

### BHCG Physician Value Study 3.0 Study Findings and Observations

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BHCGWI.org



### Welcome

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### Today's Agenda

#### Co-Sponsor Remarks

- Marie Foley, SVP of Actuarial Services and Provider Contracting, HPS/PayMedix
- Study Purpose and Evolution
  - Dave Osterndorf, BHCG Strategic Consultant and Centivo Chief Actuary
- Physician Value Study 3.0: Analysis of 2021-2022 Data
  - Earl Steinberg, MD, MPP, Adjunct Professor of Medicine and Health Policy and Management, Johns Hopkins University; CEO, QC Health, LLC
- Focus on Performance Continuity and Acceleration
  - Dave Osterndorf, BHCG Strategic Consultant and Centivo Chief Actuary
- Q & A



#### **Study Purpose and Evolution**

#### Dave Osterndorf, BHCG Strategic Consultant and Centivo Chief Actuary



#### Why Did BHCG Commission This Study?

- BHCG and its member employers believe that enhancing health care value is deeply tied to ongoing improvement in the quality and costefficiency of health care provision
- The Physician Value Study (PVS) is a key initiative of BHCG's falling in the "you can't manage what you can't measure" category
- Like prior iterations of the PVS, PVS3.0 is intended to be a statewide WI study providing results to both employer plan sponsors and the health care provider community to enhance the effectiveness of care in the state
- The results should allow all parties to take actions to reach mutually beneficial outcomes of better patient care at the most efficient resource use possible – using actual physician performance, not aspirational or unrealistic benchmarks



#### What Questions Did We Ask?

Key questions to be addressed in PVSv3.0:

- Is the variation in physician performance seen in prior versions still apparent in the data? If so, how much does it matter?
- Does the data show that high performers in past versions of the study still perform at a high level – in other words, is high performance "sticky"?
- Given enhanced data regarding the social determinants of health (SDoH), is a substantial amount of physician performance variation due to elements not directly controllable by the physician/patient interaction?
- Is this type of study replicable across multiple markets and can it serve as a part of the framework for improving the US health care system?



#### Framing the Results

#### As you listen to the results, keep the following contextual elements in mind:

#### Robustness

- The study uses the largest dataset available in WI
- State of the art big data, machine learning approaches are utilized

#### Specificity

- The study provides both aggregated data (performance by quartile) and individual MD results
- Data provided down to ETG-specific level is scored

#### Focus

- The cost efficiency element is based on resource efficiency (as opposed to negotiating power)
- Quality is EBM compliance-related rather than a customized definition

#### Application

- Study results are heavily focused on creating a basis for collaboration and continuous improvement
- Aligned program design for employer plans is also possible



#### Key Results, Methodology and Commentary

Earl Steinberg, MD, MPP, Adjunct Professor of Medicine and Health Policy and Management, Johns Hopkins University; CEO, QC Health, LLC



#### Wisconsin Business Health Care Group (BHCG) Physician Value Study 3.0: Analysis of 2021-2022 Data

Earl Steinberg, MD, MPP Nathan Kleinman, PhD

#### **Study Objectives**

- 1. What is the quality and cost-efficiency of individual primary care physicians (PCPs) in WI and what is the correlation between them?
- 2. To what extent does quality and cost-efficiency vary across those PCPs?
- 3. What is the cost-efficiency of specialists in WI who perform particular high-volume procedures?
- 4. How much money could be saved if a) patients were steered to higher costefficiency PCPs and Specialists and/or the performance of lower cost-efficiency providers could be improved – and how does it compare to previous findings?
- 5. How stable were PCP quality and cost-efficiency scores in 2021-22 compared to 2018-19?
- 6. What are the drivers of differences in cost-efficiency between low and high costefficiency PCPs in management of 5 common chronic conditions?
- 7. What impact does consideration of SDoH have on PCP and Specialist costefficiency?

