Bundled Payments: The Future of Payment Reform?
Our experience with Bundled Payments

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Summary

Our beliefs:

• Payment changes to providers are unavoidable as our current system for reimbursement is unsustainable
• Fortunately there is a large opportunity to improve value by removing cost and increasing quality

Therefore we decided to participate in the bundled payment initiative from CMS as a learning experience to move us along the payment reform journey

• We conducted a number of analyses to identify the conditions we felt were candidates for bundling
• For the most promising conditions we formed teams to review the data and determine how/if we could drive down the total cost of care
• Participating in the bundle payment application process taught us a number of valuable lessons
Vanderbilt University Medical Center overview

One of the nation’s largest, fully integrated university health systems...

- Annual **operating budget**: >$3.5B
- **3,000 faculty** (MDs, PhDs) across all medical disciplines and sub-sub-sub specialties
- **4 Hospitals** (1,000 beds): Children’s, Adult, Psychiatric, Rehabilitation
  - 53,000 **inpatient** discharges
  - 2M **ambulatory** visits
  - 45,000 **surgeries**
- **20,000 faculty and staff** make it the largest state-based private employer of Tennessee citizens
- NCI-designated **Comprehensive Cancer Center** is a leading clinical trials center
- **National Centers of Excellence** for Heart, Trauma, Neurosurgery, Diabetes, Children’s care, and many others
- **Largest Transplant center** in the Southeast

...with a recognized national stature

- Discovery is core: one of 10 largest U.S. Centers doing **NIH-funded biomedical research at $500M/year**
- University leader in HIT: **nation’s largest Informatics faculty** (70) and over 500 staff
- Coordinating Center for **$500M NIH CTSA clinical research network** (60 universities)
Managing risk first requires the delivery of high value care

- Provide high value care
- Coordinate high value care to control cost for a condition
- Accept risk for a condition (e.g., Bundled Payment)
- Accept risk for a population (e.g., ACO)

Vanderbilt has focused on getting the bottom 2 steps done on a consistent basis. We felt it was time to take the next step.
**Bundled Payment Models**  
**Model 2: Acute Inpatient & Post-Acute (Retrospective)**

- **Professional Services**
  - Inpatient Professional
  - Index Hospitalization
- **Facility & Other Services**
  - Outpatient Professional
  - Post-Acute: Rehab, Home

**Reason for hospitalization:** Specified list of MS-DRG(s) & other criteria

**Episode anchor:** Admission at awardee hospital for included clinical condition

**Discount**  
Minimum of 3% for 30-89d or 2% for ≥ 90 day

**Payment**  
Traditional FFS payment to all providers

**Episode Reconciliation**  
- If Medicare payment > target price, awardee must repay
- If Medicare payment < target price, Medicare will pay difference to awardee

**Post-episode Reconciliation (30day post-episode)**  
Actual Part A & B payment exceeds trended historical aggregate Part A & B payment beyond a risk threshold must be paid by awardee to Medicare
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Example slide of internal data used to begin our analysis

Comparison of Circulatory and Musculoskeletal MDCs

Redefining care pathways drives reduced cost

Adherence to care pathways drives reduced variation

Average O/E cost

Coefficient of Variation (cost)

* O/E as defined by UHC
Example slide of CMS data showing variability of cost of index stay and post-acute care by setting

Cost per case ($)

Percentile of Total Post-Discharge Cost
Example charts showing details of post-acute care cost

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<thead>
<tr>
<th>Acute Hospital Readmission</th>
<th>Readmission</th>
<th>Cost Per Readmission</th>
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<tbody>
<tr>
<td></td>
<td>Number of Readm.</td>
<td>Average LOS</td>
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<tr>
<td>Total</td>
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<td>8.0</td>
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<table>
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<th>Stay</th>
<th>Cost Per Stay</th>
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<td>Number of Stays</td>
<td>Average LOS</td>
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<tr>
<td>Total</td>
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</table>

.cms provided similar data for LTACs, Inpatient Rehab, Home Health
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The bundled payment teams are the key to success

- Team composition varied but always included a cross section of individuals: department leadership, quality, analytics, finance, PT/OT, post-acute, ICU and floor nurse champions and physician champions
- The physician champions were co-leads of each team providing their clinical knowledge and expertise
- We collected input from focus groups of front line providers to identify potential opportunities for the team to examine
- The team identified a number of potential interventions and made recommendations based on input from all our clinicians

