

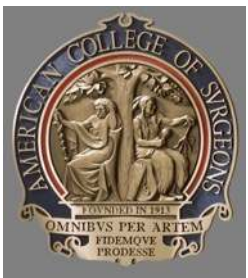
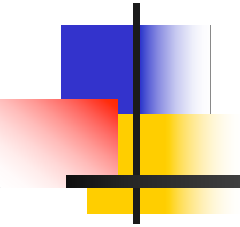
# The value expression

Frank Opelka, MD FACS

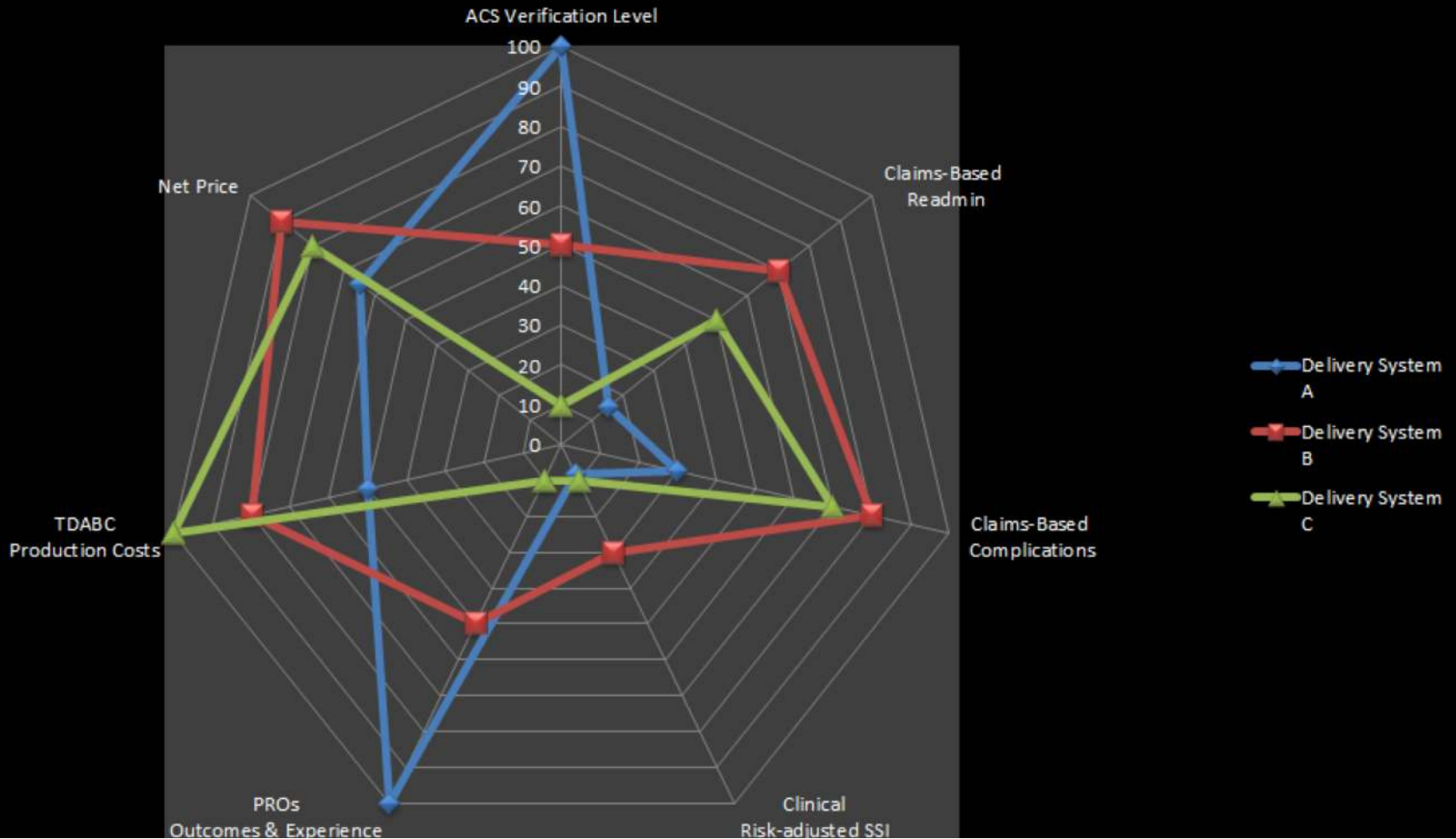
Medical Director

Quality and Health Policy

American College of Surgeons

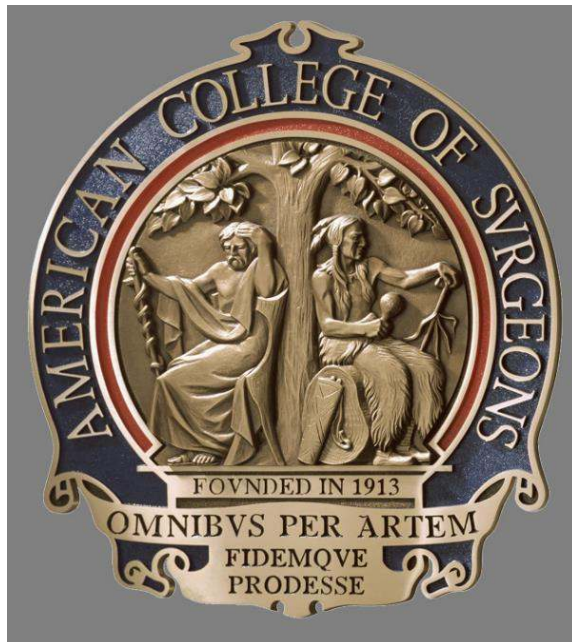


# A Value Expression (Mock-up)



# T.H.R.I.V.E.

*Transforming **H**ealthcare **R**esults by  
Investing in **V**alue & **E**xcellence*



HARVARD | BUSINESS | SCHOOL

**INSTITUTE FOR STRATEGY & COMPETITIVENESS**

*A collaborative to promote solutions  
For value-based healthcare*



INSTITUTE FOR STRATEGY & COMPETITIVENESS

# Key Concepts

THERE ARE SIX MAJOR ELEMENTS THAT ARE NECESSARY IN A TRULY VALUE-BASED SYSTEM

1

**Organize Care Around Medical Conditions** →

Care delivery is organized around patients' medical conditions. In primary care, it is structured around population segments with differing primary care needs, such as healthy adults, patients with chronic illnesses, and lower income elderly.

2

**Measure Outcomes & Cost for Every Patient** →

Outcomes and cost are measured for every patient.

3

**Aligning Reimbursement with Value** →

Reimbursement models that reward both better outcomes and efficiency of care, such as bundled payments.

4

**Systems Integration** →

Regional delivery of care organized around matching the correct provider, treatment, and setting.

5

**Geography of Care** →

National centers of excellence providing care for exceedingly complex patients.

6

**Information Technology** →

An information technology system designed to support the major elements of the agenda.



