When Better Care is a Less Expensive Care

Utvecklingskraft
9 May 2012

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&
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Aims

• In this session, we will look at care across the continuum and participants will be able to:
  ─ Define linkages between cost and quality
  ─ Design tests of new models to produce better health and better outcomes at a lower cost
  ─ Create a learning plan to dive more deeply into the changes needed to produce the Triple Aim
The Problem

• In the US, we spend over $2.7 trillion per year on health care

• Over 75% is spend on chronic disease management

• And all of our chronic diseases are getting worse
The Problem

• In the UK and across other countries in Europe, the same 70% of health care budgets are going to chronic disease care

• Diabetes, cardiac disease, and obesity are expected to increase by 50% by 2035

• The “burden of the illness” in these diseases is 24/7 and requires a new way to look at the “burden of the treatment,” including designs and costs
Obesity Trends* Among U.S. Adults
BRFSS, 2010
(*BMI ≥30, or ~ 30 lbs. overweight for 5’ 4” person)

Source: Behavioral Risk Factor Surveillance System, CDC.
Not Just an American Problem

THE GLOBAL OBESITY PROBLEM

Obese adults in population %
- 30 – 40%
- 20 – 30%
- 10 – 20%
- 5 – 10%
- 0 – 5%
- No data

An obese adult is classified as having a Body Mass Index equal to or greater than 30

SOURCE: World Health Organization, 2005
Prevalence estimates of diabetes, 2025

SOURCE: DIABETES ATLAS THIRD EDITION, © INTERNATIONAL DIABETES FEDERATION, 2006
Health Care Spenders and Costs

The **top 1%** of spenders accounts for **21.8%** of the costs

The **next 4%** account for **28.2%** of the costs

The **bottom 50%** account for just **3%** of the costs

Where Are We?

Technical Leadership:
- Problem solving through expertise

Transforming the Organization
- Adaptive Leadership
  - New beliefs & behaviors
  - New relationships
  - New customers

Models

<table>
<thead>
<tr>
<th>Clinical Model</th>
<th>Episodic Care</th>
<th>Coordinated Care</th>
<th>Population Directed Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Model</td>
<td>Fee for Service</td>
<td>Bundled Payment/Capitation</td>
<td>Disruptive Innovation?</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Segmented</td>
<td>Integrated</td>
<td>Cloud</td>
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</tbody>
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Adapted from *The Second Curve*, Ian Morrison 1996
Thriving on the First Curve

Build widespread improvement capability
- Leadership
- Middle management
- Front-line teams
- Integrated clinical teams

Work on Safety
- Reduce medical errors and harm
- Eliminate “never events”
- Work on preventable admissions and readmissions

Engage members/patients and families
- Ensure access
- Design for continuous care
- Improve patient engagement and satisfaction

Improve efficiency
- Reduce artificial variation (LOS, use rates, readmissions, etc.)
- Eliminate “flow faults”
- Set a goal of reducing waste by 1-3% of operating expense budget for 1 year, year on year
Thriving on the Second Curve

Leadership and capability
- Build innovation capability and set aims
- Analyze key areas for design (population segments, geographic areas)
- Identifying “light green potential” & translating to “dark green dollars”

Work on spread
- Ensure best practices and results everywhere

New partnerships
- Payer “deep dive” such as “marketplace collaboratives”
- Build on ABCD or community organizing skills

New designs
- Coordinated care for frail, older population
- Triple Aim designs for the sickest
- The “year of care” for the well 50%
Thriving on the Third Curve

Leadership
- Redesigning the workplace to optimize teamwork
- Engage the community (ABCD and organizing)

Optimize health and care skills with the community
- Shared decision making
- Move from “What’s the matter?” to “What matters to you?”
- Real goal-setting

Innovate for technology integration
- Optimize the use of technology, the patients' perspective and use of data, and other technologies
The IHI TripleAim

Health of a Population

Experience of Care

Per Capita Cost
Michael Porter’s Thinking

- Disutility of a primary care model with an incredibly diverse patient mix
- Challenges of managing excellent clinical care with the latest evidence in the face of heterogeneity
- Chaos of daily life for clinicians
Joanne Lynn’s Thinking

• “Bridges to Health Model”
  — Splits populations into 8 segments
    1. Healthy
    2. Maternal-infant health
    3. Acutely ill, likely to return to health
    4. Chronic conditions with normal daily function
    5. Serious relatively stable disability
    6. Short decline to death
    7. Repeated exacerbations, organ system failure
    8. Multi-factor frailty, with or without dementia

Mayo Clinic’s Thinking

• “Minimally Disruptive Medicine”
  —optimize the balance between workload and capacity.
  —Having conversations with the patient, understanding patients (not just their diseases) and their lives, is what constitutes truly patient-centered care.
  —Over 50% of patients are “non adherent” to medication prescriptions worldwide.

