Background

Value-based bundled payment models proposed for costly, high variation procedures including coronary artery bypass grafting (CABG), Washington State’s Bree Collaborative created standards for CABG bundled payment procedures. Payers and hospitals participate, including a nonprofit health system with five hospitals. The health system’s Cardiac Institute performs most CABG procedures, and Institute leaders are now determining how to prepare for future bundled payments for CABG procedures.

New Payment Models Promote Paying for Value

- **Capitation**: Per member per month payments; full risk
- **Shared Savings**: Gainsharing; downside and upside risk
- **Bundled Payment**: Reimbursement for predetermined episode of care; creates shared accountability
- **Fee-for-Service**: Payment for each service performed

Purpose

We explore how a health systems’ Cardiac Institute can prepare for CABG procedures in a bundled payment environment by addressing the following:

1. What elements are important to consider in the transition to bundled payments for CABG procedures?
2. What are the financial impacts of bundled payments for the cardiac service line?

Methods

A team of graduate students and faculty partnered with administrative and clinical executives to undertake a mixed methods analysis of CABG procedure payment models at a Seattle cardiac center from March - June 2016. Using a phased research approach, the team first conducted a consultative literature review using PubMed, Google Scholar, and the UW Library applying key terms associated with bundled payments, which resulted in 31 relevant sources. The team complemented the literature with internal data pulled from Epic. Data were collected for CABG procedures coded DRG 234 & 236, primary diagnosis 414.0, from September 2014-15, a one-year period. For the purpose of this study, the team placed particular emphasis on identifying patients readmitted under Bree Collaborative ICD9 guidelines. To supplement the literature and data analyses and to provide context, the team also conducted semi-structured interviews with key Cardiac Institute stakeholders: leadership, service line administrators, physicians, and data analysts (n=8).

Results

**Key Elements to Consider in Transition to Bundled Payments**

- **Culture of Collaboration**: Foundation for success for bundled payments; collaboration with the hospital, clinicians, payers and patients required
- **Access to Data**: Strong data systems; real-time access
- **Post Acute Care**: High potential for cost variation

Profile of the Cardiac Institute

- **CABG 234 & 236**: performed between September 2014-2015
- **5/9**: Cardiotoracic surgeons performed 92% of total CABG procedures
- **50%**: Medicare primary payer for CABG

**Number of Patients Sent to Post Acute Care Settings After CABG Procedures**

- **67 patients**
  - Home Health
  - Skilled Nursing Facility
  - Inpatient Rehab
  - Lowest to Greatest Cost of Referral Settings ($)

**Financial Impact of Bundled Payments for the Cardiac Institute**

Bree Collaborative, a working group of payers and providers developed standards for CABG bundled payments, called the CABG Surgical Bundle Requirements:

- Disability despite non-surgical therapy
- Fitness for surgery
- CABG Procedure
- Post-Operative Care & Return to Function*

*(Post-operative care is the focus for the financial analysis.)*

**Results (continued)**

The Bree Collaborative outlined providers’ financial risk for CABG readmission, called a bundled payment warranty, for a defined population.

<table>
<thead>
<tr>
<th>Population Qualifying Under Bree Collaborative Criteria (n=57)</th>
<th>Readmission Exposure Under Bree (n=1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue: $94/pt</td>
<td>1 Readmission=2.1%</td>
</tr>
<tr>
<td>Cost: $83/pt</td>
<td>1 Readmission=2.1%</td>
</tr>
<tr>
<td>Cont. Marg.: $11/pt</td>
<td>reduction in total</td>
</tr>
<tr>
<td>Total: $627</td>
<td>contribution margin</td>
</tr>
</tbody>
</table>

Data showed risk was minimal under Bree Collaborative warranty

Conclusions

Important elements of bundled payments include fostering an organizational culture of:
1. collaboration,
2. developing accessibility to robust data systems, and
3. cost management of post-acute care. Based on the Bree patient profile for CABG, the readmission financial risk following is minimal. The potential for risk among other bundled payment initiatives could be higher because Medicare is primarily driving bundled payments, followed by large employers, as value-based reimbursements develop.

Recommendations

**Key Elements to Consider in Transition to Bundled Payments**

- Initial focus is on building the infrastructure to develop a culture of collaboration, and partnerships with community providers and payers. Clinical integration between the Cardiac Institute and post acute care is needed to incentivize cost reduction.
- Accuracy and validity of available data is critical; developing the data infrastructure to collect and analyze cost data for post-acute care is recommended first step, especially to understand the total cost of care in post-acute settings.
- Process improvement initiatives associated with bundled payment models have spillover effects, which are improving quality and reducing costs in health systems for all payers.

**Financial Impact for the Cardiac Service Line**

- The market for bundled payment arrangements is growing. Based on Medicare trends, CABG will likely be the next focus area for value-based payment reforms.
- Financial risk under the Bree criteria is limited, but further research is recommended to look for areas of standardization and cost reduction to minimize exposure to such risks.