### v3.0 Selected Key Results



#### There was considerable variability in both Quality and Cost-Efficiency and there continues to be no correlation between C/E and Quality

- There were 124 PCPs who were both better than the 80th percentile of cost efficiency and the 80th percentile of quality.
- There were 990 PCPs who were both better than the 50th percentile of cost efficiency and the 50th percentile of quality.
- Correlation = -0.033



# Total Cost Savings Opportunity has Grown %-wise in 2021-2022 Data Compared to 2018-2019 Data

|           | Avg.<br>Annual<br>Total Cost<br>(\$M) | Avg. Annual<br>Total Cost (\$M)<br>[& Est'd Potential<br>Savings]: PCPs | Avg. Annual Total<br>Cost (\$M) [& Est'd<br>Potential Savings]:<br>11 Specialty<br>Procedures | Avg. Annual<br>Potential Total<br>Cost Savings<br>(\$M): PCPs +<br>11 Specialty<br>Procedures |
|-----------|---------------------------------------|---|---|---|
| 2021-2022 | \$1,269                               | \$614<br>[\$288 (47.0%)]  | \$655<br>[\$106 (16.2%)]  | \$394 (31.1%)   |
| 2018-2019 | \$1,491                               | \$810<br>[\$325 (40.1%)]  | \$681<br>[\$53 (7.8%)]  | \$378 (25.3%)   |

#### Physician-Specific Quality is Consistent Over Time: Comparison Between 2018-2019 and 2021-2022 Quality Ranks



# PCP C/E was not changed by adjustment for differences across PCPs in the SDoH data that was available to us

| PCP Cost-<br>Efficiency<br>Percentile<br>Group | Number<br>of PCPs | Number of<br>Patients | Number<br>of<br>Episodes |
|--|-------------------|-----------------------|--------------------------|
| 50th and<br>below                              | 2,091             | 407,742               | 648,682                  |
| 51st to 60th                                   | 418               | 116,931               | 177,890                  |
| 61st to 80th                                   | 836               | 212,721               | 325,022                  |
| 81st to 100th                                  | 837               | 180,331               | 274,137                  |



Higher ADI score = more disadvantaged in the census tract

### **Methods**



#### **Data and Inclusion Criteria**

• Data Source: Wisconsin Health Information Org. (WHIO) All-Payer Claims Database

- Included medical and prescription drug claims on approximately 5.36 million residents covered by Wisconsin-based commercial health insurers, self-funded employers, Medicaid or Medicare Advantage plans

- Included unique patient and MD identifiers, demographic info., insur. claims that included info. re: pt Dxs, all inpt and outpt health care services and products each pt received, certain measures of SDoH from the output Social Ecological Risk Factor System (SERF) (see slide 8), Area Deprivation Index (see slide 9) and the American Community Survey, and "Normalized Prices" (avg geographically adjusted prices) rather than actual amounts paid

- Info. on Optum's a) Episode Treatment Groups (ETGs), which organize claims into acute condition, chronic condition and procedure episodes of care, b) score of each pt's severity of illness, c) Episode Risk Groups, which estimate each pt's expected care costs and d) Evidence-Based Quality Measures (EBMs)

- Data for CY 2021 and 2022 were used
- Patients included if they had both medical and pharmacy benefits throughout 2021 and 2022
- Episodes of care were included in the analysis if they a) were completed and b) not outliers (determined by completion and outlier flags in the database) and c) met criteria re: min. # of episodes that we imposed

#### Social and Ecological Risk Factors (SERF)

- In the analysis of 2021-2022 data, we included analysis of data on patient SDoH (social and economic patient characteristics) that now is available from WHIO
- Data from the American Community Survey at the census tract level was applied to each patient based on the patient's then current address
- Area Deprivation Index, which combines data on 4 patient characteristics (income, education, employment, and housing quality), was available for each patient
- We also looked at patient race

#### Area Deprivation Index (ADI)

- A measure of 'neighborhood disadvantage' that is derived from census data within domains of income, education, employment, and housing quality. It is computed by census tract and then indexed at the national or state level and can be used to compare neighborhoods by ranking them from most deprived to least deprived.
- A 1-100 ranked metric of neighborhood socioeconomic disadvantage, with 100 being the most disadvantaged neighborhoods nationwide
- According to the article cited below, the ADI is the most heavily independently validated, scientific tool for US neighborhood-level disadvantage that exists today.\*

\*<u>W. Ryan Powell, Ann M. Sheehy, Amy J.H. Kind:</u> The Area Deprivation Index Is The Most Scientifically Validated Social Exposome Tool Available For Policies Advancing Health Equity; <u>Health Affairs</u>, JULY 20, 2023, <u>10.1377/FOREFRONT.20230714.676093</u>

#### **Measurement of PCP Quality**

#### A. PCP Eligibility Requirements

- For a PCP to be included in the quality analysis, they had to have had
  ≥ 30 episodes of care from ETGs with at least 500 episodes.
- For a PCP to be included in the quality analysis, they also had to have >=100 observations on EBM measures related to ETGs we felt it was reasonable to assume a PCP could be responsible for.

