IHI Virtual Expedition

Session #5: Putting it All Together: Delivering Value in a Bundled Payment Environment

Anthony DiGioia, MD
Jill Duncan, RN, MS, MPH
Angela D. DeVanney

Today’s Host

Catherine Warchal
Project Coordinator
Institute for Healthcare Improvement
Phone Connection (Preferred)

To join by phone:
1) Click on the "Participants" and "Chat" icons in the top right hand side of your screen.
2) Click the button on the right hand side of the screen.
3) A pop-up box will appear with the option "I will call in." Click that option.
4) Please dial the phone number, the event number and your attendee ID to connect correctly.

WebEx Quick Reference

- Please use chat to "All Participants" for questions
- For technology issues only, please chat to "Host"
Chat

Please Chat, in 7-words or less, one of the most useful take-aways from this Expedition series

Please send your message to All Participants

Expedition Director

Jill Duncan, RN, MS, MPH
Executive Director
Institute to Healthcare Improvement
Expedition Sessions

Session 1
The Future is Now: The Case for Developing a Patient-Centered Value System; Anthony DiGioia

Session 2
Go Shadow: A Simple Way to Start Developing a Bundling Program; Anthony DiGioia and Angela D. DeVanney

Session 3
Aligning Process Improvement Methodologies with Shadowing; Rebecca Steinfield

Session 4
High Impact Opportunities for Change

Session 5
Putting it All Together: Delivering Value in a Bundled Payment Environment

Today’s Agenda

• Welcome & Introductions
• Putting it All Together: Delivering Value in a Bundled Payment Environment
• Action Period Debrief
Action Period Assignment

- Finalize process maps and develop a draft “bundle” care design map.
- Make suggestions on improvements focusing on personnel and consumables.

Testing Volunteers

Check in with the Expedition testing sites

Angela D. DeVanney
Session 5 Faculty

Putting it All Together: Delivering Value in a Bundled Payment Environment

Anthony DiGioia, MD
Medical Director
Magee-Women’s Hospital UPMC

Angela D. DeVanney
GoShadow

Jill Duncan, RN, MS, MPH
Executive Director, IHI

Putting It All Together for Bundling: Outcomes, Experiences and True Costs

Tony DiGioia, MD
April 20, 2017
Tony@pfcusa.org
Disclosures

• Medical Director
  – Bone and Joint Center
  – Innovation Center of UPMC
• Founder, goShadow, LLC
• President, AMD3 Foundation

Bundling and Moving from Volume to Value

Outcomes

Value = Cost

(Important to Patients)
The PUSH Towards Bundling And Delivering VALUE

• Tightly couple clinical and financial performance
• Couple new care delivery and payment systems
• The biggest hurdle is the “How to…”

The Patient Centered Value System…
Align the catalyst for change with our mission

Experiences

Outcomes

True Cost
3 Keys to Achieve Value

1. View All Care Through the Eyes of Patients and Families
2. Co-Design with Patients, Families and Providers
3. Implementation and Teams

Patient Centered Value System
The Tools for Change

I. Shadowing

II. -Team Building
-PI and the PFCC Methodology

III. True Cost: Time Dependent Activity Based Costing (TDABC)
I. Shadowing

- Shadowing is repeated real-time observations
- Shadow the “system”
- Determine current state
- Build teams
- Co-design with patients, families AND providers

Patient and Family “Activation”

When patients and families are engaged in their own care, this improves clinical outcomes.
goShadow: Merge Technology with Process Improvement

iOS and Android Collection Tool

Cloud-based Collaborative Platform

goShadow for Process Improvement

- Care Pathways / Flow Maps
- Time studies
- Variations in care
- Coordination between silos
- Identification of inefficiencies & redundancies
II. PI and Team Building: PFCC Methodology

III. True Cost = Time Driven Activity Based Costing (TDABC)

For a full cycle of care:

- Personnel
- Space
- Equipment
- Consumables
- ALL resources for any clinical condition

Robert S. Kaplan and Michael E. Porter
“How to Solve the Cost Crisis in Health Care,” HBR 2011
Shadowing + TDABC

1. Shadow the Care Segments of the Bundle
2. Develop Process Maps
3. Calculate Costs/Minute And Consumables
1. **Shadow the Care Segments**

