What is HCI³?

• Not-for-profit emanating from the combination of Bridges To Excellence, Inc. and PROMETHEUS Payment, Inc.
• Engaged in many Foundation-funded and private sector pilots and initiatives
• Focus of organization spans the spectrum of payment reform, excluding the two poles – basic FFS and capitation
• The goal is to improve quality and affordability of health care in the US
Bundled payment implementations are broadening

• Led by different types of organizations:
  – Health plan led in many statewide initiatives such as NJ, NC and SC
  – Government led such as in Arkansas
  – Foundation-supported in specific communities
  – Employer led by designated certain centers of excellence and moving market share through benefit design

• Provider participation include hospitals, physicians, or both

• Inpatient procedural bundles most common, but also chronic conditions, outpatient procedural and acute medical episodes
Bundled payment implementations are broadening

- Episode definitions are flexible:
  - Service inclusion criteria: most commonly facility and professional fees (including post acute period for procedures)
  - Time periods: 2-30 day look back, 90-180 day look forward post procedure (1 year for chronics)
  - Patient inclusion/exclusion criteria (e.g. age restrictions, medical conditions, continuous enrollment exclusions)

- Bundled rate: risk-adjusted vs. flat rate

- Retrospective reconciliation most common payment arrangement, but also prospective payment which is ultimate goal

- Varying risk sharing arrangements: Shared savings, shared risk, and full risk
Lessons from PROMETHEUS Implementations

• 5 ingredients to success:
  – Full CEO engagement (devote people and $)
  – Commitment by willing plan AND provider
  – Clean and complete claims and eligibility data
  – EMR systems
  – Sense of urgency

• Beta sites have been a success, even if Alpha sites are still lagging behind
Barriers to date to scaling Bundled Payments

- **Lack of standard definitions for Episodes**
  - The ACA includes a stipulation to create a public domain episode of care “grouper”

- **Lack of operational infrastructure**
  - There are now three vendors currently competing for business – TriZetto, McKesson and MedAssets

- **No pathway for comprehensive play by CMS**
  - The CMMI launched the Bundled Payment for Care Improvement in August 2011 and applications are due June 28, 2012 (for Models 2-4)
CMMI Bundled Payment Pilot

- Very broad – covers any MS-DRG
- Flexible – Applicant can select time window, exclusions of certain professional services
  - HCI3 created a SAS-based application to analyze Medicare data and arrive at episode estimates
- Guaranteed to save money – Applicants must provide a “haircut” relative to historic episode price
  - Recent CBO report affirmed that the CMS Bypass Demo was the only demo to save money
CMMI Bundled Payment Effort Analysis Findings

- MS-DRG’s are heterogeneous; translates to wide cost variation
- Variation is in associated professional and post-acute costs, not inpatient stay
- Majority of episodes for some DRGs fall within a relatively narrow range of costs but outliers account for substantial portion of costs
- Choice of time window is an important factor in assessing risk; costs increased by 50% when moving from a 30 day to 180 day window
- Providers found large proportion of their patients receive care at SNF facilities outside of their network; Costs were lower for In-network
- Some features of the model may have unintended consequences
  - e.g. Factoring in outliers into budgets may artificially overstate budgets if the outliers are unusual (rare)
  - e.g. Including patients that expire during episode may artificially lower costs; including them in full payment may create perverse incentives
  - e.g. No minimum sample size may lead to unreliable pricing for those with low volume
Implications/recommendations for CMMI BP Pilot Applicants

- Go out 30 days on procedural and acute medical episodes except for MS-DRG 469 (Model 4 only) due to heterogeneity of procedures and underlying diagnoses within each DRG.
- Go out 180 days for the medical MS-DRGs such as acute exacerbation of CHF or COPD – far less heterogeneity.
- Participating providers should be actively looking to replicate Medicare deal with private sector payers.
- For the most part, reducing potentially avoidable complications will generate higher margins for bundled payment participants, even if the underlying “production costs” of an episode aren’t reduced.
FAIR, EVIDENCE-BASED SOLUTIONS.
Real and Lasting Change.