#### B. EBMs (Evidenced-Based Medicine)

 EBMs reflect national standards and evidence-based clinical practice guidelines. They are sourced from organizations such as NCQA (HEDIS), CMS, AHRQ, and the Pharmacy Quality Alliance. In addition, some measures were developed by Optum, with input from an expert panel.

#### Measurement of PCP Quality (cont.)

#### C. Calculation of PCP-specific Quality Score

- ETG default logic attributes responsibility for an ETG to the PCP with the highest cost related to that episode
- All EBMs that were applicable to each ETG experienced by each of a PCP's patients were identified. The total number of those EBMs served as the denominator of each PCP's quality score.
- Of the EBMs in the denominator, the number for which care was compliant (consistent) with the EBM served as the numerator.
- We then calculated a weighted average of the preceding ratios, where the weight was the proportion of a PCP's patients to whom each EBM applied

#### D. Attribution of Episodes to PCPs

• ETG default logic assigns the clinician with the highest sum of costs for an episode as the responsible provider. PCP quality was measured based on performance on the ETGs attributed to the PCP.

#### Measurement of PCP Cost-Efficiency

- From the 2,760 9-digit ETGs defined by Optum, we identified 140 for which we believe PCPs could reasonably be considered accountable.
- For one of those ETGs to be included in our analysis, we required that there be >=500 of those episodes across all PCPs, resulting in a total of 114 ETGs that we included in our analysis.
- For a PCP to be included in the cost-efficiency analysis, they had to have had ≥ 30 episodes of care from ETGs with at least 500 episodes.
- Outlier values were dealt with as follows: Each combination of ETG base class, severity of illness level and treatment indicator is assigned trim points by Optum that frame the normal range of costs for the combination. Episode costs outside the range were flagged by Optum as outliers and we excluded those episodes.

#### Measurement of PCP Cost-Efficiency (cont.)

- Attribution of episodes to a PCP was done as it was for PCP quality, i.e., ETG default logic assigns responsibility for an ETG to the PCP with the highest sum of costs for the episode.
- PCP C-E was measured based on the PCP's C-E performance on the ETGs attributed to the PCP.
- We utilized a proprietary causal machine learning platform (REFS) that uses Bayesian network inference and <u>Turing Award-winning causal learning</u> <u>mathematics</u> to predict the cost for each episode after adjusting for potential confounders (e.g., age, gender, diagnoses, severity of illness, complications, comorbidities, line of business) and Optum's Episode Risk Groups etc.)
- In our cost-efficiency analyses, we looked at episodes that a) started and ended in CY 2021, b) started and ended in CY 2022 and c) started in CY2021 and ended in CY2022.

#### Measurement of Cost-Efficiency (cont.)

Cost efficiency score for a particular episode of care = ln(predicted\_cost / actual\_cost)



- An overall cost-efficiency score for an individual PCP was derived by taking a weighted average of ETG-specific cost-efficiency scores, where the weight was the number of episodes in each ETG for which the PCP was responsible. A score of 0 means that actual costs were equal to predicted costs. A score >0 means the PCP's actual episode costs were < than their predicted cost. A score <0 means the PCP's actual episode costs.</li>
- We also performed a regression analysis w/ and w/o SDOH variables to assess the impact of those variables on PCP cost-efficiency

