Theory, Results and Implementation

Incentives Institute Pre-Conference

Oct 19th 2008
# Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 1:15pm</td>
<td>Welcome and Introductions</td>
<td>F de Brantes</td>
</tr>
<tr>
<td>1:15 to 1:30pm</td>
<td>Review of the Prometheus Model and Desired Behavior Changes</td>
<td>F de Brantes, Meredith Rosenthal</td>
</tr>
<tr>
<td>1:30 to 2:00pm</td>
<td>Evidence-informed Case Rates:</td>
<td>Amita Rastogi</td>
</tr>
<tr>
<td>2:00 to 2:30pm</td>
<td>Results to-date</td>
<td></td>
</tr>
<tr>
<td>2:30 to 2:45pm</td>
<td>Open source model (ECR standardization)</td>
<td></td>
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<tr>
<td>2:45 to 3:00 pm</td>
<td>ECR Normalization</td>
<td></td>
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<tr>
<td>3:00 to 3:15pm</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>3:15 to 3:30pm</td>
<td>Prometheus Implementation: Getting Started</td>
<td>F de Brantes, Jim Knutson</td>
</tr>
<tr>
<td>3:30 to 4:00pm</td>
<td>Implementation process overview and pilot site structures</td>
<td></td>
</tr>
<tr>
<td>4:00 to 4:15pm</td>
<td>Prometheus Implementation: Operations</td>
<td>Chad Brown</td>
</tr>
<tr>
<td>4:15 to 4:45pm</td>
<td>“Baking it in”: The Health Partners approach</td>
<td>Carrie Tichey, Greg Everett</td>
</tr>
<tr>
<td>4:45 to 5:15pm</td>
<td>The outsourced Engine</td>
<td></td>
</tr>
<tr>
<td>5:15 to 5:45pm</td>
<td>Evaluation Plan</td>
<td>Meredith Rosenthal</td>
</tr>
</tbody>
</table>
Speakers

- Francois de Brantes, National Coordinator, Prometheus Payment
- Meredith Rosenthal, PhD, Harvard School of Public Health
- Amita Rastogi, MD, Prometheus Payment
- Chad Brown, Prometheus Payment
- Jim Knutson, Aircraft Gear
- Greg Everett, IRP-Claimshop
- Carrie Tichey, HealthPartners
Some thanks….

- Design Team members who spent three years working on this model
- The Robert Wood Johnson Foundation and the Commonwealth Fund whose support makes this effort possible
- Masspro, our analytic partner without whom we wouldn’t have any ECRs
- AHRQ who helped pull through the code sets and clinical classification system that we depend on
- The Clinical Working Groups that have informed the typical bundles of services
- Geisinger, Premier, Johns Hopkins, HealthPartners, Crozer Keystone, and others who have informed our model
Overview

Francois de Brantes
National Coordinator
About PROMETHEUS Payment

- Not for profit with independent BOD made up of employers, plans, providers, health care services experts
- Funded in 2006 by CMWF to develop and model Evidence-informed Case Rates
- Funded in 2007 by RWJF to develop implementation plan
- Funded in 2008 by RWJF to support pilot implementations
Core Concepts of Prometheus

- The price of an episode of medical care is specific to any patient-provider-payer triad
- The price has to include all the services recommended by evidence or expert opinion
- Episodes can be priced for chronic care, procedural care, or acute care
- There is no need for legal or financial integration of providers, just clinical integration
Risk bifurcation in the PROMETHEUS model

- Total Cost of Care
  - Costs of all AMI Episodes
    - Costs of all Typical Episodes
      - Costs of all Base Services
      - Costs of all Severity Adjusters
    - Costs of all Potentially Avoidable Complications (and other provider-specific variation)
  - "Coarse" Episodes
    - Global Cap
  - “Reliable Care”
  - Insurer – Probability risk
  - Provider – Technical risk
  - Consumer – Probability risk

Evidence-informed Case Rates
An Evidence-informed Case Rate… for each patient-provider-payer combination

Total ECR price = Type of services * Frequency * Price per service

- Based on 50% of current defect rate
- Currently based at 10% of typical
- Arrived at through step-wise multi-variable regression model
- Adjusts ECR for local patterns
- Informed by guidelines and empirical data analysis

- Allowance for Potentially Avoidable Complications Margin
- Severity-adjustment caused by known patient health status
- “Normal” variation reflecting practice patterns
- Core/Typical services that are recommended by best practice or evidence

The ECR explicitly removes excess cost of care caused by errors and creates a strong incentive to eliminate defects and improve quality.
And now for some definitions....

- PACs – Potentially Avoidable Complications
- HACs – CMS-defined Hospital Acquired Conditions....HACs are a subset of PACs
- PAC Allowance – the portion of total PACs that gets redistributed into each ECR, and severity-adjusted so that ECRs for more severe patients get a higher PAC allowance...PAC Allowances are intrinsically warranties that the provider “offers” the payer
PROMETHEUS: Incorporating Warranties into Episode Payments

Meredith B. Rosenthal, Ph.D.
Harvard School of Public Health
Acknowledgements

- My co-contributors: Francois de Brantes, Guy D’Andrea, Amita Rastogi
- PROMETHEUS Design Team past and present
Health Care Payment Reform Trends

- Health care spending trends steepened after the managed care backlash
- Payment policies once again the focus of cost control efforts
- Risk sharing with providers back on the table, but with new sensitivity about:
  - Patient heterogeneity
  - Need to differentiate between population risk (i.e., random events) and practice style
  - Rewarding value not stinting
PROMETHEUS Payment Model

- PROMETHEUS is an episode-based payment concept that addresses all three of the concerns with capitation a la 1990 (see previous)
  - Payment associated with actual prevalence of conditions among eligible patients, not population average (i.e. capitation)
  - Severity adjusted
  - Quality standards inform base payments
  - Scorecard captures quality as well as cost
  - Warranty for complications (my focus)
Warranties

- Offered by a seller of a product
- Typically provide less than full insurance (i.e., some remaining variability in potential cost due to exclusions, limits, cost-sharing)
- Protect buyer from risk, but also signal the quality of the product
Where Do We Expect to Find Warranties?