One team decided they could not find enough in their potential changes and opted out. Teams need the ability to say no, especially as institutions are learning.
Example recommendations of the Valve Workgroup

**AAMC Framework – Continuum of Care**

- Admission
- Pre-op
- Admissions/Discharge planning
- Surgery
- Post-op
- Discharge

**30-90 Days**

**SNF/HH/Home/PCP**

**Vanderbilt Heart’s proposed interventions along AAMC’s framework**

**Care Coordinator**
- a.k.a Redesigned Case Manager, a.k.a. Resource Manager
- Responsible for up to 60 patients concurrently at a rate of 10 patients in hospital/week (up to 2 wks pre-op and 4 wks post-discharge)

**Pre-op Risk Assessment**
- Functional status
- Support system
- Cognitive status
- Nutrition/skin
- Medication history
- Substance use
- Respiratory status
- Glucose control

**Personalized Plan of Care by Risk Level**
- Standard interventions tied to risk levels

**Inpatient Utilization Management**
- Length of Stay
- Inpatient pharmacy (albumin, Factor VII, blood, etc.)

**Post-Discharge Care Coordination**
- Ongoing clinic management
- Ancillary services (post-acute facilities, home health, etc.)

**Opportunity to Optimize Patient**
- Consider acute events (ARI, PNA, UTI, CHF, GIB)

**Patient Engagement**
- Redesign Pre-op Patient Teaching
- Improve educational materials – tie into VUMC new vendor solutions (Terrell Smith)
- AAMC Patient Compact

**Anticipatory Discharge Planning**
- Plan for post-discharge needs earlier based on risk
Proposed Intervention & Tactics

Preoperative Assessment & Multidisciplinary Valve Conference
- Enhanced risk and other assessments for planning forward (e.g., functional assessment, frailty index)
- Identify and engage primary care giver(s)
- Plan A & Plan B for discharge – involving patient and primary care giver(s)
- Enhanced valve conference
- Standardize patient education information
- Patient Compact between patient/family and medical center
- Include primary care giver(s) in all teaching

Patient & Family Engagement and Education

Pathways
- Pathways to standardized and enhanced care (“Everything the patient needs and nothing they don’t”)
- Assess patient’s ability for self care
- Determine the need for post-op resources
- LOS management
- Teach back for assessment of self care capability
- Optimize resource utilization
- Medication management
- Patient and family education

Preoperative Assessment & Multidisciplinary Valve Conference

Pharmacy

Inpatient

Referring Physicians
- Foster and improve referring physician relationships
- Shared Management with referring MD’s
- High touch surveillance (e.g., post-discharge phone calls) by care coordinators for 90 days
- 7 day visit
- 24 hours/day call response system
- Increase utilization of home health
- Outpatient Afib management protocol
- Journaling or logging progress against care plan/goals – online tools

Handover & Post-Acute Care

Quality Metrics

Care Managers
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Lessons learned during the bundle payment application

**Payors**
- Payors provide data transparency that leads to process changes
- Following our patients through all their post-acute care showed us opportunities where we could improve

**Partners**
- Having support from our partners (AAMC, Brandeis, Mannatt) allowed us to focus on identifying potential process changes
- We have also partnered with another AMC to share learnings and best practices and will work with them throughout the bundle period

**Clinician leaders**
- Making our clinicians partners and leaders on the project allowed them to engage their peers
- During our meetings with all the VHVI clinicians, these champions led the discussions and worked to convince their peers why bundles are necessary and how the changes we were proposing were going to improve care and make us successful
Lessons learned during the bundle payment application

**Data analysis**
- Do not underestimate the amount of time to analyze the data – the CMS data was very complicated and took our expert a lot of time just to create the links between all the files
- The analysis also needs to be carefully planned up front or you can easily end up boiling the ocean

**Bundle risk**
- By doing concentrated pilots, the total risk to the Medical Center was acceptable, especially for the learning opportunity it provided

**Downstream risk**
- Decreasing cost (by reducing readmissions, unnecessary tests, etc.) will decrease RVUs to clinicians and revenue to the medical center. It also presents an opportunity to backfill volume at a potentially higher acuity
- Our experience with DMT shows that this is possible