# Transformation to Bundles

## Building the infrastructure

---

- **Care model**— built on well structured teams, not fragmented fee for service cobbled loosely together
- **Business model** — resources as one unit with the right staff, equipment, site of service
- **Payment model** — price based on cost from data driven production costs to deliver the care & move retrospective to prospective payment
- **Compensation model** — aligned around patient outcomes, not RVUs
- **Data model** — dashboards to inform team, patients and payers for quality, efficiency and cost



# Transformation to Bundles

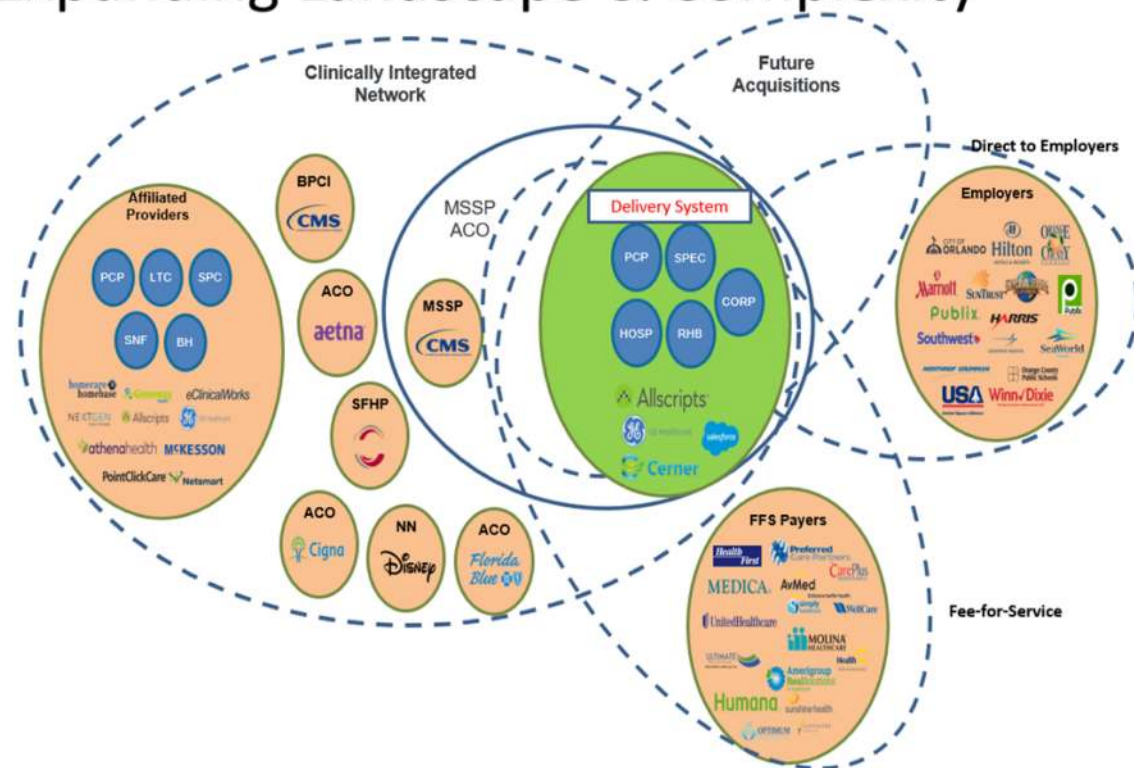
## Building the infrastructure

---

- **Care model**— Modern day care pathway redesigns for a team and structured around the ACS Redbook with Redbook verification surveys
- **Business model** — Commitment from the C-suite and management to support the optimal care model and data infrastructure
- **Payment model** — Bundled pricing with two-sided, asymmetric risk
- **Compensation model** — Share accountability for patient outcomes drive more than minimal compensation (30-50%)
- **Data model** — Registries, patient-clouds with interoperability solutions, episode-based dashboards with supporting knowledge artifacts

Medicine once a cottage industry has become a complex enterprise.

## Typical Delivery System Reality: Expanding Landscape & Complexity





Current State:

Care becomes fragmented with multiple clinicians and different Tax IDs (businesses) providing distinct services, without coordination, across the care continuum.



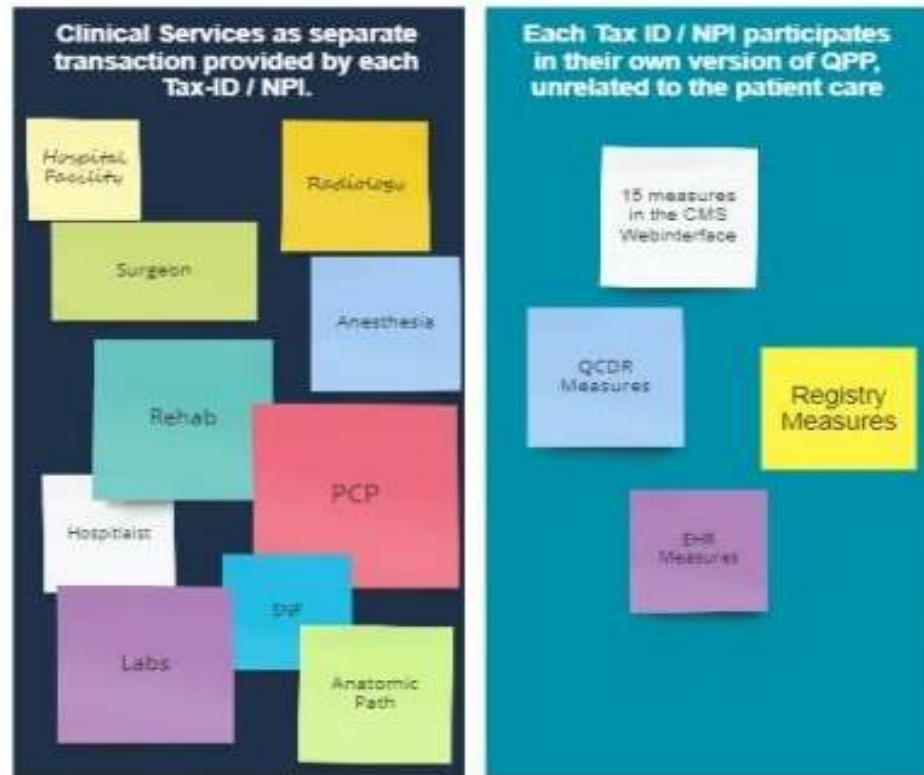
The Result:

Care models often lack an organized team surrounding a patient as an integrated practice unit or episode.



## Current State

Each clinical entity has their own means for reporting quality metrics, often unrelated to the patient undergoing care.