- When there are relatively clear ways to define and verify product failures that are covered (what is the buyer’s fault vs. a defect?)
- Where a buyer cannot detect how well a product will “work” at the point of sale
- Where the seller has some control over the process -- can manage rate of product failures
Warranties in Health Care

- Little use of warranty concept even implicitly in health care (e.g., surgery to retrieve instrument or sponge)
- Experiment in orthopedic surgery during 1990s found that positive results for both parties in a voluntary pilot with a single surgeon
- Geisinger Health System (note: they do not call it a warranty) ProvenCares model
PROMETHEUS Warranty Sketch

- Severity-adjusted base payments cover recommended and typical services
- Warranty is intended to address complications:
  - Share savings with providers who have low complication rates (and/or can lower them)
  - Provide payers with insurance against complications
Warranty Specifications

- Empirically estimate average “Potentially Avoidable Complication (PAC)” rate
- Providers get 50% of the costs associated with these PACs prospectively (the warranty “price”)
- PAC allowance is partly adjusted for severity
- Payers are indemnified for PACs subject to an outlier provision
Simulation

- Large commercial claims data set
- Type of Episode: Acute Myocardial Infarction
- 3 prototypical patient types, differing by severity
- Monte Carlo simulations with random draws for:
  - Patient severity
  - Number of complications
  - Cost per complication
## PROMETHEUS Payment Illustration for AMI

<table>
<thead>
<tr>
<th></th>
<th>Patient 1</th>
<th>Patient 2</th>
<th>Patient 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cost of Care of Typical AMI Case</strong></td>
<td><strong>$10,957</strong></td>
<td><strong>$43,915</strong></td>
<td><strong>$120,045</strong></td>
</tr>
<tr>
<td>(Facility Plus Professional)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Allowance for PACs</strong></td>
<td><strong>$3,628</strong></td>
<td><strong>$8,502</strong></td>
<td><strong>$19,761</strong></td>
</tr>
<tr>
<td><strong>Flat Fee Allowance</strong></td>
<td><strong>$2,007</strong></td>
<td><strong>$2,007</strong></td>
<td><strong>$2,007</strong></td>
</tr>
<tr>
<td>(25% of compl costs spread over all)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Proportional Allowance</strong></td>
<td><strong>$1,620</strong></td>
<td><strong>$6,495</strong></td>
<td><strong>$17,754</strong></td>
</tr>
<tr>
<td><strong>Margin</strong></td>
<td><strong>$1,096</strong></td>
<td><strong>$4,392</strong></td>
<td><strong>$12,005</strong></td>
</tr>
<tr>
<td><strong>Total ECR per Patient</strong></td>
<td><strong>$15,680</strong></td>
<td><strong>$56,809</strong></td>
<td><strong>$151,811</strong></td>
</tr>
</tbody>
</table>
Provider Margin as a Function of Average Severity

\[ y = 0.0012x - 0.078 \]

\[ R^2 = 0.0701 \]

Risk Relative to Expected (positive = riskier)
Provider Margin as a Function of Complication Rate

Risk Relative to Expected (positive = riskier)

\[ y = 0.0012x - 0.078 \]

\[ R^2 = 0.0701 \]
Provider Margin as a Function of Cost per Complication

\[ y = 0.0012x - 0.078 \]

\[ R^2 = 0.0701 \]
Conclusion

- Warranty may be useful concept to develop risk sharing acceptable to providers and beneficial to payers
- Complication costs for many conditions are significant – shared savings from modest reductions could be meaningful to both sides
- Appropriate severity adjustment can address selection concerns
- More work is needed to document achievable rates, best practices
Evidence-informed Case Rates

Amita Rastogi, MD, MHA
Chief Medical Officer, Prometheus
Bridges to Excellence
Agenda

- What are ECRs and ECR Results to date
- Open Source Model (ECR standardization)
- ECR Normalization
How is an ECR created?

- ECR: Evidence-informed Care Rate
- Based on a large commercially insured population claims data – 4.7 Million covered lives, $95.2 Billion total costs
- Trigger codes defined: inpatient triggers, outpatient triggers
- Time window defined: one-year; look-back & look-forward periods
- Claims segregated as follows:
  - Exclude: Services irrelevant to the ECR
  - PAC: Services for potentially avoidable complications
  - Typical: Services for treatment of base condition
# Entire Database: Overall Numbers

<table>
<thead>
<tr>
<th>Entire Database</th>
<th>2 years - 2005, 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique patients</td>
<td>4,734,394</td>
</tr>
<tr>
<td>Patient years</td>
<td>9,071,119</td>
</tr>
<tr>
<td>Total Claims (STAY, PROF, PHARMACY)</td>
<td>459,275,029</td>
</tr>
<tr>
<td>Total claims ($$$)</td>
<td>$95,243 Million</td>
</tr>
<tr>
<td><strong>Claim Type</strong></td>
<td><strong>N</strong></td>
</tr>
<tr>
<td>STAY</td>
<td>1,228,127</td>
</tr>
<tr>
<td>PROF</td>
<td>309,940,967</td>
</tr>
<tr>
<td>PHARMACY</td>
<td>148,105,935</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>459,275,029</td>
</tr>
</tbody>
</table>

PROF: Outpatient facility, Professional, laboratory, radiology, ancillary
# Types of ECRs

<table>
<thead>
<tr>
<th>Type of ECR</th>
<th>Trigger</th>
<th>Time Window</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Medical</td>
<td>Outpatient/Professional</td>
<td>One year from trigger</td>
<td>Diabetes, CHF, COPD, Asthma, CAD, HTN</td>
</tr>
<tr>
<td>Acute Medical</td>
<td>Inpatient Facility</td>
<td>3-day look-back; 30-day look-forward</td>
<td>AMI, Pneumonia</td>
</tr>
<tr>
<td>Inpatient Procedural</td>
<td>Inpatient Facility</td>
<td>30-day look-back; 180-day look-forward</td>
<td>Hip Replacement, CABG, Bariatric Surgery</td>
</tr>
<tr>
<td>Outpatient Procedural</td>
<td>Outpatient Facility/Professional</td>
<td>30-day look-back; 180-day look-forward</td>
<td>Angioplasty, Lap Cholecystectomy, Hernia Surgery</td>
</tr>
</tbody>
</table>
## 2008 ECR list and developmental schedule

