Identify True Cost and Create Value for Patients

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Disclosures

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Faculty, Institute for Healthcare Improvement
Founder, GoShadow LLC
President, AMD3 Foundation (not-for-profit)
Why Change?

The existing deficiencies in health care cannot be corrected simply by supplying more personnel, more facilities and more money. These problems can only be solved by organizing the personnel, facilities and financing into a conceptual framework and operating system that will provide optimally for the health needs of the population.

Dr. Robert Ebert
Founder, Harvard Community Health Plan, 1965
CMS – The Comprehensive Care for Joint Replacement (CJR) Model

• Started 4/1/16
• Episode: 90 days
• Hospital Centered
• Shared Benefits (and Risks)

The PUSH Bundling

• 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

Experiences

Outcomes and Health

True Cost

The Experience Based Design Sciences

• Designing services, interactions, processes and environments for the complete experience
• Making it better for the end user
• Strength: Implementation

Experience-Based Design: From Redesigning the System Around the Patient to Co-Designing Services with the Patient by Bate and Robert, Quality Safety Health Care 2006;15:307-310
Aligns the Catalyst for Change with Our Mission

3 Keys to Achieve Value

1. View All Care Through the Eyes of Patients and Families
2. Co-Design
3. Implementation and Teams
I. Shadowing

- Shadowing is repeated **real-time** observations of patients and families as they move through each step of their healthcare journey
- Shadow the “system”
Shadowing

• Determines Your Current State
• Identify Care Pathways and **Implementation Teams**
• Continuously Engages Patients, Families and Care Providers in Real Time Co-Design

Shadowing is Eye Opening

“We watch what people do (and do not do) and listen to what they say (and do not say). The easiest thing about the search for insight – in contrast to the search for hard data – **is that it’s everywhere and it’s free...**

…This enlightened perception reveals the **experience**, not just the process.”

– Tim Brown

*Change by Design*
Why Shadowing Matters

Dr. Hiro Tanaka
Consultant Orthopaedic Surgeon
Aneurin Bevan University Health Board
Wales

Shadowing:
Connecting with Patients and Families

EMPATHY

SHADOWING

INSIGHTS

AHA!

URGENT CHANGE STARTS NOW
GoShadow for Process Improvement

• Time studies
• Variations
• Coordination
• Inefficiencies/Redundancies

Who Can Shadow?.....Anyone!

• Care Providers
• Volunteers
• Patient Advocates
• Health Profession Students
• YOU!
GoShadow: Merge Technology with Process Improvement

iOS App Collection Tool

Cloud-based Collaboration Platform

GoShadow: Automatically Generated Reports

• Care Process Maps
• Time Studies
• Opportunity Reports
• Patients’ Stories
II. Process Improvement and the PFCC Methodology

1. Define Care Experience
2. Guiding Council
3. Shadow, Current State, Urgency
4. Working Group thru Touchpoints
5. Shared Vision of the Ideal Experience
6. PFCC Project Teams Close the Gap

www.mypfcc.org

@ UPMC

70+ Care Experience Working Groups

- Home Health Experience
- Mental Health
- Dental
- ER Registration
- Life After Wt Loss
- ENT Experience
- Imaging
- Urgent Care
- Communication in Ambulatory
- OP Surgery
- Urology/Gynecology
- Cancer Treatment
- Emergency Dept
- Ortho

www.PFCC.org/Annual-Reports
Community of Practice

United States: 27    International: 7

Volume to Value

Outcomes
(Important to Patients)

Value = Cost
Who Defines Value?

• Patients and Families are the only way or us to understand and deliver value

• **Value** for End Users Results in **Value** for Care Providers and Hospitals

Numerator = Patient Reported Outcomes (PRO’s)

• Any report of the status of a patient's health condition that comes directly from the patient, *without* interpretation of the patient's response by a clinician or anyone else. - *National Quality Forum*

Independent Assessment of Physical, Mental and Social Well-Being
What Matters To You?

• Learn What Patients and Families Care About
• Co-Design

What Matters To YOU?