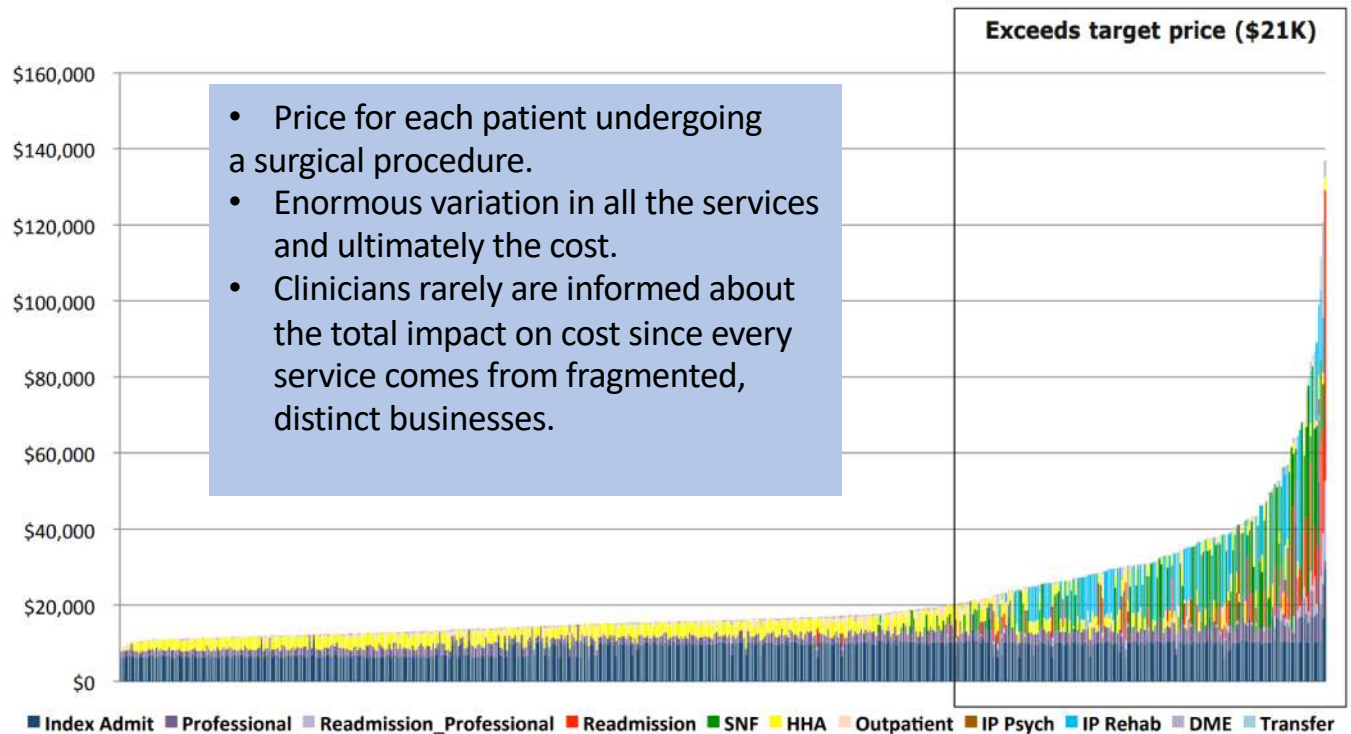
## The Result:

The metrics cannot be aggregated to inform patients or clinicians about the quality or cost of care for a patient.



## A Mystery

Understanding cost of care for the services a patient consumes are a mystery for patients and for clinicians.



## Current State

Do patients  
know where to  
find high quality,  
optimal &  
affordable care?



## The impact :

Care is highly fragmented.  
Overly wasteful of resources.  
Without episode-based quality.  
Lack costs transparency.  
Resulting in a healthcare system  
which is has unknown value,  
unaffordable and unsustainable.



A large number of dark grey spheres are arranged in a grid-like pattern. One sphere in the upper-middle section is glowing with a bright blue light, making it stand out from the others.

*Transformative solutions begin with disruptive ideas and partners willing to advance pilots for testing.*



AMERICAN COLLEGE OF SURGEONS

Inspiring Quality.  
Highest Standards. Better Outcomes

100years

# ACS: 100+ Years of Value Improvement



Minimum Standard for Hospitals  
1917



Committee on Trauma  
1950



1988



2004



2008



2013

1913



1922



1951



1998



2005



2012



2016



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Highest Standards, Better Outcomes.*



# Four Guiding Principles of Continuous Quality Improvement

## 1. Standards

- Individualized by patient
- Backed by research

## 3. Rigorous Data

- From medical charts
- Backed by research
- Post-discharge tracking
- Continuously updated

## 2. Right Infrastructure

- Staffing levels
- Specialists
- Equipment
- Checklists

## 4. Verification

- External peer-review
- Creates public assurance

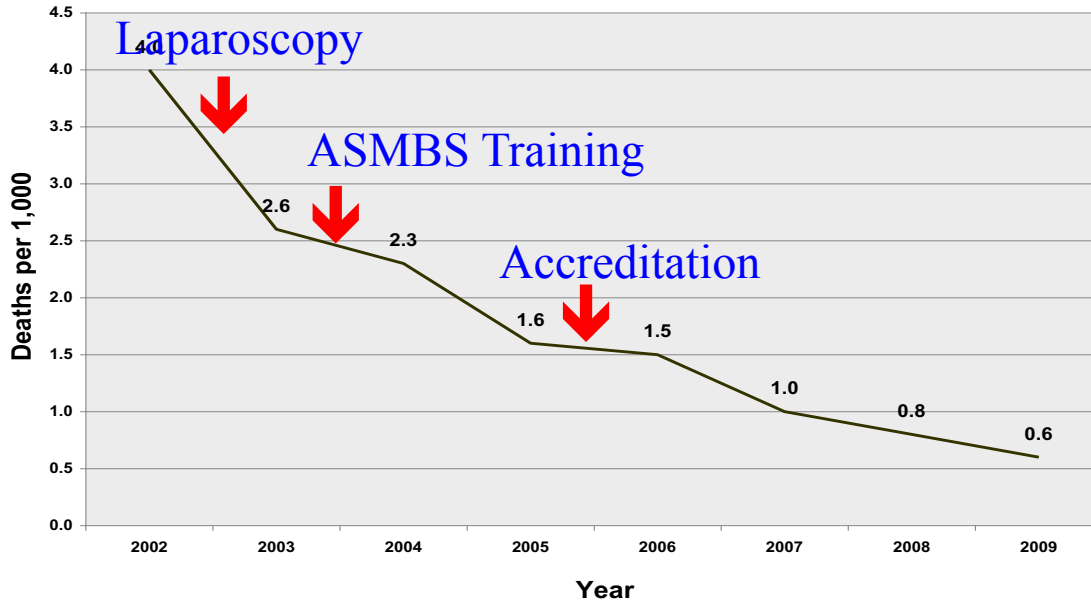


AMERICAN COLLEGE OF SURGEONS

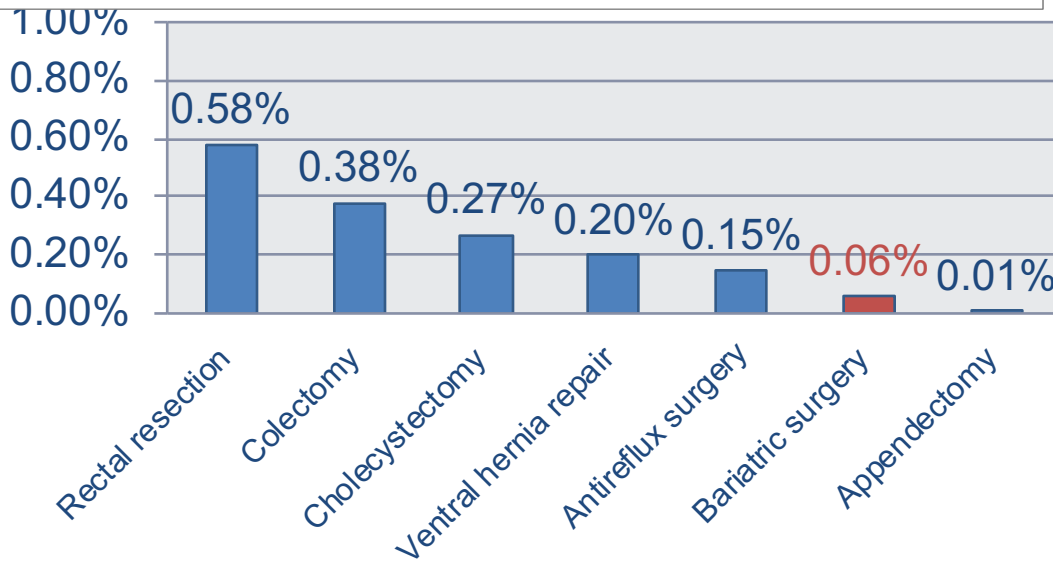
*Inspiring Quality.  
Highest Standards, Better Outcomes.*