For contact information:
www.HCI3.org
www.bridgestoexcellence.org
www.prometheuspayment.org
Appendix: CMMI Bundled Payment Pilot Analysis Examples
Episodes Based on DRGs are More Heterogenous than Dx

2008 and 2009 combined
Episode Prices Exhibit Wide Variation (Acute Medical) (2009)

### AMI

<table>
<thead>
<tr>
<th>Volume (2009)</th>
<th>280</th>
<th>281</th>
<th>282</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost</td>
<td>$20,374</td>
<td>$15,934</td>
<td>$11,252</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>$12,876</td>
<td>$9,230</td>
<td>$6,405</td>
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<td>Median</td>
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<td>$14,125</td>
<td>$8,538</td>
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<td>$21,207</td>
<td>$13,061</td>
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<tr>
<td>Min</td>
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<td>$5,090</td>
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<tr>
<td>Max</td>
<td>$44,231</td>
<td>$39,496</td>
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<tr>
<td>STD DEV</td>
<td>$8,286</td>
<td>$7,952</td>
<td>$6,896</td>
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<tr>
<td>Ave. LOS</td>
<td>8.2</td>
<td>5.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Readmits %</td>
<td>22%</td>
<td>31%</td>
<td>24%</td>
</tr>
<tr>
<td>PAC %</td>
<td>15%</td>
<td>18%</td>
<td>16%</td>
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</table>

### Pneumonia

<table>
<thead>
<tr>
<th>Volume (2009)</th>
<th>177</th>
<th>178</th>
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<th>193</th>
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<tbody>
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<td>$21,379</td>
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<td>$12,073</td>
<td>$14,850</td>
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<td>$4,444</td>
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<td>Median</td>
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<td>$6,840</td>
<td>$12,335</td>
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<td>75th Percentile</td>
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<td>$21,597</td>
<td>$17,202</td>
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<td>$11,929</td>
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<tr>
<td>Min</td>
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<td>$6,248</td>
<td>$5,837</td>
<td>$6,937</td>
<td>$5,273</td>
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<td>Ave. LOS</td>
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<td>11%</td>
<td>23%</td>
<td>17%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>PAC %</td>
<td>22%</td>
<td>13%</td>
<td>15%</td>
<td>13%</td>
<td>9%</td>
<td>10%</td>
</tr>
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Large # of Patients Had Costs of $8k-$12k; But Widespread and Significant Outliers

*180 day episode window

DRG 291 Cost Bands and Patient Volume

Average = $22k
Wide Variation Driven by Post-Acute Care for All DRG Types (2009)

*Examples given are highest volume DRG within each “family”*
AMI: Episode Costs Increased 45% to 55% from 30 to 180 Days Post-Discharge

Model 2 DRGs AMI cluster: Average Episode Costs, by time window

2008 and 2009 combined
Implication of Including Patients Who Expire During Episode

- Including patients who expire in calculations of average costs will artificially lower expected episode costs
  - CHF and PNE example: 20-27% of patients died
  - Episode costs without those patients is 14 to 16% higher ($3k to $3.5k per patient; $128k-$128k per year)
- Reimbursing for episodes where patients die at the same rate as surviving patients sets up perverse incentive

<table>
<thead>
<tr>
<th>Average Costs with and without Patients who Expire (2009)</th>
<th>Average Costs</th>
</tr>
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<tbody>
<tr>
<td>DRG291</td>
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<tr>
<td>WithExpiredPatients $9,284 $13,033 $22,317</td>
<td>$250k per year</td>
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<tr>
<td>WithoutExpiredPatients $8,997 $16,340 $25,337 $3,020</td>
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<tr>
<td>17 of 83 patients expired (20%)</td>
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<tr>
<td>DRG 177</td>
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<tr>
<td>WithExpiredPatients $12,514 $8,865 $21,379</td>
<td>$128k per year</td>
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<tr>
<td>WithoutExpiredPatients $12,817 $12,031 $24,848 $3,469</td>
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<tr>
<td>10 of 37 patients expired (27%)</td>
<td>16%</td>
</tr>
</tbody>
</table>

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