the PGT Factor Adjustment for the two peer groups. For Peer Group 1, multiplying the values for the updated PCMA, PGHA, PGT, SBS and number of Clinical Episodes from the previous table results in \$3,639,630. This value is divided by the total spending across the two ACHs in the peer group, which is \$3,855,711. This results in an uncapped PGT Factor Adjustment of 0.94.</p> <p>The PGT Factor Adjustment value is then capped at 0.95.</p> <p>Please note that the updated PCMA used in the calculation includes all of the Clinical Episodes initiated at the ACH during the Performance Period, rather than all of the Clinical Episodes attributed to the ACH.</p>
31	<p>Final Target Price</p>	<p>Now let's put the final steps together. The first row shows an ACH and the second row shows the ACH for a particular PGP.</p> <p>For the ACH, the preliminary Target Price of \$45,907 is multiplied by the updated PCMA based on all the episodes initiated at the ACH and the capped PGTF of 0.95 to get the final Target Price of \$44,484.</p> <p>For the PGP-ACH combination, the preliminary Target Price of \$48,662 is multiplied by the Relative Case Mix and the capped PGTF of 0.95 to get the final Target Price of \$51,776.</p>
32	<p>Key Takeaways</p>	<p>Now I'll hand it back to Ashley to summarize the key takeaways from this webcast and wrap up by sharing a few additional resources.</p>

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33	Key Takeaways	<p>Thanks, Aaron. In the webcast we went step-by-step through the Target Price calculations.</p> <p>The preliminary HBP for a given CEC is the product of the Standardized Baseline Spending, Patient Case Mix Adjustment, Peer Group Historical Adjustment and Peer Group Trend Factor. The preliminary PGP-ACH Benchmark Price is the product of the preliminary HBP and the preliminary Relative Case Mix.</p> <p>Apply the CMS Discount Factor to the HBP to obtain the preliminary Target Price.</p> <p>After data from the Performance Period is received, the Peer Group Trend Factor Adjustment is calculated. The final Target Price includes the Standardized Baseline Spending using the total observed Clinical Episode spending, the updated Patient Case Mix Adjustment, the Peer Group Historical Adjustment, the Peer Group Trend Factor and the retrospective Peer Group Trend Factor Adjustment.</p>
34	Pricing Methodology Technical Resources	<p>Additional pricing methodology resources, such as a complete list of MS-DRG and Healthcare Common Procedure Coding System, or HCPCS, codes that trigger a Clinical Episode, a complete list of Clinical Episode exclusions and comprehensive specifications for Target Price and Clinical Episode Construction are linked in the slides for this webcast and are available in the Documents section of the BPCI Advanced Participant Portal. The resources on the slide are updated for every Model Year. Technical resources from prior Model Years can be found on the BPCI Advanced: Participant Resources webpage and in the Documents section in the Participant Portal. Additional learning opportunities are forthcoming.</p> <p>The preliminary Target Prices workbook that the Model will issue to Applicants and Participants also has a user guide tab that will walk through the pricing methodology calculations covered in this webcast.</p>