<table>
<thead>
<tr>
<th>ECR#</th>
<th>ECR Descr</th>
<th>ECR TYPE</th>
<th>TIMELINE</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Diabetes</td>
<td>Chronic Medical</td>
<td>March 19th</td>
<td>DONE</td>
</tr>
<tr>
<td>2</td>
<td>AMI</td>
<td>Inpatient Medical</td>
<td>April 14th</td>
<td>DONE</td>
</tr>
<tr>
<td>3</td>
<td>CHF</td>
<td>Chronic Medical</td>
<td>June 9th</td>
<td>DONE</td>
</tr>
<tr>
<td>4</td>
<td>Hip Replacement</td>
<td>Inpatient Procedural</td>
<td>Sept 12th</td>
<td>DONE</td>
</tr>
<tr>
<td>5</td>
<td>Knee Replacement</td>
<td>Inpatient Procedural</td>
<td>Sept 12th</td>
<td>DONE</td>
</tr>
<tr>
<td>6</td>
<td>COPD</td>
<td>Chronic Medical</td>
<td>Sept 30th</td>
<td>Data pulled</td>
</tr>
<tr>
<td>7</td>
<td>Asthma</td>
<td>Chronic Medical</td>
<td>Oct 3rd</td>
<td>Data being pulled</td>
</tr>
<tr>
<td>8</td>
<td>CAD</td>
<td>Chronic Medical</td>
<td>Oct 15th</td>
<td>Codeset Ready</td>
</tr>
<tr>
<td>9</td>
<td>HT</td>
<td>Chronic Medical</td>
<td>Oct 30th</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Bariatric Surgery</td>
<td>Inpatient Procedural</td>
<td>Nov 150th</td>
<td>Codeset Ready</td>
</tr>
<tr>
<td>11</td>
<td>CABG</td>
<td>Inpatient Procedural</td>
<td>Nov 30th</td>
<td></td>
</tr>
</tbody>
</table>
## 2009 List of Potential ECRs

<table>
<thead>
<tr>
<th></th>
<th>Procedure</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>12</td>
<td>Laminectomy</td>
<td>Inpatient Procedural</td>
</tr>
<tr>
<td>13</td>
<td>Colon Resection</td>
<td>Inpatient Procedural</td>
</tr>
<tr>
<td>14</td>
<td>Pneumonia</td>
<td>Inpatient Medical</td>
</tr>
<tr>
<td>15</td>
<td>Stroke</td>
<td>Inpatient Medical</td>
</tr>
<tr>
<td>16</td>
<td><strong>PCI (Angioplasty)</strong></td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>17</td>
<td><strong>Hernia Surgery</strong></td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>18</td>
<td>Knee Repair and Reconstruction</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>19</td>
<td>Cholecystectomy / Biliary Tract Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>20</td>
<td>ENT Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td></td>
<td>Nasal Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td></td>
<td>Surgery on Tonsils and Adenoids</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td></td>
<td>Ear Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>21</td>
<td>Cataract Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>22</td>
<td>C-Section</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>23</td>
<td>Hysterectomy</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>24</td>
<td>Breast Surgery</td>
<td>Outpatient Procedural</td>
</tr>
<tr>
<td>25</td>
<td>Labor and Delivery</td>
<td>Outpatient Procedural</td>
</tr>
</tbody>
</table>
The ECR Development Process

Step 1: Defining boundaries and slicing data

Step 2: Risk Adjustment for Typical Popul

Step 3: PAC Allowance & Pricing the ECR
Inpatient ECR: Identifying the component parts

Key:
- **Irrelevant**
- **Claims with potentially avoidable complications (PACs)**
- **Either typical or complicated**
- **Claims for typical care and services**
Relevant claims get navigated as typical or PACs

Typical: Risk Adjustment
- Diabetes
- Hypertension

PAC:
- Care for Wound Infection
- Pneumonia

Exclude:
- CABG
- Breast Surgery

Irrelevant claims get filtered out
Dollars get accumulated as typical or PAC Allowances

- Risk Factors increase intensity of services: give additional allowance
- PACs (potentially avoidable complications): services related to PACs get placed into a PAC pool
Hip Replacement Summary

Hip Replacement ECR Dollar Allocation for Relevant Services

Total Allowed Amount: $54.9

- Typical: $47.1M (86%)
- PAC: $7.8M (14%)

Total Typical Dollars ($47.1M)

- Index Stay: $36.2M (77%)
- Professional: $8.6M (18%)
- Pharmacy: $2.3M (5%)

PAC Dollars ($7.9 million)

- Readmission Stay: $3.1M (40.1%)
- Index Stay: $4.1M (53.1%)
- Professional: $0.5M (6.5%)
- Pharmacy: $0.026M (0.3%)

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HACs vs. PACs (Hip Replacement)

Percent of Total Stay Costs with either HACs or addin PACs

15%

85%

Additional Burden of Stays with HACs
Additional Burden of Stays with addin PACs

Hip Replacement ECR
Total Stay Costs by HACs (N=699 PAC Stays)

- Hemorrhage
- Complications of Medical Care
- Fluid and Electrolyte disturbances
- Fever of unknown origin
- Skin Infections, Phlebitis, Gangrene
- Adverse effects of drugs, overdose, poisoning
- Pneumonia, lung complications
- Urinary Tract Infections
- Gastritis, ulcer
- Complication of Implanted device, graft
- Catheter Associated Urinary Tract Infections (UTI)
- Deep Vein Thrombosis (DVT) / Pulmonary Embolism (PE)
- Ventilator Associated Pneumonia

Hospital Acquired Conditions (HACs): CMS Defined
Additional Potentially Avoidable Complications (PACs): Prometheus Defined
# Average Costs across ECRs