### Results



#### **Overview of PCPs and Patients**

| Provider Spec          | cialty N<br>P     | umber of<br>Providers | Percen<br>Provid | t of<br>ers | ~                | lember       | Summary            |       | PCPs                    | 500 -<br>400 - |
|------------------------|-------------------|-----------------------|------------------|-------------|------------------|--------------|--------------------|-------|-------------------------|----------------|
| Family Medicir         | ne                | 2,367                 | Ę                | 56.4%       | Epis             | sodes        | 1,646,362          | 2     | r of                    | 400 -          |
| Internal Medici        | ine               | 1,006                 | 2                | 24.0%       | Me               | mhers        | 912 23             | 5     | be                      | 200 -          |
| Pediatrics             |                   | 743                   | ]                | 7.7%        | Me               | an           | 712,200            |       | l n                     | 100 -          |
| General Practi         | ce                | 51                    |                  | 1.2%        | Age              | Ð            | 32.7               | 7     | 2                       | 0 -            |
| Adolescent<br>Modicino |                   | 28                    |                  | 0.797       | Per              | cent         | FF 10              | 7     |                         |                |
| Osteopathic            |                   | 20                    |                  | 0.7 %       | Fer<br>Per       | nale<br>cent | 55.17              | o     |                         |                |
| Medicine               |                   | 1                     |                  | 0.0%        | Ma               | le           | 44.9%              | 0     |                         |                |
| Total                  |                   | 4,196                 |                  |             |                  |              |                    |       | T - 1 - 1               |                |
| Line of<br>Business    | Number<br>Episode | of Perce<br>es Episo  | ent of<br>odes   | Nun<br>Me   | nber of<br>mbers | Pe           | rcent of<br>embers | Nor   | nofai<br>maliz<br>Price | ed             |
| Commercial             | 578               | ,834                  | 35%              |             | 343,4            | 08           | 38%                | \$32  | 26,73                   | 6,993<br>(27%) |
| Medicaid               | 946               | ,108                  | 57%              |             | 496,1            | 30           | 54%                | \$73  | 31,71                   | 0,151<br>(60%) |
| Medicare               | 121               | ,420                  | 7%               |             | 72,6             | 97           | 8%                 | \$10  | 52,42                   | 1,360<br>(13%) |
|                        | 1,646             | ,362                  |                  |             | 912,2            | 35           |                    | \$1,2 | 20,86                   | 8,504          |

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| # of Patients per PCP |
|-----------------------|
| Mean: 266             |

#### SDoH Variables from 2021-2022 SERF Data

| SDoH Variable   | Mean     |
|---|----------|
| ADI National Rank (Scores range from 1-100)           | 57.7     |
| ADI State Rank Scores range from 1-10)                | 5.5      |
| Race: White Alone                                     | 79.8%    |
| Race: African American Alone                          | 10.8%    |
| Race: Asian Alone                                     | 3.1%     |
| Race: American Indian or Alaska Native Alone          | 0.9%     |
| Race: Native Hawaiian or Other Pacific Islander Alone | 0.04%    |
| Race: Other Race Alone                                | 2.8%     |
| Race: Two or More Races                               | 2.7%     |
| Percent with Hispanic or Latino Ethnicity             | 8.4%     |
| Percent Not with Hispanic or Latino Ethnicity         | 91.6%    |
| Family Median Income 2019 Inflation Adjusted          | \$76,048 |
| Age 25 And Over With Less Than 9th Grade Education*   | 2.1%     |
| Employment Age 16 And Over In Labor Force**           | 53.0%    |
| Percent of Households With Computer                   | 88.8%    |
| Percent of Households With Broadband Internet         | 81.4%    |

Higher the ADI score, the more disadvantaged the census tract

\*\* According to the Bureau of Labor Stats, the value for the U.S. as a whole was 62.6%. Another website said the state of WI as a whole was 65% in 2021.

<sup>\*</sup> Data for the rest of the Education and Employment categories were not provided (Unemployment in Civilians: all values were zero). When creating SERF, WHIO did not bring in all data elements from the American Community Survey. They are looking to increase the number of data elements for the next edition of SERF, but we have all the data elements available now.

### **PCP Quality Ranking Distribution**

| Percentile       | EBM Rate |
|------------------|----------|
| 25 <sup>th</sup> | 0.536    |
| 50 <sup>th</sup> | 0.621    |
| 75 <sup>th</sup> | 0.679    |



| PCP<br>Ranking | PCP Counts @<br>80%CI | Ranking Name                   | Ranking Description  |
|----------------|-----------------------|--------------------------------|--|
| 1              | 880 (21%)             | Outstanding<br>Performers      | We're 80% confident these providers perform better than the 75th percentile  |
| 2              | 1036 (25%)            | Good<br>Performers             | We're 80% confident these providers perform better than the 50th percentile, but not in Rank 1   |
| 3              | 362 (9%)              | Typical<br>Performers          | We're neither 80% confident performance is better than<br>the 50th percentile nor 80% confident performance is<br>worse than the 50th percentile |
| 4              | 1918 (46%)            | Below<br>Average<br>Performers | We're 80% confident performance is worse than the 50th percentile  |