**Bariatric Surgery In-hospital Mortality by Year 2002-2009**  
(N = 105,287)

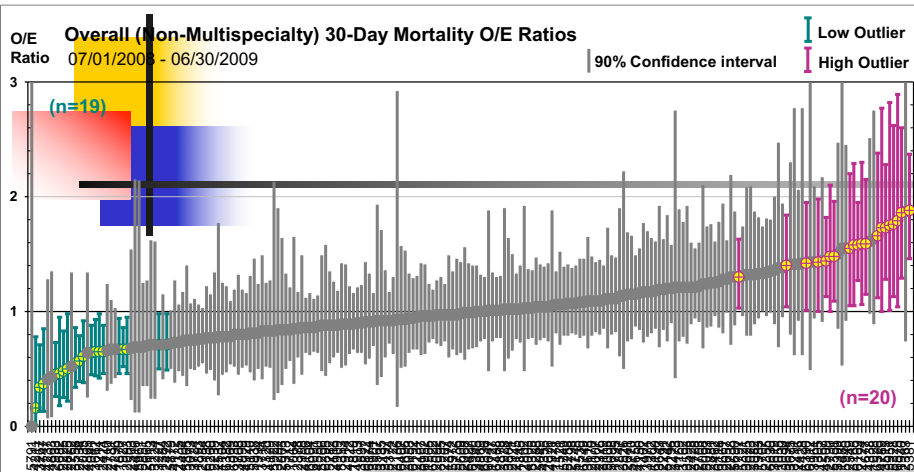


**In-hospital mortality rate**



**General surgical operations, 2008-2012**

# Measuring Outcomes Matters



82%

OF HOSPITALS DECREASED  
COMPLICATIONS

66%

OF HOSPITALS  
DECREASED MORTALITY

250-500

COMPLICATIONS PREVENTED  
ANNUALLY PER HOSPITAL

Lower Costs

ACS National Surgical Quality Improvement Program

Higher Quality Care

We've found common ground for health care reform.

Our National Surgical Quality Improvement Program prevented 250-500 complications per year, per hospital. Improving care – and reducing costs. You can do both.

The ACS National Surgical Quality Improvement Program – a national effort to improve surgical care and cut costs run by the American College of Surgeons – is helping to prevent thousands of surgical complications each year, according to a just-released study of 118 hospitals.

It's proof that, with the right approaches, we can improve both the quality of patient care and, at the same time, reduce and even eliminate many health care costs.

The hospitals experienced a reduction of 250-500 complications per hospital, per year. If these methods were used in every hospital in the nation, we could reduce health care costs by \$13 to \$25 billion every year, or \$130 to \$250 billion over the next decade – and help literally millions of patients avoid preventable complications.

So let's stop focusing on the issues that divide us, and work together to make sure Congress rewards providers who deliver better care at lower costs, by using measures like these.

Learn more about the ACS NSQIP program at [acsquality.org](http://acsquality.org)

# Collaboration Improves Care

**TENNESSEE**  
Surgical Quality Collaborative

Existing User Login  
User ID:   
Password:   
PIN:

**Building Relationships.....Improving Outcomes.....Future Solutions Now**

**Recent News**

**Welcome**

Welcome to the TSQC Website designed to provide information and resources for the members of the Tennessee Surgical Quality Collaborative (TSQC). [Read More](#)

The Tennessee Surgical Quality Collaborative (TSQC) is a pilot project of 10 Tennessee hospitals seeking to measure and improve the care of surgical patients throughout the state.

The TSQC is collaboration between the Tennessee Chapter of the American College of Surgeons, the Tennessee Hospital Association's Center for Patient Safety and participating hospitals. The TSQC was funded through a generous three year grant from Blue Cross Blue Shield's Tennessee Health Foundation. This funding significantly reduces barriers for Tennessee surgeons and hospitals wishing to participate in - and benefit from- the program.

**of Tennessee**  
plans for better health. plans for a better life.™

**ACS NSQIP**

**Tennessee Center For Patient Safety**  
"Making Safe, Quality Care the Top Priority"

**SURGICAL CARE INITIATIVE**

TAKING THE LEAD TO IMPROVE SURGICAL PATIENT OUTCOMES:  
preventing complications  
reducing costs  
improving surgical care

HOME ABOUT FSCI FSCI BENEFITS SURGEONS RESOURCES HOSPITALS EVENTS NEWSROOM

Join FSCI  
Click here

**Welcome to FSCI**

Hospitals and providers work hard to provide the best possible care for patients, yet complications still occur. When they do, the patient's health is jeopardized, additional treatment is required, and the cost of care increases. That is the last thing we want to have happen.

Through a new collaborative called the Florida Surgical Care Initiative (FSCI), the Florida Hospital Association and the American College of Surgeons are bringing hospitals and surgeons together in a statewide effort to prevent surgical complications, reduce costs and improve the quality of care for our patients. Our goal is to make Florida a national leader in health care quality.

By working together, Florida's hospitals and surgeons will have a tremendous impact on improving care for Floridians. We will restore health faster, safer and at a lower cost.

FSCI VIDEO  
Click to view th

LATEST FSCI  
6.30.10 [Florida Surgeons](#)  
6.18.10 [Florida Launch Initiative](#)



**MSQC** Michigan Surgical Quality Collaborative

Existing User Login  
User ID:   
Password:   
PIN:

About Us Membership Resources Contact

Join MSQC  
Click here

**Welcome to MSQC**

The Michigan Surgical Quality Collaborative (MSQC) is a connected community of 34 Michigan hospitals seeking to measure and improve the care of surgical patients throughout the state.

MSQC VIDEO  
Click to view th

LATEST MSQC  
6.30.10 [Michigan Surgeons](#)  
6.18.10 [Michigan Launch Initiative](#)

**Building Relationships.....Improving Outcomes.....Future Solutions Now**

**Recent News**

**VTE Project Launched**

VTE Project Launched  
[Read More >>](#)

**Myocardial Injury**



**Michigan Surgical Quality Collaborative**

**TENNESSEE**  
Surgical Quality Collaborative



**Surgical Quality and Safety Accreditation/Verification Programs**



**Optimal Resources for Surgical Quality and Safety**

**Clinical Database**



Other Databases

**SIMULATION-BASED EDUCATION AND TRAINING**



AMERICAN COLLEGE OF SURGEONS • DIVISION OF EDUCATION  
**ACCREDITED EDUCATION INSTITUTES**  
ENHANCING PATIENT SAFETY THROUGH SIMULATION

**DISEASE-SPECIFIC PROGRAMS**



Commission on Cancer<sup>+</sup>



**NAP BC**  
NATIONAL ACCREDITATION PROGRAM FOR BREAST CENTERS  
Commission on Cancer<sup>+</sup>  
NATIONAL ACCREDITATION PROGRAM FOR COLON AND RECTAL CANCER