Source: May C, Montori V, Mair F. “We need minimally disruptive medicine.” *BMJ* 2009; 339:b2803
Medication Choice Cards

**Other Cards**
- Low Blood Sugar (hypoglycemia)
- Blood Sugar (A1c Reduction)
- Side Effects
- Daily Routine
- Daily Sugar Testing
IHI’s Thinking on the Paths to the Triple Aim

• Southcentral Foundation’s Nuka Model of Care (Doug Eby)

• Henry Ford Health System

• University of Pittsburgh Medical Center’s Patient- and Family Centered Care model (Tony DiGioia)

• “Marketplace Collaboratives”
Experience of Care

Health of a Population

Per Capita Cost

The IHI Triple Aim
Southcentral Foundation
Anchorage, Alaska

- “Nuka” – Alaskan word for strong, giant structures and living things.
  - Also the name for the health care model that transformed the system from health care transactions for patients to a healthy system with the population
So, Our Choice to Redesign

- The Alaska Native people were given control of the system and we chose to assume the responsibility to rethink our own health care
  - Total Redesign - Change everything
  - Keep the best of Modern Medicine
  - Change the basis to Alaska Native Values and Wisdom of the Elders
  - Put the Customer-Owner in control at all levels
  - Relationship optimization at core of services and mgmt
Customer Focus (Relationships)

- Elder Council
- Traditional Healing Council
- Personal interaction with employees
- Employee friends and relatives
- Comment cards
- Customer Satisfaction surveys
- SCF internet
- Annual Gathering
- Customer Service Reps
- 24-hour hotline
- Community Gatherings for listening
- Customer-Owner Governing board
- Advisory committees and councils - many
- Focus groups
Workforce Focus (Relationships)

- Core Concepts – Everyone learns communication, problem solving, team building, giving and receiving story
- Hiring Practices – Same Day hires, group interviewing and hiring, behavioral based interviewing, onboarding, mentors
- Learning and development – mentors, job progressions, career ladders, Development Center, annual skill reviews
- The Shape You Are In, Five Dynamics, CDR and leadership development – deep understanding of self and others
- Role of managers in the work environment - relationships
- Employee Wellness – big priority
Operations Focus (Relationships)

- Facilities and work areas – open offices, team environments, de-officing of managers, respectful customer-owner areas, talking rooms, etc, etc.
- Improvement model – Team, Improvement Advisors and Specialists, Rapid cycle tests of change
- Design of our work processes
  - Team based
  - Customer-owner in control
  - Operational principles
Family Wellness Warriors Initiative (Relationships)

Goal: To end Domestic Violence Child Sexual Abuse and Child Neglect in this generation

Use of story and relationships to break the cycles of violence and neglect

Understand violence and neglect as symptoms of a family system with broken relationships – and heal the individual by healing the family system

Objectives: Call out the Warriors, Methods to counter and break the silence, Restructure systems, Establish safe adults and environments, Enhance existing resources and develop collaborations
Some Programs (Relationships)

- **Elder Program**
  - Healthy Elders through supportive gathering, activities, sharing, caring - relationships

- **Pathway Home**
  - Recovering youth through development of community, healthy relationships, personal and group responsibility

- **RAISE**
  - Youth internships emphasizing team, group, learning, responsibility, skills – within SCF Nuka System of Care (relationships)

- **Dena-A-Coy**
  - Residential treatment for pregnant women to return to healthy relationship with self, family, pregnancy, newborn infant.
Some Programs (Relationships)

- **Nutaqsiivik**
  - Two year partnering in intensive personal relationship between SCF staff and new mothers with infants