<table>
<thead>
<tr>
<th></th>
<th>Knee</th>
<th>Hip</th>
<th>AMI</th>
<th>CHF</th>
<th>Diabetes</th>
<th>COPD</th>
</tr>
</thead>
<tbody>
<tr>
<td># Unique Patients</td>
<td>3,403</td>
<td>2,076</td>
<td>13,977</td>
<td>48,878</td>
<td>218,541</td>
<td>92,126</td>
</tr>
<tr>
<td>Total Dollars Modeled (in millions)</td>
<td>$93 M</td>
<td>$55 M</td>
<td>$732 M</td>
<td>$1,333 M</td>
<td>$1,327 M</td>
<td>$324 M</td>
</tr>
<tr>
<td>Average Dollars for ECR</td>
<td>$27,415</td>
<td>$26,471</td>
<td>$52,382</td>
<td>$27,267</td>
<td>$6,076</td>
<td>$3,337</td>
</tr>
<tr>
<td>Average Typical</td>
<td>$23,692</td>
<td>$22,702</td>
<td>$38,919</td>
<td>$8,765</td>
<td>$3,002</td>
<td>$2,171</td>
</tr>
<tr>
<td>IP facility</td>
<td>$18,249</td>
<td>$18,491</td>
<td>$35,128</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typical Professional</td>
<td>$5,208</td>
<td>$4,512</td>
<td>$6,680</td>
<td>$4,273</td>
<td>$629</td>
<td>$871</td>
</tr>
<tr>
<td>Typical Pharmacy</td>
<td>$1,703</td>
<td>$1,241</td>
<td>$1,027</td>
<td>$4,633</td>
<td>$2,602</td>
<td>$1,518</td>
</tr>
<tr>
<td>Other (Typical portion of PAC stays)</td>
<td>$3,388</td>
<td>$5,187</td>
<td>$33,314</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average PAC</td>
<td>$3,723</td>
<td>$3,770</td>
<td>$14,243</td>
<td>$27,860</td>
<td>$6,685</td>
<td>$2,849</td>
</tr>
<tr>
<td>Added Burden for PAC stays</td>
<td>$2,382</td>
<td>$2,804</td>
<td>$8,036</td>
<td>$40,727</td>
<td>$2,743</td>
<td>$12,034</td>
</tr>
<tr>
<td>Re-admission stays</td>
<td>$9,630</td>
<td>$10,492</td>
<td>$37,921</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PAC professional</td>
<td>$390</td>
<td>$1,027</td>
<td>$7,836</td>
<td>$2,606</td>
<td>$1,268</td>
<td>$725</td>
</tr>
<tr>
<td>PAC Pharmacy</td>
<td>$155</td>
<td>$298</td>
<td>$1,125</td>
<td>$908</td>
<td>$2,852</td>
<td>$412</td>
</tr>
<tr>
<td>Other Provider-specific variation</td>
<td>$1,422</td>
<td>$1,039</td>
<td>$1,813</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
What have we found to-date:

- “Defects” – what we refer to as Potentially Avoidable Complications” – consume an average of 25 cents on every dollar of an acute care or procedural ECR, and an average of over 60 cents on every dollar of a chronic care ECR.

- Never events, Hospital Acquired Conditions and readmissions constitute the bulk of the inpatient acute and inpatient procedural PACs.

- Current PAC dollars can be used to create powerful incentives to pay for the underuse AND reduce PAC rates, thus creating a win-win-win for providers, payers and patients.
# Summary Findings across ECRs

<table>
<thead>
<tr>
<th></th>
<th>Knee</th>
<th>Hip</th>
<th>AMI</th>
<th>CHF</th>
<th>Diabetes</th>
<th>COPD</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
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<td>3,403</td>
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<td>$55 M</td>
<td>$732 M</td>
<td>$1,333 M</td>
<td>$1,327 M</td>
<td>$324 M</td>
<td>$3,865 M</td>
</tr>
<tr>
<td>% Patients across ECRs</td>
<td>0.9%</td>
<td>0.5%</td>
<td>3.6%</td>
<td>12.7%</td>
<td>56.9%</td>
<td>25.3%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% Dollars across ECRs</td>
<td>2.4%</td>
<td>1.4%</td>
<td>18.9%</td>
<td>34.5%</td>
<td>34.4%</td>
<td>8.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>% ECR Costs as Typical</td>
<td>86.4%</td>
<td>85.8%</td>
<td>72.8%</td>
<td>30.7%</td>
<td>38.8%</td>
<td>63.4%</td>
<td>46.3%</td>
</tr>
<tr>
<td>% ECR Costs as PACs</td>
<td>13.6%</td>
<td>14.2%</td>
<td>27.2%</td>
<td>69.3%</td>
<td>61.2%</td>
<td>32.6%</td>
<td>53.33%</td>
</tr>
</tbody>
</table>

Maximum Patients Impacted

Maximum Dollars in ECR

Biggest Potential for Savings
PAC Dollars across ECRs

% Total Dollars as PACs

<table>
<thead>
<tr>
<th>ECR</th>
<th>CHF</th>
<th>Diabetes</th>
<th>COPD</th>
<th>AMI</th>
<th>Hip</th>
<th>Knee</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Total Dollars as PACs</td>
<td>69.3%</td>
<td>61.2%</td>
<td>32.6%</td>
<td>27.2%</td>
<td>14.2%</td>
<td>13.6%</td>
<td>53.3%</td>
</tr>
<tr>
<td># Patients</td>
<td>48,878</td>
<td>218,541</td>
<td>97,051</td>
<td>13,977</td>
<td>2,076</td>
<td>3,403</td>
<td>383,926</td>
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<tr>
<td># PAC Dollars</td>
<td>$923 M</td>
<td>$812 M</td>
<td>$105 M</td>
<td>$199 M</td>
<td>$7.8 M</td>
<td>$12.6 M</td>
<td>$2,061 M</td>
</tr>
<tr>
<td>Total Dollars in ECR</td>
<td>$1,333 M</td>
<td>$1,328 M</td>
<td>$324 M</td>
<td>$732 M</td>
<td>$55 M</td>
<td>$93 M</td>
<td>$3,865 M</td>
</tr>
</tbody>
</table>
Open source nature

- Publish our methodology and results on our website: www.prometheuspayment.org
- Complete disclosure and transparency
- Consultation and support on a limited basis
- Encourage feedback and input from all users
Collaboration