**NATIONAL CANCER DATABASE**



**MBSAQIP**  
METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM



**MBSAQIP**  
METABOLIC AND BARIATRIC SURGERY ACCREDITATION AND QUALITY IMPROVEMENT PROGRAM



**VRC**  
VERIFICATION REVIEW CONSULTATION  
for excellence in trauma centers



**ACS tqip**  
TRAUMA QUALITY IMPROVEMENT PROGRAM  
**ACS tqip**  
TRAUMA QUALITY IMPROVEMENT PROGRAM  
pediatric

**POPULATION-SPECIFIC PROGRAMS**



**Children's Surgery Verification**  
QUALITY IMPROVEMENT PROGRAM



**ACS NSQIP**

THE Coalition for Quality in Geriatric Surgery PROJECT



**ACS NSQIP**

**EMERGING PROGRAMS**

- Emergency General Surgery
- High-Risk GI
- Rural
- Thoracic
- Vascular



**ACS NSQIP**



**STS National Database**  
Society for Vascular Surgery

**PHASES OF CARE PROGRAMS**



**IMPROVING SURGICAL CARE and RECOVERY**

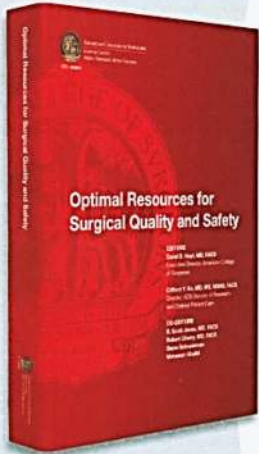


**ACS NSQIP**

**SURGEON SPECIFIC REGISTRY**



**SSR** • SURGEON SPECIFIC REGISTRY



**ACS Generic Standards**


1. Institutional Administrative Commitment
2. Program Scope and Governance
3. Facilities and Equipment Resources
4. Personnel and Services Resources
5. Patient Care: Expectations and Protocols
6. Data Systems and Surveillance
7. Quality Improvement
8. Research: Basic and Clinical Trials
9. Education: Professional and Community Outreach



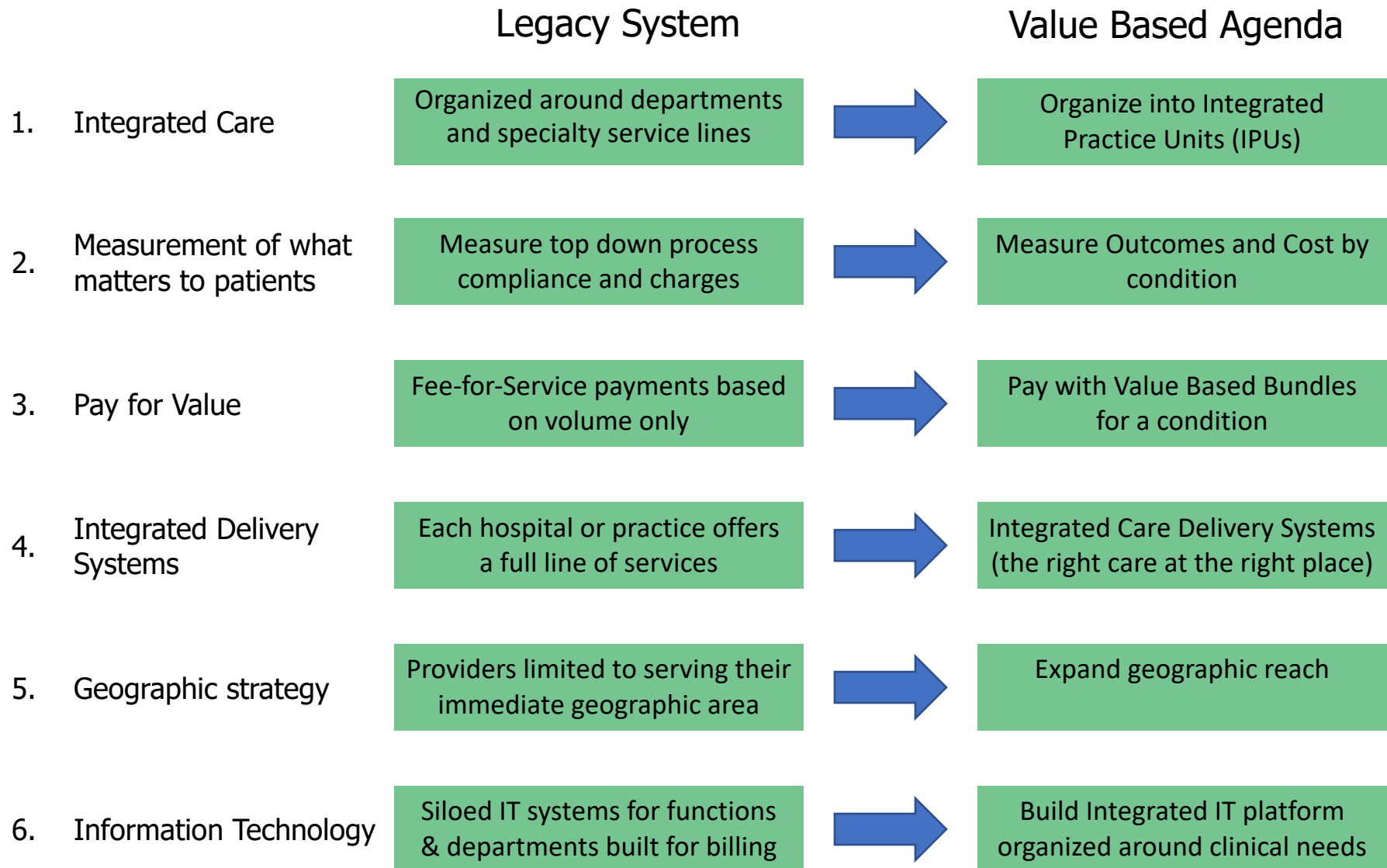
# Solving the Health Care Problem

- The fundamental **goal and purpose** of health care is to create **value for patients**

$$\text{Value} = \frac{\text{Health outcomes that matter to patients}}{\text{Costs of delivering these outcomes}}$$

- Value is the only goal that **aligns the interests** of all system participants
  - Improving value for patients is the **only real solution**
- 
- The question is how to re-design the health care delivery system to deliver substantially **better outcomes to patients** at **lower cost to society**.

# Shift to Value

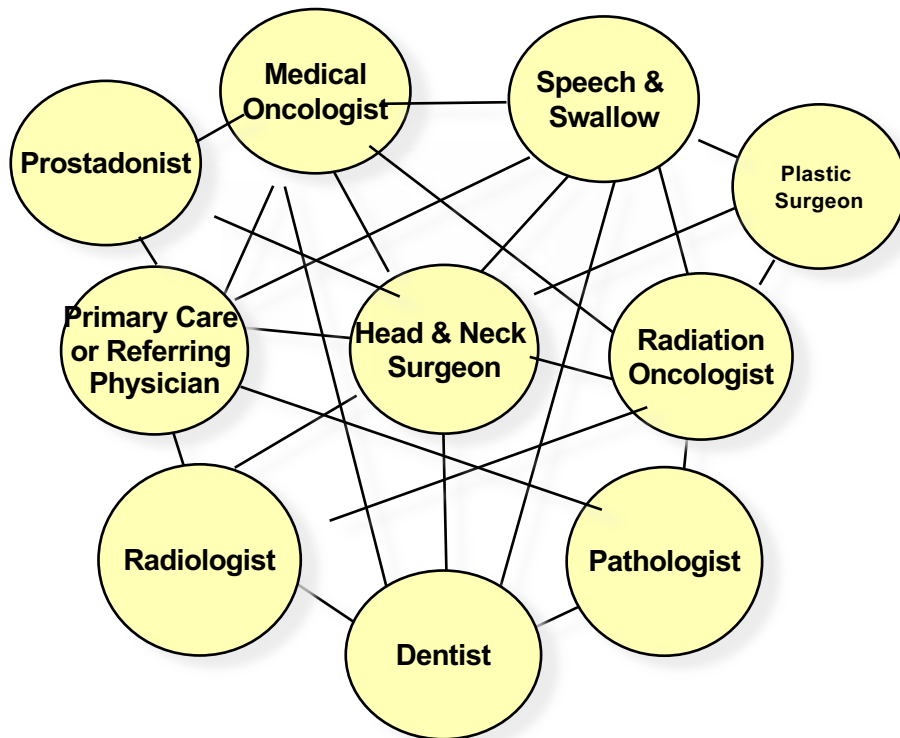


# Organize Care Around Medical Conditions

## Head & Neck Cancer Care at MD Anderson

### Historical Model:

Organize by Specialty and Discrete Service



IPU-Focused Model:  
Organize around Condition

### Head & Neck Center

#### MDs

Medical Oncologist  
Surgical Oncologist  
Radiation Oncologist  
Radiologist  
Dentist

#### Specialized Staff

Nutritionist  
Nurse  
Psychologist  
Social Worker  
Patient Advocate  
Speech Pathologist  
Patient Access Coord.