- Dignity
- Care Coordination
- Respect
- Comfort
- Shared Decisions
- Quality
- Affordable
- Clean, welcoming environments
- Safety
- Family Involvement
- Access to providers
- Emotional Support
- Courtesy
- Communication
- Information
- Convenience
What Matters To You?

<table>
<thead>
<tr>
<th>Category</th>
<th>Pre-op</th>
<th>Post-op</th>
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<tbody>
<tr>
<td>Surgical Results</td>
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<tr>
<td>Quality of Life</td>
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<tr>
<td>Reduction in Pain</td>
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<td>Quality of Care/Staff</td>
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<td>Education</td>
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</tr>
<tr>
<td>Environment</td>
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<td>5.8</td>
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</tbody>
</table>

Mean


Denominator = True Cost

Outcomes (Important to Patients)

Value = Cost
Real Costs…
Not Charges or Reimbursements

Hospital Charges
$89,104

Total Joint Replacement

Insurance Company

$26,696
Hospital Reimbursement

Patient
$100

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
Follow the Patient!

What is the total # of provider categories?

Determine the Actual Costs for TJR Over a Four Month Bundle
Where to Start?

Where to Start?

Shadowing
III. True Cost Tool

- Shadowing + TDABC
- People, places, processes and consumables used for the full cycle of care

True Cost Tool

1. Shadow the Care Segments
2. Develop Process Maps
3. Calculate Costs
1. **Shadow the Care Segments**

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

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

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

   - **PACU**
     - 4: PACU

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

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

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

2. **Develop True Cost 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)
True Cost Map
Pre-op Testing Segment

Calculate Costs

Clinical Side × Financial Side

Minutes used Cost per minute

= $/Resource
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)

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

<table>
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<th>THR</th>
<th>TKR</th>
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<tr>
<td>40%</td>
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# Refocusing Resources

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<td>7% THR</td>
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<td>2%</td>
<td>17% TKR</td>
<td>2%</td>
<td>3% TKR</td>
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<tr>
<td>1% TKR</td>
<td>7% THR</td>
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<td>2%</td>
<td>17% TKR</td>
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<table>
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<tr>
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<th>THR</th>
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</tr>
<tr>
<td>19%</td>
<td>15%</td>
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## 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

![Thermometer](Image)

$
New Patient Office Visit

Personnel Capacity Rate ($/min)
Total # of Personnel = 46 Categories

<table>
<thead>
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<th>Personnel Capacity Rate ($/min)</th>
<th>Total # of Personnel = 46 Categories</th>
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<td>Anesthesiologist</td>
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Total Personnel Cost

Time From the Patient’s Perspective

1 Month Pre and 3 Months Post Surgery

Actual Patient

Care Experience

92 Hours ~3.8 Days

104 Hours ~4.3 Days

*All cost data has been disguised
Identify Cost Drivers and Begin Process Improvement Projects

- 12 Month Collaborative
- 32 Organizations
- Implant Costs – 4x Variation
- Types of Anesthesia: General vs. Spinal ± Intrathecal Morphine vs. Nerve Blocks
- OR Time: 31 to 155 mins

Total Joint Replacement Learning Community

High Impact Variation
Inpatient vs. Outpatient TJR

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

Breast Imaging True Cost Project (Check In to Check Out)

CMS reimburses $165 for 2D bilateral mammogram
Building the business case for coverage
Population health management will deliver higher value and preserve the patient at the center, which is really what we are all about.

– David Nash, MD, MBA


The Patient Centered Value System and Population Health

- Identifying patients’ needs is crucial
- Grassroots team development
- Co-design with the community
Patient and Family Activation

• Patient's knowledge, skills, ability and willingness to manage their own health and care
• Improves clinical outcomes

“Reversible Co-Morbidities”

• Weight No More
• Blues No More
• Smoking Cessation
Population Health: Food Delivery Systems

• Bringing healthy food to those in need
• 4 communities/65 families
• Shadowing the process
  – Efficiency and flow
  – Optimize resources

Deliver Value by Design With The Patient Centered Value System

Experiences

Outcomes and Health

True Cost
Merging the Art and Science of Improvement

Sign up at: myPFCC.org