- Code sets and boundaries for ECRs were created with the help of several groups:
  - Chronic Medical ECRs:
    - AHRQ (Dr. Steve Bandeian) – provided definitions for triggers & complications: DM, COPD, Asthma, CAD, HTN
    - Clinical Working Groups provided bundle of services
  - Hip / Knee ECRs:
    - Premier Trigger Definitions
    - CMS: Definitions of HACs / Federal Register discussion
  - Bariatric Surgery:
    - Johns Hopkins Dr. Jonathan Weiner sent trigger codes, complications, results of their analysis, papers
    - Health Partners sent Clinical Guidelines
Collaboration continued

- We’re getting feedback from our pilot site partners:
  - HealthPartners has run the AMI and Diabetes ECRs and helped refine the model
  - Crozer Keystone has run the hip and knee replacement models and helped identify areas of improvement

- We’re coordinating with others:
  - Brookings as they work on a RWJF-funded effort
  - NQF as it works on defining Episodes of Medical Care
ECR Standardization

- User-friendly SAS codes
  - will enable any health plan’s data to be analyzed according to the Prometheus methodology
  - will have ICD-9 & CPT code mappings, CCS category mappings, and NDC code mappings, along with rules for exclusions and criteria for assignments to typical and PAC buckets
- File formats and mapping of health plan data to standard formats
High-level Process Map for ECR Development & Implementation

ECR R&D

ECR Playbook

ECR Metadata

Open Source Standardization

ECR Normalization by Site Partner

ECR Coding into Engine Filter, & Navigator

ECR Site Partner Accumulator Coding & Testing

ECR Output
Pricing of ECRs

Prometheus defined code sets: Typical, PACs, Excluded

Data Driven: Risk-Adjustment models

Specific to each provider-health plan dyad
Models are normalized based on plan’s own data
Health Plan ECR Normalization

Health plan A’s data

Map to Standard File Formats

Get Distribution of Typical Costs and PAC dollars for each ECR type

Pass through User-friendly SAS codes

Develop Plan-specific Risk Adjustment model

Get Distribution of Typical Costs and PAC dollars for each ECR type

Pass through User-friendly SAS codes

Develop Plan-specific Risk Adjustment model

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Options for ECR Normalization

- Health plans can do it themselves using our user-friendly SAS codes and standard file formats that we will make publically available on our website
- Health plans can send their data to Masspro / others for analysis
Summary:

PROMETHEUS Payment Reform assigns responsibility for care back in the hands of physicians

- Uses episodes to develop global fees (evidence-informed case rate: ECR)
- Builds in process measures into base case rates
- Evaluates routine patients cared by high quality physicians
- Adjusts payments for risk factors - patient demographics, severity of illness, comorbidities
- Increases base fees by expected cost of complications
- Sets aside funds into a withhold to be released when physicians demonstrate compliance to quality standards
- Need to develop methods to measure appropriateness of care (propensity models) – propensity to perform surgery
Pilot Site Structure

Francois de Brantes
Pilot Sites

- Each is unique
- Each will select its focus
- There are some important steps each must take:
  - Normalize ECRs for each payer – create baselines and site-specific calibration of ECR PAC rates and severity factors
  - Engage providers in understanding market dynamics and opportunities
  - Take it one step at a time
Employers contract with PBMs and Pharmacies

PBMs

HDMS send pharma claims to Claimshop

HDMS

ECOH contracts ECRs with providers in community

ECOH

Employers contract with ECOH for network access

Employers

HIS send repriced 837 claims sent for ECR processing

HIS

Reprices claims from contracted providers

Claimshop

BTE Scorecard

Scorecard Results

The diagram illustrates the ECOH Pilot Structure, where employers contract with PBMs and Pharmacies, and ECOH contracts ECRs with providers in the community. HDMS sends pharma claims to Claimshop. ECOH reprices claims from contracted providers, and the Scorecard Results are provided.
MN Emerging Pilot Structure

“Political Solution”

- MN Legislature “Baskets” of Care
- MN Dept. of Health RFP
- MHA (As Convener and Advocate)
- MMA
- Basket RFP to Prometheus
- MN Vetting Groups

Real-time claims adjudication

- BTE Scorecard
- IRP Claimshop
- Batch Claims
- UHG
- Medica
- IRP

Batch Claims

- HealthPartners / Prometheus “silo” with Carol
- HealthPartners ECR Network

MN “Market Solution”

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Crozer Keystone Pilot Site Structure
Implementing Prometheus in Rockford

Jim Knutson
Aircraft Gear Corporation
October 19, 2008
Introduction

- Aircraft Gear
  - Family owned business headquartered in Rockford, IL since 1947
  - Manufacture and distribute driveline products for auto and off road applications.
  - 100 employees at two locations.
Intro Continued

- Employers Coalition on Health
  Formed by 11 Rockford based employers in the early 90’s to address escalating health costs.
- Currently 160 member companies with 26,000 employees.
- Typical reimbursement contracts based on DRGs, RBRVS and some discount of billed charges.
Failed Efforts – Supply Side

- Inability to evaluate new technology.
- Contracts misallocated risk.
- High transaction costs led to dysfunction and frustration.
Failed Efforts – Demand Side

- Poor quality decision making regarding care choices.
- Inability to sustain programs (Individual responsibility vs. general reciprocity).
- Health promotion and wellness can’t fix everything.
Prometheus

- Ration based on evidence rather than eligibility.
- Revolutionary as opposed to incremental.
- Not intended to address new technology risk.
- Not intended to address comparative effectiveness.
- Reduce transaction costs. (Healthcare is credence good for payor and patient)
Getting Started

- **Take inventory.**
  - Review existing data.
    - ECOH has coalition data from January 1, 2008.
  - Contact providers.
  - Identify contracting parties.