#### Facilities

Outpatient Clinic  
Swallowing Lab  
Hearing Lab  
Prosthetic Lab  
Voice Lab  
Radiology Reading Room

#### Shared Facilities

Pharmacy  
Pathology Lab  
Operating Rooms  
Chemotherapy  
Radiation Therapy  
Diagnostic Imaging

#### Shared Specialties

Pathologist  
Plastic Surgeon  
Neurosurgeon  
Cardiologist  
Endocrinologist

Source: Porter, Michael E., Jain, Sachin, *The University of Texas MD Anderson Cancer Center: Interdisciplinary Cancer Care*. February 26, 2013.



# Expanding the Role of Surgeons

## Thinking Beyond the Operating Room



Prevention & Detection	Medical Management	Preoperative Care	Surgical Intervention	Postoperative Care	Rehabilitation	Surveillance
<ul style="list-style-type: none"> <li>• Work with primary care to <b>prevent progression of disease</b></li> <li>• Advise primary care on <b>accurate diagnoses</b> and <b>timely referral</b></li> </ul>	<ul style="list-style-type: none"> <li>• Partner with medical specialists to <b>manage complex cases</b> and the ongoing evaluation of <b>need for surgery</b></li> <li>• <b>Develop non-surgical options</b> with other providers if appropriate</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborate with primary care, anesthesia, etc. to <b>prepare patient for successful surgery</b></li> <li>• Be accessible to primary care team for <b>pre-operative care questions</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Optimize the surgical process</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Co-develop best practices</b> with post-operative teams</li> <li>• <b>Ensure seamless transition</b> to post op care</li> </ul>	<ul style="list-style-type: none"> <li>• Shift post-acute care to <b>appropriate settings</b> (e.g. home)</li> <li>• <b>Extended clinic hours</b> and <b>after-hours hotline</b></li> <li>• <b>Educate</b> home health team and PT on best practices</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Ongoing monitoring</b> of patients for recurrence</li> <li>• Measure longer term <b>outcomes</b></li> </ul>

# Clarifying the Term “Quality”

## Addressing the Semantics Challenge

Framework from outside health care

### Two Definitions of Quality

1. Hitting Specifications  
“Defect-Free” Care

i.e. Toyota  
Production System



**Conformance  
Quality**

2. Superior Performance  
High end finishes  
Driver Experience  
Performance attributes

i.e. BMW  
Mercedes



**Performance  
Quality**

# Quality Measurement Landscape Condition Specific

## Structural Measures

- Facility
  - i.e. Imaging equipment, EMR
- Personnel
  - i.e. Availability of 24 hr ACS team
- Organizational Capabilities
  - i.e. Existence of measurement system

## Process Metrics

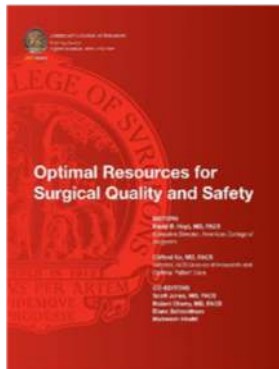
- Measures of Compliance to Evidence Based Pathways
  - i.e. Screening

## Conformance Quality

- Safety
- Adverse Events
- Revisions
- Readmissions

## Outcomes Performance

- PROMS
- Clinical Outcomes  
(+/- clinical indicators i.e. HbA1C)
- Patient Satisfaction



Registry Data

Risk Adjustment

What Matters  
to Patients

# THRIVE: Project Proposal Overview

## Project Description

Implement comparable outcome and cost measurement sets in select conditions at leading providers throughout the U.S. and create risk adjusted benchmarks to generate systems improvement and recognize high value providers

### Conditions

- 3 Surgical Conditions
- Full cycle of care (including key surgical, medical, behavioral and social elements of care)

### Sites

- 10-15 Sites per condition
- Leading Centers of Excellence across the U.S.

### Measurement

- Learn how to measure both outcomes and cost at the condition level
- Create playbook for implementation
- Develop scalable approach for risk adjusted benchmarking and systems improvement

How should we define QUALITY?

Quality should be defined as:

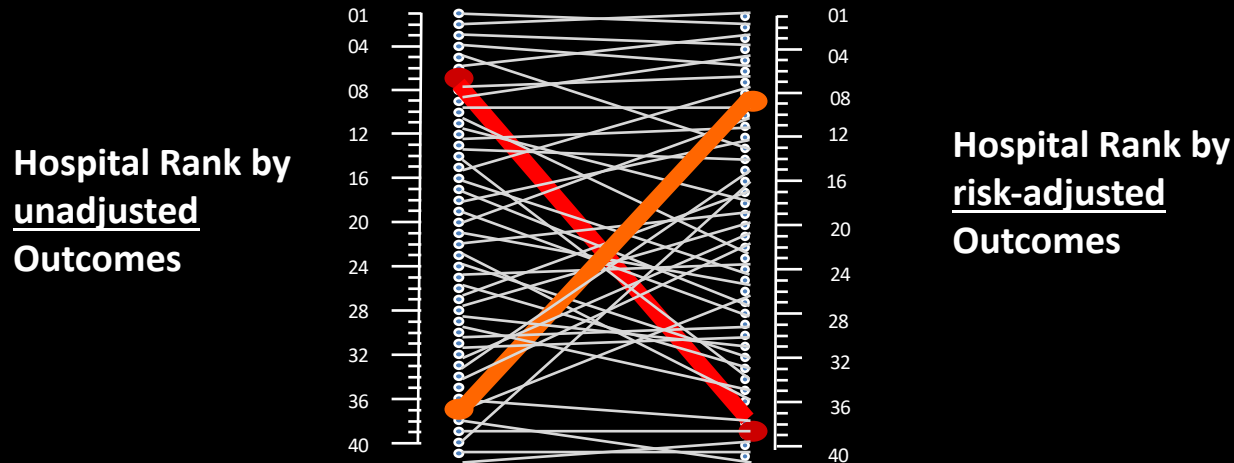
Care and Outcomes that matter to the patient

# Metrics for Quality

- Patient reported outcomes (e.g. symptoms, function, pain)
- Patient experience (e.g. shared decision making)
- Complications (e.g. infection)
- Others...



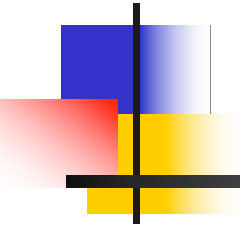
# Risk Adjustment is essential...