#### Comparison Between 2018-2019 and 2021-2022 Quality Ranks



#### 2021-2022 PCP Cost-Efficiency Ranking

| PCP Cost<br>Ranking* | PCP Counts<br>@ 80%CI | Ranking<br>Name                | Ranking Description  |
|----------------------|-----------------------|--------------------------------|--|
| 1                    | 587 (14%)             | Outstanding<br>Performers      | We're 80% confident these providers perform better than the 75th percentile  |
| 2                    | 785 (19%)             | Good<br>Performers             | We're 80% confident these providers<br>perform better than the 50th<br>percentile, but not in Rank 1   |
| 3                    | 1,406 (33%)           | Typical<br>Performers          | We're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4                    | 1,420 (34%)           | Below<br>Average<br>Performers | We're 80% confident performance is<br>worse than the 50th percentile   |

Total # of PCPs = 4,198

#### **PCP Cost Efficiency Trend**

| Year | Average PCP Cost Efficiency<br>Score |
|------|--------------------------------------|
| 2018 | -0.0028                              |
| 2019 | -0.0046                              |
| 2021 | 0.0011                               |
| 2022 | 0.0098                               |

• Cost efficiency score =

In(predicted\_cost / actual\_cost)

• A higher cost efficiency score is better than a lower score



#### SDoH-Adj'd 2021-2022 PCP Cost Efficiency Ranking

| PCP<br>Ranking<br>* | PCP<br>Counts @<br>80%Cl | Ranking<br>Name                | Ranking Description   |
|---------------------|--------------------------|--------------------------------|---|
| 1                   | 576 (14%)                | Outstanding<br>Performers      | We're 80% confident these providers perform better than the 75th percentile   |
| 2                   | 783 (19%)                | Good<br>Performers             | We're 80% confident these providers perform better than the 50th percentile, but not in Rank 1  |
| 3                   | 1,466<br>(35%)           | Typical<br>Performers          | We're neither 80% confident performance is<br>better than the 50th percentile nor 80%<br>confident performance is worse than the 50th<br>percentile |
| 4                   | 1,357<br>(32%)           | Below<br>Average<br>Performers | We're 80% confident performance is worse than<br>the 50th percentile  |

Total # of PCPs = 4,182

## Relationship between Cost-Efficiency and Selected SDoH Variables

| PCP Cost-<br>Efficiency<br>Percentile<br>Group | Number<br>of PCPs | Number of<br>Patients | Number<br>of<br>Episodes |
|--|-------------------|-----------------------|--------------------------|
| 50th and<br>below                              | 2,091             | 407,742               | 648,682                  |
| 51st to 60th                                   | 418               | 116,931               | 177,890                  |
| 61st to 80th                                   | 836               | 212,721               | 325,022                  |
| 81st to 100th                                  | 837               | 180,331               | 274,137                  |



Higher ADI score = more disadvantaged in the census tract

# Relationship between Cost Efficiency and SDoH Variables (cont.)





# Relationship between Cost Efficiency and SDoH Variables (cont.)





# Relationship between Cost Efficiency and SDoH Variables





#### Cost-Efficiency Savings Opportunity in 2021-2022

Example: In order to realize the highest 2year savings shown here, the 3,358 providers in the bottom 80% of the distribution would have to perform at the same cost efficiency as the 840 providers in the top 20%.

| Percentile                                | Mean<br>Savings<br>(\$M) |
|---|--------------------------|
| Improvement to the 80th<br>Percentile PCP | 614.0                    |
| Improvement to the 60th<br>Percentile PCP | 587.6                    |
| Improvement to the 50th<br>Percentile PCP | 577.0                    |

| Cost efficiency score percentile       | # of PCPs in this<br>cohort | # of patients<br>corresponding to<br>PCPs in this cohort | # of episodes<br>corresponding to<br>PCPs in this cohort |
|--|-----------------------------|--|--|
| Full Population (Everyone)             | 4,198                       | 929,284  | 1,672,688  |
| 80th percentile and above (Top<br>20%) | 840                         | 205,655  | 321,602  |
| 60th percentile and above (Top<br>40%) | 1,679                       | 438,639  | 732,157  |
| 50th percentile and above (Top 50%)    | 2,099                       | 550,223  | 938,178  |