- **Quyana Clubhouse**
  - Long term personal relationships with individuals with limited cognitive capabilities and mental health challenges to support healthy living

- **Primary Care**
  - Complete rethinking of what our roles are – everyone – in the integrated care team environment where trusting, accountable, long-term, personal relationships are the core service delivered – with full same-day access – and the whole person and family are supported.
Why listen to our story

- Evidenced-based generational change reducing family violence
- 50% drop in Urgent Care and ER utilization
- 53% drop in Hospital Admissions
- 65% drop in specialist utilization
- 20% drop in primary care utilization
- 75-90%ile on most HEDIS outcomes and quality
- Childhood immunization rate of 93%
- Over 50% of Diabetics with HbA1c below 7%
- Employee Turnover rate less than 12% annualized (very low)
- Customer and staff overall satisfaction over 90%
- In an urban Alaska Native community with huge challenges
- Sustained for over a decade and continually improving
- Very long list of external recognitions – Baldrige Award now
Per Capita Expenditures

Cumulative Per Capita Expenditures
Relative % Change with 2004 as Baseline

- SCF Cumulative Primary Care
- SCF Cumulative Hospital Services
- MGMA Cumulative Increase (Multi Specialty Cost)
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• **Henry Ford Health System**

• University of Pittsburgh Medical Center’s Patient- and Family Centered Care model (Tony DiGioia)

• “Marketplace Collaboratives”
### Henry Ford Health System

#### Total Harm-Associated Costs 2009*

<table>
<thead>
<tr>
<th>Harm Issue</th>
<th>Total Associated Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure Ulcer stage 2 or higher</td>
<td>$10,624,410</td>
</tr>
<tr>
<td>Coded Procedural Complication ICD9 (998-999.99)</td>
<td>$7,670,520</td>
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<tr>
<td>UTI using coded data and AHRQ definition.</td>
<td>$5,662,895</td>
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<tr>
<td>Glucose below 40</td>
<td>$3,846,375</td>
</tr>
<tr>
<td>Coded Acute Renal failure</td>
<td>$2,665,680</td>
</tr>
<tr>
<td>Coded DVT/PE in both medical and surgical patients</td>
<td>$2,365,470</td>
</tr>
<tr>
<td>No Pulse Blue Alert</td>
<td>$1,535,808</td>
</tr>
<tr>
<td>Coded Medication issue</td>
<td>$1,216,078</td>
</tr>
<tr>
<td>Clostridium difficile infection</td>
<td>$824,544</td>
</tr>
<tr>
<td>Reported Fall with injury</td>
<td>$696,527</td>
</tr>
<tr>
<td>Bloodstream Infections using NHSN criteria</td>
<td>$640,000</td>
</tr>
<tr>
<td>Coded Pneumothorax using AHRQ definition</td>
<td>$340,260</td>
</tr>
<tr>
<td>SSI using NHSN criteria</td>
<td>$280,000</td>
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<tr>
<td>VAP using NHSN criteria</td>
<td>$190,352</td>
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</tbody>
</table>

*Henry Ford Hospital Only*
The IHI *Triple Aim*

- Health of a Population
- Per Capita Cost
- Experience of Care
IHI’s Thinking on the Paths to the Triple Aim

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- Henry Ford Health System
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- “Marketplace Collaboratives”
Dr. Anthony M. DiGioia III, orthopedic surgeon and developer of the patient- and family-centered care program for UPMC, in his office at Magee-Womens Hospital in Oakland.
A Case Study From University of Pittsburgh Medical Center (UPMC)

• Aims in redesigning care for patients undergoing total joint replacement
  1. Patient and family education
  2. Less invasive techniques
  3. Multimodal anesthesia and pain management techniques
  4. Rapid rehabilitation protocols
  5. Rapid outcomes feedback (from the patients’ and the providers’ perspectives)
  6. Creating a learning environment and culture
  7. Developing a sense of community, competition and teamwork among patients and between patients, caregivers and staff
  8. Promoting a wellness (rather than sickness) approach to recovery

Results

• Safe:
  — Mortality rate: 0%
  — Infection rates: 0.3% (0.2% for TKA and 0.7% for THA)
  — Zero dislocations
  — SCIP compliance: 98% for antibiotics within one hour of surgery
Results

• Effective:
  ─ 95% of patients discharged without handheld assistance directly to home (national rates: 23-29%)
  ─ 99% of patients reported that pain was not an impediment to physical therapy, including same-day-of-surgery physical therapy

Results

• Patient-centered:
  — Press-Ganey mean satisfaction score is 91.4% (99th national percentile ranking) with 99.7% positive responses to “Would you refer family and/or friends?”