- **Create realistic expectations.**
  - Cost moderation vs. immediate reduction.
  - Expand time horizon beyond traditional periods.
  - Build short feedback loops to deal with surprises.
  - Create positive momentum.
Issues

- Start up expenses.
- PAC allocations.
  - Identify elements of PAC that are concerns.
  - Acute vs. chronic care.
  - Switching providers in mid term.
- Triggers, Filters, Accumulators and Navigators.
- Align coverage policy.
- Support service suppliers.
- Quality scorecard.
  - Cost of compliance.
  - Validity of measures.
Next Steps

- Start small and simple.
  - Pick conditions where there is consensus.
  - Postpone prospective payment and withhold.
- Coordinate activities between TPA, Re-pricer and Prometheus.
- Consider Prometheus’ role in healthcare (still need to address non Prometheus care).
Operational Implementation

Chad Brown, MBA
Operations Leader
High-level Process Map for ECR Development & Implementation

ECR R&D

- ECR Playbook
- ECR Metadata

ECR Normalization by Site Partner

- ECR Coding into Engine Filter, & Navigator

ECR Site Partner Accumulator Coding & Testing

ECR Output
ECR Business Rules Document and Operations Guide

- **Business Rules**
  - **THE WHAT:**
    - Converts ECR development rules into definitions and rules that can be programmed into the Prometheus Engine
    - Serves as a historical document allowing a transparent view of decisions and changes made by the Prometheus executive management team as it converts theory into practice

- **Operations Guide**
  - **THE HOW:**
    - Describes in specific technical detail how to connect to the Prometheus Engine
    - Details and lists operational requirements and serves as a guide and assistor to pilot sites during the implementation process
Principles of implementation

- “virtual” ECRs fed through normal FFS claims streams – no need for prospective payment or complex contracting
- Upside only – no provider financial risk in first 18 to 24 months so that we can fully beta test all ECRs, severity algorithms, and provide information on upside and downside to providers – but no upside paid unless the provider meets scorecard requirements
- Anyone can play – no need for IDNs, PHOs or other integrated organizations.
- It’s only complicated in the back rooms, not the physician office or the plan’s core processes

1. See “Making it Real” at www.prometheuspayment.org
Implementation process

Hospitals

Physicians

Rx

Other

Payer

Prometheus Engine (IRP)

Prometheus Scorecard (BTE)

Claims

ECRs

ECRs & Scorecard

Claims

Optional

$$
Data flows

- Hospitals, physicians, pharmacies, etc… submit claims as they do now – no additional requirements are needed
- Plans pay those claims as contractually negotiated
- Plans pass claims to Prometheus’ subcontractor – IRP Claimshop – for conversion into ECRs
- IRP passes ECRs to Bridges To Excellence for scorecard processing, and BTE passes information back to plans
Engine components definitions

- **Filter** – a process that determines and evaluates code content (on a claim) for ECR eligibility
- **Navigator** – codes when present on the claims help determine if a particular claim belongs to exclude, PAC or typical
- **Accumulator** – there are two types:
  - PAC accumulator and
  - Typical accumulator
- The accumulator helps create the ECR account and not only holds the claims into the two accumulators but also has the dollars associated with each bucket for a given ECR to help with the dollar reconciliation
Hip Replacement ECR Accumulator budget

- Every newly triggered ECR gets assigned a budget
- Budgets are based on available information about the severity of the patient and historical claims data from the payer
- Budgets are split between inpatient stay, professional services, and other
- PAC Allowances are based on the plan’s most recent plan-wide PAC rate per procedure or condition (which includes readmission rates)
- Claims flow from the plan into the Engine and into an ECR where the actual is continuously compared to budget
ECR Engine Generations

- Generation 1: Operates ECRs on a retrospective, no-downside batch process (Complete by January 1st, 2009)

- Generation 2: Beta Version of Gen 1 for operations, rules refinement and preparation for real-time downside ECRs (Complete by January 1st, 2010)

- Generation 3: Operates ECRs on both retrospective and real-time basis (Complete by January 1st, 2010 or 2011)
Baking It In
HealthPartners Approach

Carrie Tichy
October 19, 2008
Outline

- Payment Reform Principles
- Package Payment Design Assumptions
- Care Package Development
  - Normalizing the data-the heavy lifting
  - Provider Engagement
  - Reimbursement Model
- Negotiating the Deal
- Tracking and Measuring the Outcomes
Payment Reform Principles

- Necessary to remove barriers to transforming the health care system
- Should support high quality affordable patient-centered care and outcomes.
- Align incentives for innovation and standard use of best practices so as to offer high quality, evidence-based care.
- Reduce unnecessary costs and waste in both administration and care delivery
- Support the best science and improved efficiency
- Allocate risk to the entities best able to manage that risk
- Be transparent for patients on quality and cost and the services they should expect to receive
- Be easy to understand and shared openly, building an open source, public domain, community wide capability
Package Price Design Assumptions

- For engaged providers-built in payment approach
- Not every provider will participate
- No employer opt in/out capabilities
- Available for all commercial market segments, insured and self-insured
Package Price
Design Assumptions

- Year one of pilot will be fee for service with a reconciliation to a provider specific case rate
- Initial pilot will not have member benefit impact
- Focus on ability to operationalize vs. major trend management outcome
- Keeping pilot mindset
- Perfection is the enemy of good enough
Key Components of Package Price Model

- Care Package Specification Workgroup
- Network Management
- Provider Engagement
- Performance & Reporting
Care Specification Workgroup

ECR Selection

Selection Criteria:
- Ease of implementation
- Event driven condition
- Clearly defined start/end date
- Community accepted care guidelines
- Provider interest
- Playbook availability

Selected AMI for pilot
Care Specification Workgroup

Normalizing the Data

➢ Review the Playbook:
  ▪ Playbook/code sets and instruction manual are comprehensive
    • Time saver
  ▪ Cross functional team to review and understand the playbooks
    • Required a team effort

➢ Data Set Preparation:
  ▪ Compiled HPI data into the playbook format
Care Specification Workgroup

Normalizing the Data

Model Data Set Analysis:

- Benchmarked HPI data to Prometheus data
- Compared key HPI demographics to Prometheus
  - Included number of cases, dollars, age, gender, products, LOS, ER admission ratios, discharge status, etc.

Result: HPI demographic data varied from Prometheus due to product mix – Commercial vs. Medicare
Care Specification Workgroup

Normalizing the Data

Analysis of Major ECR Components:

- 3 day prior
- Inpatient Index
- 30 day post discharge follow-up

Compared key HPI demographics to Prometheus

- Included number of cases, dollars, age, gender, products, LOS, ER admission ratios, discharge status, etc.