# Cost Efficiency Savings Opportunity Adjusted for SDoH in 2021-2022

Example: In order to realize the highest savings shown here, the 4,182 providers in the bottom 80% of the distribution would have to perform at the same cost efficiency as the 837 providers in the top 20%.

| Percentile                                   | Mean Savings<br>(\$M) |
|--|-----------------------|
| Improvement to<br>the 80th<br>Percentile PCP | 588.1                 |
| Improvement to<br>the 60th<br>Percentile PCP | 563.3                 |
| Improvement to<br>the 50th<br>Percentile PCP | 553.4                 |

| Cost efficiency score percentile    | # of PCPs in this cohort | # of patients<br>corresponding to<br>PCPs in this cohort | # of episodes<br>corresponding to<br>PCPs in this cohort |
|-------------------------------------|--------------------------|--|--|
| Full Population (Everyone)          | 4,182                    | 821,362  | 1,425,731  |
| 80th percentile and above (Top 20%) | 837                      | 180,331  | 274,137  |
| 60th percentile and above (Top 40%) | 1,673                    | 375,159  | 599,159  |
| 50th percentile and above (Top 50%) | 2,091                    | 475,600  | 777,049  |

### Differences in Service Utilization of Higher and Lower Cost-Efficiency PCPs



#### 2021-2022 Analysis of Cost Drivers Across PCP Cost Efficiency Tiers

We classified costs into 7 commonly used categories for 5 ETGs.

- The 7 cost categories are:
  - ER
  - Inpatient
  - Primary Care
  - Specialty Care
  - Labs
  - Pharmacy
  - Radiology

- 5 ETGs included are:
  - Adult rheumatoid arthritis, wo comp, wo comorb
  - Asthma, wo comp, wo comorb
  - CHF, w comp, w comorb, wo surg
  - Diabetes, wo comp, wo comorb, wo surg
  - Hypertension, wo comp, wo comorb

Average cost per episode was calculated for each of these categories for episodes associated with the 4 PCP efficiency cohorts: Outstanding, Good, Typical, Below Average.



For hypertension, the main driver of differences in cost efficiency was differences in primary care.



The most cost-efficient PCPs who took care of patients with asthma had lower utilization of the ER, pharmacy, and primary and specialty care.



The main driver of differences in cost-efficiency of management of adults with rheumatoid arthritis were differences in pharmacy and utilization of primary and specialty care.



PCPs with below average cost-efficiency had the highest pharmacy, primary care and specialty costs per episode.



For CHF, the primary driver of differences in cost efficiency was differences in inpatient care. PCPs who were rated as below average also had the highest utilization of ER, lab, radiology, pharmacy, primary care and specialty care.

# Specialists' Cost-Efficiency



#### Types of Specialists & Procedures Included in Specialist Cost-Efficiency Analysis

- 1. Cataract surgery performed by ophthalmologists
- 2. Deliveries performed by specialists in obstetrics, obstetrics and gynecology, or family medicine (separately for C-sections and vaginal births)
- 3. Total hip replacement performed by orthopedic surgeons
- 4. Total knee replacement performed by orthopedic surgeons
- 5. Percutaneous coronary intervention (PCI) performed by cardiologists or interventional cardiologists
- 6. Hysterectomy performed by specialists in gynecology or obstetrics and gynecology
- 7. Cholecystectomy performed by a general surgeon
- 8. Coronary artery bypass graft (CABG) surgery performed by a thoracic surgeon
- 9. Combined laminectomy and spinal fusion performed by either a neurosurgeon or an orthopedic surgeon
- 10.Colonoscopy, performed by either a gastroenterologist or general surgeon