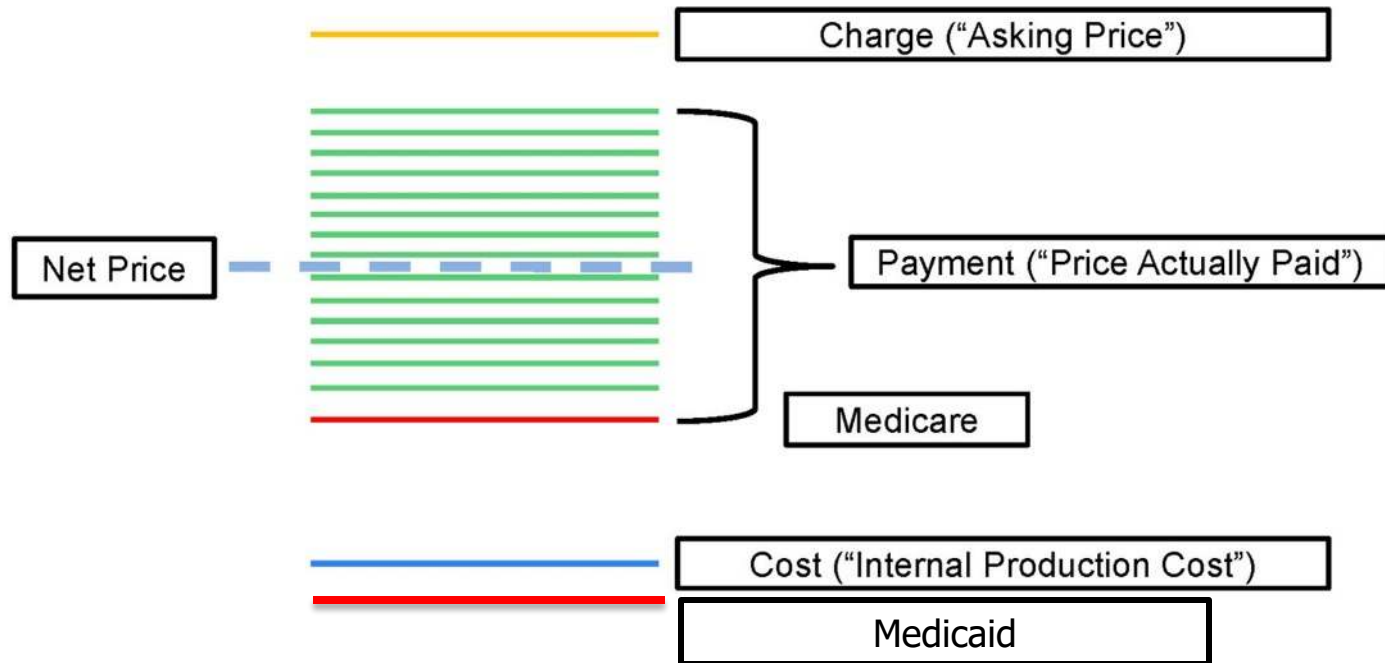
**Improving American College of Surgeons National Surgical Quality Improvement Program Risk Adjustment: Incorporation of a Novel Procedure Risk Score**

Mehul V Raval, MD, MS, Mark E Cohen, PhD, Angela M Ingraham, MD, MS,  
Justin B Dimick, MD, MPH, FACS, Nicholas H Osborne, MD, MS, Barton H Hamilton, PhD,  
Clifford Y Ko, MD, MS, MSHS, FACS, Bruce L Hall, MD, PhD, MBA, FACS

# Defining Cost



# Denominator: Clarifying Cost & Price



# Time-Driven Activity-Based Costing (TDABC)

1

Determine  
the Care  
Process

- **What activities** are performed over the care cycle for a medical condition?
- **Who performs** each activity?
- **How long** does each activity take?

2

Calculate  
Cost Rates

- **What is the cost per unit of time** for each type of personnel and equipment?

3

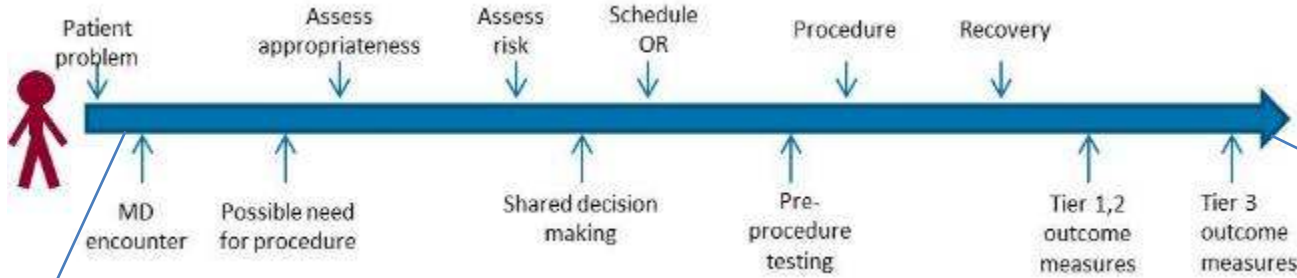
Account for  
Consumables

- **What materials, supplies, and drugs** are consumed during the care cycle?