   1. **PRE-OP/OFFICE**
      - 1a: New Patient Scheduling
      - 1b: Pre Surgical Office Visit
      - 1c: Billing

   2. **PRE-OP TESTING & CONSULTS**
      - 2a: Pre-Op Testing
      - 2b: MD Consults
      - 2c: Special Testing
      - 2d: Pre-Op Admin Support

   3. **DAY OF SURGERY/OR**
      - 3a: Day of Surgery Unit
      - 3b: OR
      - 3c: Central Sterile

   4. **PACU**
      - 4: PACU

   5. **INPATIENT STAY**
      - 5a: Day 0
      - 5b: Day 1
      - 5c: Day 2
      - 5d: Day 3

   6. **THERAPY**
      - 6a: Home Therapy
      - 6b: Outpatient PT
      - 6c: Inpatient Rehab/SNF

   7. **FOLLOW UP VISITS**
      - 7a: 4 Week Follow Up
      - 7b: 3 Month Follow Up
      - 7c: Post-Op Admin Support

2. **Develop Process Maps**

   - **What activities** are performed?
   - **What Care Giver** is performing each activity?
   - **How long** does each activity take?
   - **What other resources** are used?
     (space, equipment, and consumables)
Process Map for the Pre-op Testing Segment

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Decision Node</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Calculate Costs</td>
<td>Step 1</td>
</tr>
</tbody>
</table>

Calculate Costs

Clinical Side

Financial Side

Minutes used × Cost per minute = $/Resource

Add Consumables
Real World Example

Determining the True Cost to Deliver Total Hip and Knee Arthroplasty Over the Full Cycle of Care: Preparing for Bundling and Reference-Based Pricing.

- DiGioia, et al., The Journal of Arthroplasty, 31(1)1-6, (2016)

Follow the Patient!

Home
Physician Office
Acute Care
Health Insurance
Pharmacy
Home Health
Outpatient Therapy
Rehab or Skilled Nursing Facility

What is the total number of provider categories?
Determine the Actual Costs for TJR Over a Four Month Bundle

<table>
<thead>
<tr>
<th>Personnel Categories</th>
<th>Pre-Hospital</th>
<th>Inpatient</th>
<th>Post-Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Organizations</td>
<td>3</td>
<td>5</td>
<td>4</td>
</tr>
</tbody>
</table>

Identify Cost Drivers and Begin Process Improvement Projects
True Costs for the Full Bundle

**THR**
- Personnel: 45%
- Consumables: 52%
- Space: 2%
- Equipment: 1%

**TKR**
- Personnel: 50%
- Consumables: 45%
- Space: 2%
- Equipment: 3%

*Implant Cost in a Bundle: THR: 40%, TKR: 30%*

Where are bundling resources allocated?

1. **Pre-Op/Office**
   - THR: 1%
   - TKR: 1%

2. **Pre-Op Testing & Consults**
   - THR: 7%
   - TKR: 7%

3. **Day of Surgery/OR**
   - THR: 20%
   - TKR: 51%

4. **PACU**
   - THR: 2%
   - TKR: 2%

5. **Hospital Stay**
   - THR: 16%
   - TKR: 17%

6. **Therapy**
   - THR: 12%
   - TKR: 16%

7. **Follow-Up Visits**
   - THR: 3%
   - TKR: 3%

*Graphs not shown*
Consumable Costs (THR)
For the Full Bundle

53% of Cost related to Consumables

- 77% Implant
- 11% Medications
- 5% Custom Hip Pack
- 2% General Nursing
- 2% Saw Blades
- 1% Skin Antiseptic
- 1% Surgical Dressing
- 1% Suture Materials

New Patient Office Visit

<table>
<thead>
<tr>
<th>Personnel</th>
<th>Consumables</th>
<th>Space</th>
<th>Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>$235</td>
<td>$0</td>
<td>$11</td>
<td>$2</td>
</tr>
<tr>
<td>$303</td>
<td>$9</td>
<td>$2</td>
<td>$2</td>
</tr>
</tbody>
</table>

THR $247
Non Surgical Candidate

TKR $325
Surgical Candidate
### Personnel Capacity Rate ($/min)
Total # of Personnel = 46 Categories