• Efficient:
  — Average length of stay:
    ➢ 2.8 days for TKA (national average is 3.9 days)
    ➢ 2.7 days for THA (national average is 5.0 days)
  — One MD able to perform 8 joint replacements before 2:00pm
Other PFCC Projects at UPMC

• Day of Surgery (UPMC Presbyterian)
• Human Resources – The New Hire Experience (UPMC Corporate)
• Trauma (UPMC Presbyterian)
• Wayfinding / Lobby (Magee-Women’s Hospital)
• Rheumatology (Children’s Hospital of Pittsburgh)
• Minimally Invasive Bariatric and General Surgery (Magee-Women’s Hospital)
• Home Health Rehabilitation (Jefferson Regional)
Experience of Care

Per Capita Cost

Health of a Population

The IHI Triple Aim
Choosing Wisely

• Focused on encouraging physicians, patients and other health care stakeholders to think and talk about medical tests and procedures that may be unnecessary, and in some instances can cause harm.

• Evidence-based recommendations that should be discussed to help make wise decisions about the most appropriate care based on a patients’ individual situation.
1. Don't obtain screening exercise electrocardiogram testing in individuals who are asymptomatic and at low risk for coronary heart disease.
In asymptomatic individuals at low risk for coronary heart disease (10-year risk <10%) screening for coronary heart disease with exercise electrocardiography does not improve patient outcomes.

2. Don't obtain Imaging studies in patients with non-specific low back pain.
In patients with back pain that cannot be attributed to a specific disease or spinal abnormality following a history and physical examination (e.g., non-specific low back pain, imaging with plain radiography, computed tomography (CT) scan, or magnetic resonance imaging (MRI)) does not improve patient outcomes.

3. In the evaluation of simple syncope and a normal neurological examination, don’t obtain brain imaging studies (CT or MRI).
In patients with witnessed syncope but with no suggestion of seizure and no report of other neurologic symptoms or signs, the likelihood of a central nervous system (CNS) cause of the event is extremely low and patient outcomes are not improved with brain imaging studies.

4. In patients with low pretest probability of venous thromboembolism (VTE), obtain a high-sensitive D-dimer measurement as the initial diagnostic test; don’t obtain Imaging studies as the initial diagnostic test.
In patients with low pretest probability of VTE as defined by the Wells prediction rules, a negative high-sensitivity D-dimer measurement effectively excludes VTE and the need for further imaging studies.

5. Don’t obtain preoperative chest radiography in the absence of a clinical suspicion for intrathoracic pathology.
In the absence of cardiopulmonary symptoms, preoperative chest radiography rarely provides any meaningful changes in management or improved patient outcomes.
IHI’s Thinking on the Paths to the Triple Aim

• Southcentral Foundation’s Nuka Model of Care (Doug Eby)

• Henry Ford Health System

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• “Marketplace Collaboratives”
A Marketplace Collaborative

• Think differently about who the “population” is and who the customers are
  – Not just the patients…also the employers who pay the bills

• Principles:
  1. Focus on customers’ highest costs
  2. Adopt customers’ definition of quality, including health and work
  3. Create evidence-based clinical value streams
  4. Employ systems engineering tools (e.g., value-stream mapping) to remove waste
  5. Use a cost reduction business model
• Purchasers should use their power, as they do in their own businesses, to demand and drive quality.

• They should pay for high-quality care, and only high-quality care.