*Result:* Playbook updates required to reflect recent code changes and regional variation.
Case comparison: Typical vs. PAC

- Broke typical and PAC for Inpt. Index, 30 day post discharge follow-up and 3 day prior
- Benchmarked using ratio of HPI cases to Prometheus cases

Result:

- 3 day prior: removed from model due to inconsistency and inability of providers to control
- Inpt. Index: HPI had a lower percentage of PAC
Care Specification Workgroup

Normalizing the Data

Analysis of cases within Typical and PAC

- Benchmarked to Prometheus defined categories (comorbidities, procedures, complications, risk factors and pharmacy)
- HPI internal cross functional team completed actual line by line detail testing on a random sample of cases

Result:

- Inpt. Index: “white noise” due to exclusionary model
- 30 day post discharge follow-up:
  - Use of AMI diagnosis (410.XX) for up to 8 weeks
  - PAC generation limited to certain specialties (i.e. Radiology)
Provider Engagement

- Introduced concept to medical directors and administrators

  **Result:**
  - Varied levels of provider engagement. MN legislative direction has supported provider engagement.
  - Open source model provided credibility and uniform approach amongst payers

- Shared model results with providers and sought clinical feedback

  **Result:**
  - New drugs were added to the playbook
  - Moved complications to comorbidities
    - left bundle block branch
    - conduction disorders
  - Ability to understand what was present on admission vs. complication during inpatient stay
Reimbursement Model

- **Inpatient Index**
  - Use of regression model to determine provider specific payment level

  **Result:** Inpatient DRG Case Rate drives regression model/payment

- **30 Day Post Discharge Follow-up**
  - Still working on this

- **Overall regression**
  - Analyst with strong statistical skills
  - Regression work can NOT get to far ahead of the definitional work or you have a lot of re-work.
  - Developed approaches to work with small N’s
Negotiating the Deal

- Proposed pilot approach
  - Pay Fee For Service (FFS) upfront with a reconciliation to case rate
  - Shared savings for high performing/efficient providers
  - Use first year for all parties to gain confidence in the model
Tracking and Measuring Outcomes

- Performance to the case rate will be reported
- Quality scorecard will be developed
Other:
Frequent Check-ins with Amita, especially when benchmarking is essential!!

Questions?

Carrie Tichey
Carrie.Tichey@HealthPartners.com
(952) 883-5114
National Healthcare Incentives Institute
Prometheus ECR Tracker

Gregory S Everett
VP, Operations
IRP Claimshop
Med Assets and IRP Claimshop

• Healthcare Technology Company
  – Proven Experience w/ Automating Episodes of Care
  – Experience w/ Pay For Performance
  – Objective Third Party Between Payors and Providers
  – Modeling Program Tied to Production Claims’ Database

• IRP Claimshop Architecture
  – Web based external user interface
  – Proprietary Back Office Application for Batch Processing
  – SQL Server 2005
Claimsbox Tracker Implementation

MC 9/26/2008

This diagram shows how the Claimsbox CBO Repricer Engine will be configured to perform Prometheus ECR Filtering and Navigating.

Inbound 837 Claim

CS Task: Import 837

CS Task: Map 837

CS Task: Create Claim Billing Worklist

CS Task: Eligibility Matching

CS Task: Group (Plan) Matching

CS Task: Provider Matching

CS Task: Match Service Types

CS Task: Filter

CS Task: Navigator

CS Task: Reprice

Pended Claims

Eligibility Database

Outbound 837 Claim

CS Task: 837 EDI Export

Daily Extract for Prometheus

Raw Claim Data

Daily Extract

Claims that pend at any stage of processing

Automatch Expressions & Lookup Tables

Automatch Conversion

CCS Data Conversion (one-time)

ECR Tables from MassPro

CCS Database

ECRM Master

ECRLog

ECRRiskfactor

Web-based query screens

Repriing and Automatch data

Repriing and Automatch data

Live Data Request

Navigator Tables (Links to Claims Database)

Gray Box = CBO Task

= PAL Batch Data Transfer
Sample Extract of MassPro ECR Data Feed (XML)

**ECR Master Table (fragment)**

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<th><code>start_episode</code></th>
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<th><code>ecr_formula</code></th>
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<tr>
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<td>Acute Myocardial</td>
<td>admission date + 3 days</td>
<td>discharge date + 30 days</td>
<td>(2.71828182845904) raised to the POWER ECR FACTOR</td>
</tr>
<tr>
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<td>Hip Replacement</td>
<td>admission date - 30 days</td>
<td>discharge date - 180 days</td>
<td></td>
</tr>
<tr>
<td>DIAB</td>
<td>Diabetes Mellitus</td>
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**RISK FACTOR Table (fragment)**

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**ECR_CODE_SET Table (fragment)**

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**ECR_CODE_SET Table (fragment of data employing AND logic)**

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(rows removed for clarity)
## Sample Converted CBO Automatch Data

<table>
<thead>
<tr>
<th>ST Name</th>
<th>AutoMatch Expression</th>
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<tr>
<td>DIA P13 I 1 0 1</td>
<td>CLMTYPE = UB AND PROCHAS([DIA P13 I 1 0 1 PROC LIST])</td>
</tr>
<tr>
<td>DIA P13 P 2 0 0</td>
<td>CLMTYPE = HCFA AND (CCSCPTHAS([DIA P13 P 2 0 0 CCSCPT LIST]) OR CCSPXHAS([DIA P13 P 2 0 0 CCSP X LIST]))</td>
</tr>
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<td>CLMTYPE = UB AND (PRIMDIAGHAS([HIP TRG I 1 1 0 LIST1]) AND PROCHAS([HIP TRG I 1 1 0 LIST2]))</td>
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</tbody>
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### Table Name | CodeFrom | CodeTo |
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Sample Reports

- Pilot Site Partner Summary Report
- Patient / ECR Summary Report
- ECR Detail Report
## Pilot Site Partner Summary Report