<table>
<thead>
<tr>
<th>#1 - 10</th>
<th>#36 - 46</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orthopaedic Surgeon</td>
<td>Administrative Assistant</td>
</tr>
<tr>
<td>11.6</td>
<td>0.4</td>
</tr>
<tr>
<td>Radiologist</td>
<td>Health Unit Coordinator</td>
</tr>
<tr>
<td>8.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Cardiologist</td>
<td>Rehab Aide</td>
</tr>
<tr>
<td>6.0</td>
<td>0.4</td>
</tr>
<tr>
<td>Anesthesiologist</td>
<td>Registrar</td>
</tr>
<tr>
<td>5.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Internist</td>
<td>PT Office Assistant</td>
</tr>
<tr>
<td>3.0</td>
<td>0.4</td>
</tr>
<tr>
<td>CRNA</td>
<td>Pharmacy Tech</td>
</tr>
<tr>
<td>1.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Nurse Practitioner Office</td>
<td>Room Service Attendant</td>
</tr>
<tr>
<td>1.2</td>
<td>0.4</td>
</tr>
<tr>
<td>PA - Office</td>
<td>Transporter</td>
</tr>
<tr>
<td>1.2</td>
<td>0.3</td>
</tr>
<tr>
<td>PA - Hospital</td>
<td>Housekeeping - SSA</td>
</tr>
<tr>
<td>1.1</td>
<td>0.3</td>
</tr>
<tr>
<td>Sr. Prof Staff RN</td>
<td>Sales Rep</td>
</tr>
<tr>
<td>1.1</td>
<td>0.01</td>
</tr>
</tbody>
</table>

### Total Personnel Cost

![Graph showing total personnel cost across different categories](image-url)
Time From the Patient’s Perspective

1 Month Pre and 3 Months Post Surgery

Actual Patient
- 92 Hours
- ~3.8 Days

Care Experience
- 104 Hours
- ~4.3 Days

Inpatient vs. Outpatient TJR

- Facility #1 - $9,400
- Facility #2 - $11,000
- Outpatient THR - $7,400
Achieving the Value Trifecta

Blood Conservation Program

- Transfusion Rates <1%
- No AutoVac $75,951/yr
- No T/C $242,112/year
- No T/S $240,657/year

Eliminate Chest X-ray

- Cost savings = $13.06/pt
- Cost savings/year = $7,640/surgeon
- Charge of x-ray = $140
- Chg. savings per year = $56,664/surgeon
CMS reimburses $165 for 2D bilateral mammogram
Building the business case for coverage

How to Get Started with Bundling and Value Based Care?

Merging Process Improvement with Technology
**Questions/Discussion**

- Raise your hand
- Use the chat

Please send your message to *All Participants*.

**Feedback**

We want to hear about your experience in this Expedition program.

Please take 5-minutes to complete the post-webinar survey.
Expedition Communications

- All sessions are recorded
- Listserv address for related communications: expbundledpayments17@ls.ihi.org
- End of Expedition Evaluation
- CE Surveys for accreditation

Spotlight: Improvement Stories

We invite you to submit your learnings/results for a chance to be featured on the Institute for Healthcare Improvement blog!

If you’d like to share your story, please email me at cwarchal@ihi.org.
Upcoming IHI Virtual Expeditions

- **From Consultation to Integration: Addressing Behavioral Health in the Hospital**
  - Begins April 19
- **Improving Transitions to Post-Acute Care Settings**
  - Begins April 27
- **Understanding and Improving Safety Culture**
  - Begins May 25
- **Practical Strategies for Managing Successful Improvement Projects**
  - June 13

Have an idea or request for an Expedition topic? Email me at cwarchal@ihi.org

http://www.ihi.org/expeditions

Free Passport Informational Call
May 8, 12:00 PM ET

Join the upcoming free informational call about Passport to IHI Training. During the 30-minute call, you’ll learn how this organizational membership brings measurable gains to your team’s quality improvement journey through free IHI Virtual Expeditions and discounted conferences, including the IHI National Forum.

Register at www.ihi.org/passport
Reach out to passport@ihi.org with any questions
Thank You!

Please let us know if you have any questions or feedback following today’s Expedition webinar.

Jill Duncan  
jduncan@ihi.org  

Catherine Warchal  
cwarchal@IHI.org