# Overview of 2021-2022 Volume and Cost of Specialty Procedures

| Specialist                          | Procedure                  | # of Episodes    | # of Providers | Total (2 yr) Cost (in<br>millions) |
|-------------------------------------|----------------------------|------------------|----------------|------------------------------------|
| Thoracic Surgery                    | CABG                       | 484              | 73             | \$46.2                             |
| Ophthalmology                       | Cataract                   | 9,067            | 377            | \$62.1                             |
| General Surgery                     | Cholecystectomy            | 5,937            | 480            | \$89.8                             |
| Obstetrics                          | C-Section                  | 95               | 11             | \$2.7                              |
| Obstetrics and Gynecology           | C-Section                  | 4,074            | 523            | \$111.4                            |
| Family Medicine                     | C-Section                  | 482              | 228            | \$14.6                             |
| Gastroenterology<br>General Surgery | Colonoscopy<br>Colonoscopy | 33,160<br>12,089 | 559<br>378     | \$143.2<br>\$74.7                  |
| Neurosurgery                        | Fusion/Laminectomy         | 2,793            | 143            | \$120.1                            |
| Orthopedic Surgery                  | Fusion/Laminectomy         | 1,336            | 99             | \$58.6                             |
| Orthopedic Surgery                  | Hip                        | 4,000            | 327            | \$119.3                            |
| Gynecology                          | Hysterectomy               | 41               | 7              | \$0.5                              |
| Obstetrics and Gynecology           | Hysterectomy               | 1,926            | 414            | \$30.6                             |
| Orthopedic Surgery                  | Knee                       | 5,789            | 391            | \$174.8                            |
| Cardiology                          | PCI                        | 429              | 133            | \$13.5                             |
| Interventional Cardiology           | PCI                        | 468              | 88             | \$12.8                             |
| Obstetrics and Gynecology           | Vaginal Delivery           | 9,780            | 578            | \$190.6                            |
| Family Medicine                     | Vaginal Delivery           | 1,982            | 399            | \$39.5                             |
| Obstetrics                          | Vaginal Delivery           | 290              | 12             | \$5.2                              |
| Total                               |                            | 94,222           | 5,220          | \$1,310.20                         |

#### 2021-2022 Specialty Cost-Efficiency Histogram

Histogram of Cost Efficiency Score Median 2122



Recall: A score of 0 means that actual costs were equal to predicted costs. A score >0 means the PCP's actual episode costs were < than their predicted cost. A score <0 means the PCP's actual episode costs were > than their predicted cost.

#### 2021-2022 Obstetricians, OBGYN, Family Medicine: Vaginal Delivery C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | <b>Ranking Description</b>   |
|-----------------|---------------------|--------------------------------|--|
| 1               | 84 (8%)             | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile  |
| 2               | 139 (14%)           | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 474 (48%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 292 (30%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$29M - \$37M

#### 2021-2022 Obstetricians, OBGYN, Family Medicine: C-Section C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 74 (10%)            | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile  |
| 2               | 112 (15%)           | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 330 (43%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 246 (32%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$15M - \$20M

# 2021-2022 Orthopedic Surgery – Hip Replacement C/E Ranking

| Cost<br>Ranking | Specialist Count | Ranking Name                   | Ranking Description   |
|-----------------|------------------|--------------------------------|---|
| 1               | 43 (13%)         | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile   |
| 2               | 54 (17%)         | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th percentile, but<br>are not in Rank 1  |
| 3               | 141 (43%)        | Typical<br>Performers          | we're neither 80% confident performance is<br>better than the 50th percentile nor 80%<br>confident performance is worse than the<br>50th percentile |
| 4               | 89 (27%)         | Below<br>Average<br>Performers | we're 80% confident performance is worse<br>than the 50th percentile  |

Savings opportunity: \$14M - \$19M

#### 2021-2022 Orthopedic Surgery – Knee Replacement C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 53 (14%)            | Outstanding<br>Performers      | we're 80% confident these providers<br>perform better than the 75th<br>percentile  |
| 2               | 56 (14%)            | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 164 (42%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 118 (30%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$21M - \$28M

#### 2021-2022 Neurosurgery, Orthopedic Surgery -Fusion/Laminectomy C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 34 (14%)            | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile  |
| 2               | 39 (16%)            | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 90 (37%)            | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 79 (33%)            | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$22M - \$28M

# 2021-2022 Cardiology, Interventional Cardiology - PCI C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 29 (13%)            | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile  |
| 2               | 20 (9%)             | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 101 (46%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 71 (32%)            | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$4M - \$5M