### Overall

<table>
<thead>
<tr>
<th>Type of Episode</th>
<th>Number of Episodes</th>
<th>Total Budget for Typical</th>
<th>Total Budget for PAC</th>
<th>Total Actual for Typical</th>
<th>Total Actual for PAC</th>
<th>Reconciliation / Savings / Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>xxx</td>
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<td></td>
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<tr>
<td>AMI</td>
<td>x</td>
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<td></td>
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</tr>
<tr>
<td>CHF</td>
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</tr>
<tr>
<td>CAD</td>
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<td>...</td>
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</tr>
</tbody>
</table>

### By Provider

For all episodes the provider was involved in

<table>
<thead>
<tr>
<th>Type of Episode</th>
<th>Number of Episodes</th>
<th>Total Budget for Typical</th>
<th>Total Budget for PAC</th>
<th>Total Actual for Typical</th>
<th>Total Actual for PAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>xxx</td>
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<tr>
<td>AMI</td>
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<td>...</td>
<td></td>
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### By Patient

All episodes the patient has

<table>
<thead>
<tr>
<th>Type of Episode</th>
<th>Number of Episodes</th>
<th>Total Budget for Typical</th>
<th>Total Budget for PAC</th>
<th>Total Actual for Typical</th>
<th>Total Actual for PAC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>xxx</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AMI</td>
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<tr>
<td>CHF</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAD</td>
<td>xxx</td>
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<td>...</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
## ECR Summary Report

<table>
<thead>
<tr>
<th>Pilot Site Identifier</th>
<th>ECR Name</th>
<th>Date triggered</th>
<th>Date concluded</th>
<th>Date Terminated</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

### Patient ID

<table>
<thead>
<tr>
<th>Provider Name</th>
<th>type</th>
<th>Full Address, Street, City, State, Zip</th>
<th>NPI</th>
<th>DEA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

### For each Patient Episode

<table>
<thead>
<tr>
<th></th>
<th>ECR Budget</th>
<th>ECR Actual</th>
<th>Revised Budget</th>
<th>Variance to Budget</th>
<th>Variance to Revised Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typical</td>
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<td></td>
<td></td>
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<tr>
<td>RX</td>
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<td></td>
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<tr>
<td>Outpatient prof</td>
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<tr>
<td>Outpatient stay</td>
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### PACs

<table>
<thead>
<tr>
<th></th>
<th>ECR Budget</th>
<th>ECR Actual</th>
<th>Revised Budget</th>
<th>Variance to Budget</th>
<th>Variance to Revised Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX</td>
<td></td>
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<tr>
<td>Outpatient prof</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Inpatient prof Readmissions other</td>
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<tr>
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</tr>
</tbody>
</table>

### Notes:
All providers touching the ECR get listed
A revised budget is only built after the ECR is concluded and if sufficient data and follow-up analysis warrant an adjustment of the original budget.
<table>
<thead>
<tr>
<th>Claim #</th>
<th>Claim Type (inpatient facility, professional etc.)</th>
<th>Typical or PAC</th>
<th>Risk Factor it got assigned to</th>
<th>Date of Service</th>
<th>Principle Diag</th>
<th>Site of Service</th>
<th>Provider Type</th>
<th>Provider Specialty</th>
<th>Provider ID</th>
<th>Contract Type (DRG, % Off, Per Diems, Case Rates)</th>
</tr>
</thead>
</table>
PROMETHEUS Payment Pilot Evaluation

Meredith B. Rosenthal, Ph.D.
October 19, 2008
Acknowledgements

- Financial support from the Robert Wood Johnson Foundation; Center for Health Improvement is providing oversight for the pilots and evaluation
- M. Susan Ridgely, RAND Corporation is Principal Investigator for the evaluation
RWJF Evaluation

- Four pilot sites that will test the implementation of PROMETHEUS with multiple payers, providers
  - Implementation evaluation

- Simulation of impact of PROMETHEUS payment relative to status quo user participant administrative data
Implementation Analysis

- Document structural changes in care delivery, organization, data capture that occur with implementation
- Compare views and experiences of different groups of stakeholders
- Examine barriers and factors that facilitate transition to PROMETHEUS Payment
- Identify aspects of the design or implementation that require further development for rollout
Pilot Sites

- Rockford IL: Employer Coalition on Health
- Minneapolis, MN: HealthPartners, Medica, Carol
- Others TBD
Methods for Implementation Evaluation

- Gather baseline data from participants and public sources: patients, enrollees, payment approaches, information systems, organization, integration, QI programs, etc.
- Conduct initial site visit calls to characterize scope, scale, and planned timing of pilot
- Site visits using semi-structured protocols; meetings with key participants and other stakeholders
Simulation Analysis

- PROMETHEUS ECRs have been developed using large national data sets
- Calibration is needed for each pilot site
- Prevalence of episodes associated with ECRs, risk factors, and complications within each site is unknown
- Extent to which payment model would create winners and losers among practices is unknown
Key Questions for the Simulation

- Based on the payer’s fee schedule, patient mix, and the treatment patterns of providers that care for its patients, will PROMETHEUS result in an increase or reduction in the total amount of money spent on eligible patients?
- Which providers would win/lose in terms of gross revenues with PROMETHEUS, assuming no behavioral changes (i.e., practice patterns remain as they were in the baseline data)?
- How will funds be distributed – base ECRs? PAC allowances? Performance incentives? Payments triggered by stop-loss?
Simulation Methods

- De-identified claims history from ECOH
- Examine distribution of episode types for which ECRs have been completed – how many? How many are broken by other events? How many have provider switches?
- Add PROMETHEUS Payment logic/algorithms to simulate adjudication under PROMETHEUS
- Compute payment variances
- Model payment variances (plus/minus) as a function of provider characteristics, patient characteristics
Goals of the Early Evaluation

- Both the implementation evaluation and simulation are intended to help refine PROMETHEUS for broader use.
- Researchers will look for leading indicators of impact – reports of practice changes such as specialized teams for managing chronically ill patients; re-design of processes for acute episodes.
- Evaluation of impacts – on costs, quality – will be in second phase.
Conclusions

- Insights from implementing PROMETHEUS Payment in pilot sites will contribute to the evolution and refinement of the payment model

- Generalizable lessons for other payment reforms, however:
  - Issues of reform in multi-payer context
  - Perceptions/reality of risk selection problems
  - Chicken/egg issues of practice redesign and payment reform