• 5 dimensions of high quality care:
  1. Evidence-based care
  2. 100 percent patient satisfaction
  3. Same-day access
  4. Rapid return to function and health
  5. Affordable cost for both providers and employers
Results

As of March 11, 2011, the collaborative resulted in:

- Use of evidence-based medicine: 96 percent
- Patient satisfaction: 98 percent
- Same-day access: 98 percent
- Rapid return to function: 100 percent
- Apparent savings of 10 to 30 percent for participating patients (compared to those who did not participate)
# Planning Matrix I

<table>
<thead>
<tr>
<th>Patient Populations</th>
<th>Where do we stand?</th>
<th>Priority for improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highest risk patients and families</td>
<td></td>
<td></td>
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<tr>
<td>Maternal and neonatal care</td>
<td></td>
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<tr>
<td>Care for patients at the end of life</td>
<td></td>
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<tr>
<td>Patients with elective procedures</td>
<td></td>
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<tr>
<td>Patients with chronic illness and prevention needs</td>
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</table>
### Planning Matrix II

<table>
<thead>
<tr>
<th>Where do we stand?</th>
<th>Priority for improvement</th>
<th>Potential cost savings</th>
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</thead>
<tbody>
<tr>
<td>Access problems and delays</td>
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</tr>
<tr>
<td>Medication non-adherence</td>
<td></td>
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<tr>
<td><strong>Complications</strong></td>
<td></td>
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<tr>
<td>• Pressure Ulcer stage 2 or higher</td>
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<td></td>
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<td></td>
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<tr>
<td>• Medication error or near miss</td>
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<td>• Pneumothorax</td>
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<tr>
<td>• Surgical Site Infection</td>
<td></td>
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<tr>
<td>• Ventilator-Associated Pneumonia</td>
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</tbody>
</table>

**Complications and harm**

Where do we stand?
**Planning Matrix III**

**Driver Diagram**

**Primary Drivers**

1. Matching Capacity to Demand
2. Clinical Quality
3. Production System Design
4. Engagement at all Levels
6. Value Based Purchasing
7. Appropriate Utilization & Maximization of Technology
8. Culture of System Thinking and Improvement
9. Market Forces

**Secondary Drivers**

1. Access
   - Flow
   - Utilization of Appropriate Resources
2. Best Practices
   - Clinical Handoffs
   - Service Agreements
   - Reduction of Variation
3. Platform Characteristics – Maximize Commonality
   - Drive Customer Distinctive Features
4. Real-time Intervention
   - Resource Development
   - Productivity Management
   - Accountability at all Levels
5. Matching Talent
   - Development
   - Push to Highest Level - Skill
6. Reduce Variation
   - Match Need to Right Product
   - Effectiveness of Product/Technology
7. Process Design
8. Upstream/Downstream Impact

**Possible Projects / Impact**

1. Increase Access
   - Flow
   - Utilization of Appropriate Resources
2. Best Practices
   - Clinical Handoffs
   - Service Agreements
   - Reduction of Variation
3. Platform Characteristics – Maximize Commonality
   - Drive Customer Distinctive Features
4. Real-time Intervention
   - Resource Development
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   - Push to Highest Level - Skill
6. Reduce Variation
   - Match Need to Right Product
   - Effectiveness of Product/Technology
7. Process Design
8. Upstream/Downstream Impact
9. Financing Model
   - Customer Expectation

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**Efficiency:**

Decrease operating expense budget by 1-3%
Design Principles for Connecting Cost to Care and Quality

- Segment your populations so that you can optimize designs
- Create design teams for one of the key segments
- For each population, “shadow” to see the system of care over an entire episode (acute) or a period of time (chronic)
- Create “sane” schedules in ambulatory settings to smooth flow and ensure the right care for the right patient at the right time
Design Principles for Connecting Cost to Care and Quality

• Conduct a “waste walk” using IHI Waste Identification Tool

http://www.ihi.org/IHI/Topics/Improvement/ImprovementMethods/Tools/HospitalInptWasteIDTool.htm
Design Principles for Connecting Cost to Care and Quality

- Use the planning matrices to organize your work
- Consult the Choosing Wisely agenda and select one area for pilot work
- Engage the finance leaders in assessing impact
Resources

- *Increasing Efficiency and Enhancing Value in Health Care: Ways to Achieve Savings in Operating Costs per Year* (IHI Innovation Series white paper)
  

- PFCC Partners @ The Innovation Center of UPMC
  

- Choosing Wisely (ABIM)
  
  [http://choosingwisely.org/](http://choosingwisely.org/)

- Contact Kathy Luther – IHI’s lead on linking cost and quality
  
  kluther@ihi.org
Tack!

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