#### 2021-2022 Thoracic Surgery - CABG C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 10 (14%)            | Outstanding<br>Performers      | we're 80% confident these providers<br>perform better than the 75th<br>percentile  |
| 2               | 5 (7%)              | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 42 (58%)            | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 16 (22%)            | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$6M - \$7M

#### 2021-2022 Obstetrics and Gynecology, Gynecology - Hysterectomy C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | <b>Ranking Description</b>   |
|-----------------|---------------------|--------------------------------|--|
| 1               | 48 (11%)            | Outstanding<br>Performers      | we're 80% confident these providers perform better than the 75th percentile  |
| 2               | 50 (12%)            | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 195 (46%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 128 (30%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$4M - \$5M

#### 2021-2022 General Surgery - Cholecystectomy C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 53 (11%)            | Outstanding<br>Performers      | we're 80% confident these providers<br>perform better than the 75th<br>percentile  |
| 2               | 54 (11%)            | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 240 (50%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 133 (28%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$11M - \$14M

#### 2021-2022 Gastroenterology, General Surgery -Colonoscopy C/E Ranking

| Cost<br>Ranking | Specialist<br>Count | Ranking<br>Name                | Ranking Description  |
|-----------------|---------------------|--------------------------------|--|
| 1               | 150 (16%)           | Outstanding<br>Performers      | we're 80% confident these providers<br>perform better than the 75th<br>percentile  |
| 2               | 161 (17%)           | Good<br>Performers             | we're 80% confident these providers<br>perform better than the 50th<br>percentile, but are not in Rank 1   |
| 3               | 310 (33%)           | Typical<br>Performers          | we're neither 80% confident<br>performance is better than the 50th<br>percentile nor 80% confident<br>performance is worse than the 50th<br>percentile |
| 4               | 316 (34%)           | Below<br>Average<br>Performers | we're 80% confident performance is<br>worse than the 50th percentile   |

Savings opportunity: \$26M - \$35M

#### Conclusions

- 1. There continues to be considerable variation in the quality and cost-efficiency of care provided by PCPs and the cost-efficiency of care provided by specialists who perform high volume procedures.
- 2. There is considerable room for improvement in both quality and cost-efficiency of care delivered by PCPs. For example, we are 80% confident that 46% of PCPs had quality scores less that 0.62, meaning they delivered care that was consistent with evidence-based practice guidelines and widely used quality measures < 62% of the time.
- 3. Adjustment for differences in patients' race, employment, income and housing quality, looked at the census tract level, had negligible impact on either quality or cost-efficiency scores.

#### Conclusions (Cont.)

- 4. We estimate that, if the PCPs and specialists whose costefficiency scores were < 50<sup>th</sup> percentile instead performed at the 50<sup>th</sup> %-ile, \$394M (31.1% of total spending) could be saved.
- 5. Our analysis of the types of service utilization that differ between low and high cost-efficiency PCPs provides a roadmap for what health systems should focus on in chart reviews to guide cost-efficiency improvement for 5 common chronic conditions. Similar analyses could be performed for other conditions and for procedures.



Focus on Performance Continuity and Acceleration

Dave Osterndorf BHCG Strategic Consultant and Centivo Chief Actuary



### It's Great Data – Now What?

As with many studies in health care performance, the information is essential. What comes next is equally important.

- Likely uses of this data for maximum value:
- Collaboration and continuous improvement
- Program design and payment models
- Broader exposure of the concept and approach



### **Collaboration and Continuous Improvement**

**Opportunities:** 

- Study results can be the basis for collaborative efforts and dialogue between the employer and health care provider communities
- Health care systems and physician practices can incorporate this data as a starting point for continuous improvement efforts in creating greater value



### **Program Design and Payment Models**

**Opportunities:** 

- Create network structures that steer towards higher performing physicians
- Provide patient-facing tools that allow for increased depiction of higher-value providers
- Develop payment models that reflect performancebased payments for measurable improvements in the value of services



### Broader Public/Geographic Exposure

**Opportunities:** 

- Publish study results/methodology/approach in peer reviewed journals
- Engage public and private entities that have similar motivations towards increasing value in health care
  - Employer coalitions
  - State-based All Payer Claims Databases
  - Foundations
  - Broad-based media



### Q & A





#### **Thank You!**

#### A recording of today's meeting as well as presenter slides will be made available. Watch your inbox or visit bhcgwi.org.

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