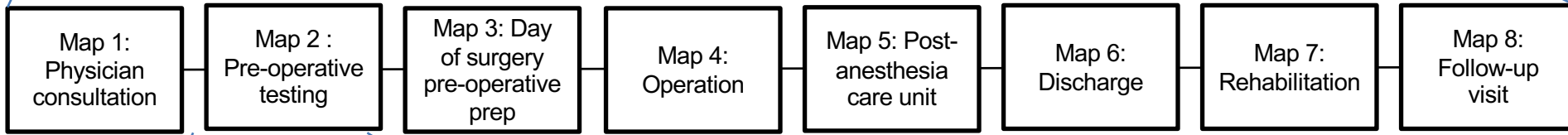
# Measuring Costs Correctly

## Develop process maps for the care cycle

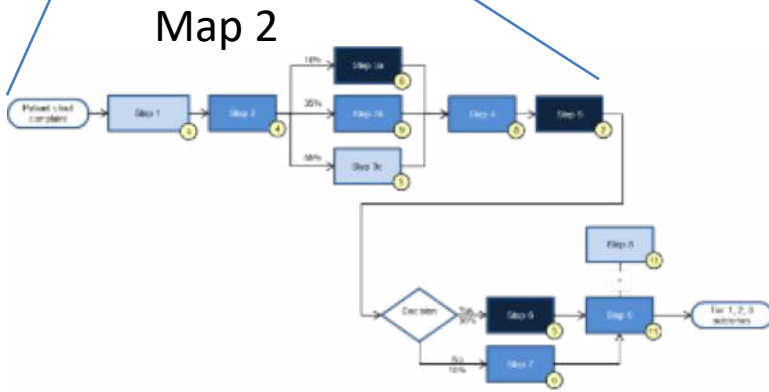
### Level 1: Overall care cycle



### Level 2: Major blocks of activity during the care cycle

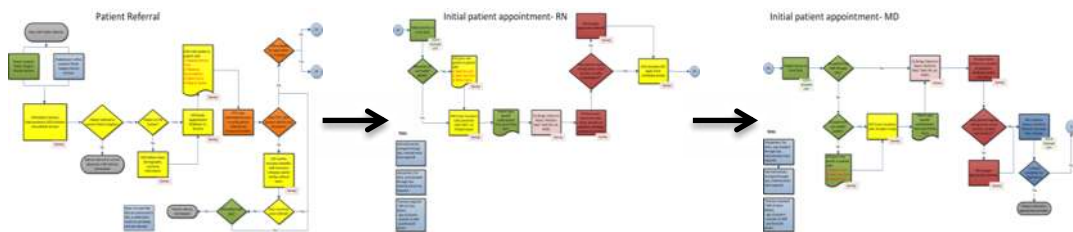


### Level 3: Process maps for studied care cycle



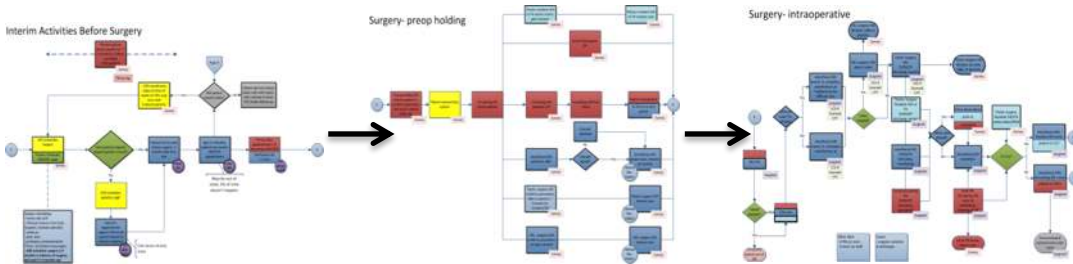
# We compute total patient-level care costs by multiplying capacity cost rates by process times and summing across each patient's cycle of care

## Initial consultation



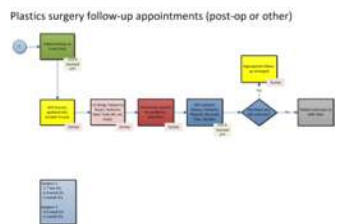
	Minutes	Cost/minute	*Total
MD	$X_1$	$Y_1$	136.13
RN	$X_2$	$Y_2$	68.04
CA	$X_3$	$Y_3$	6.17
ASR	$X_4$	$Y_4$	15.74
			<b>\$266.08</b>

## Surgical procedure



MD	$X_1$	$Y_1$	584.99
Anest	$X_2$	$Y_2$	603.89
RN	$X_3$	$Y_3$	136.29
Tech	$X_4$	$Y_4$	97.82
OR	$X_5$	$Y_5$	329.16
			<b>\$1752.15</b>

## Follow-up or post-operative visit



MD	$X_1$	$Y_1$	55.19
RN	$X_2$	$Y_2$	13.61
CA	$X_3$	$Y_3$	3.09
ASR	$X_4$	$Y_4$	1.77
			<b>\$73.66</b>

Source: Meg Abbott, MD & John Meara, MD Boston Children's Hospital

# How does TDABC help providers manage their costs

## Process Improvement and Redesign



- **Eliminate** process steps and variations that **do not contribute to improved patient outcomes**
- **Redesign** processes to **reduce waste and idle time**
- **Optimize** processes and interventions over a **complete cycle of care**
- All clinicians work at the **“top-of-their license”**
  
- Understand costs over the full care cycle to prepare for **bundled payment** contracts



# A Value-Based Bundle Payment, ideally, should have the following three components.

1. A single, risk-adjusted payment that covers **all the care** required to treat a **patient's medical condition**



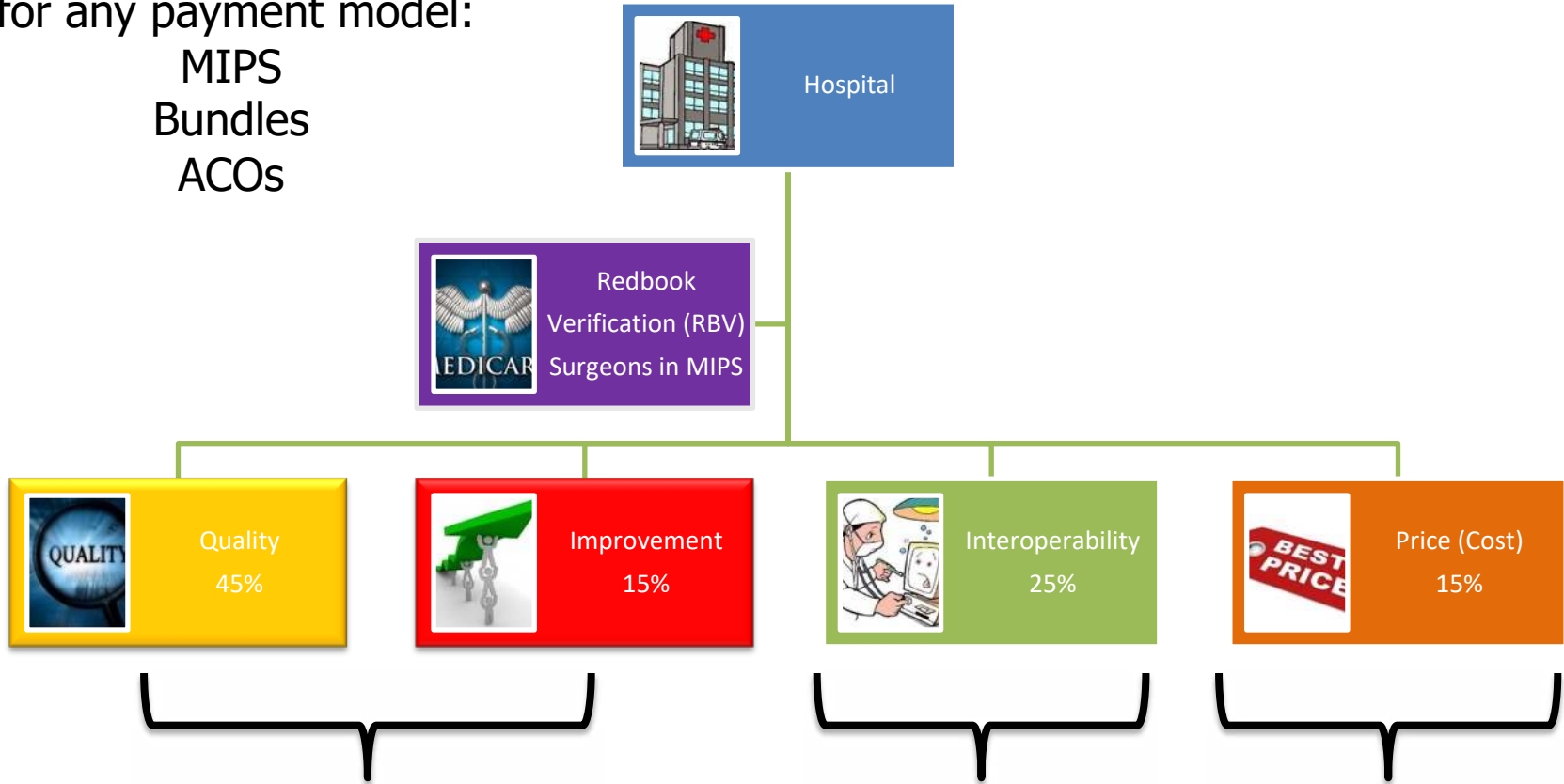
2. **Contingent** on achieving good condition-specific **outcomes**
3. and a price that provides a fair margin for delivering **effective and efficient care**
  - Provider is at risk for difference between **bundled price** and **actual cost** of all included services required to treat the condition



# THRIVE

A value expression for any  
payment program

Fit for any payment model:  
MIPS  
Bundles  
ACOs



60% scored on 100 points:  
1. Redbook Verification (RBV) standards  
2. Conformance measures (NSQIP)  
3. Performance measures (PROs)

25% scored on 100 points:  
CMS Criteria

15% scored [TBD]



Quality  
45%



Improvement  
15%

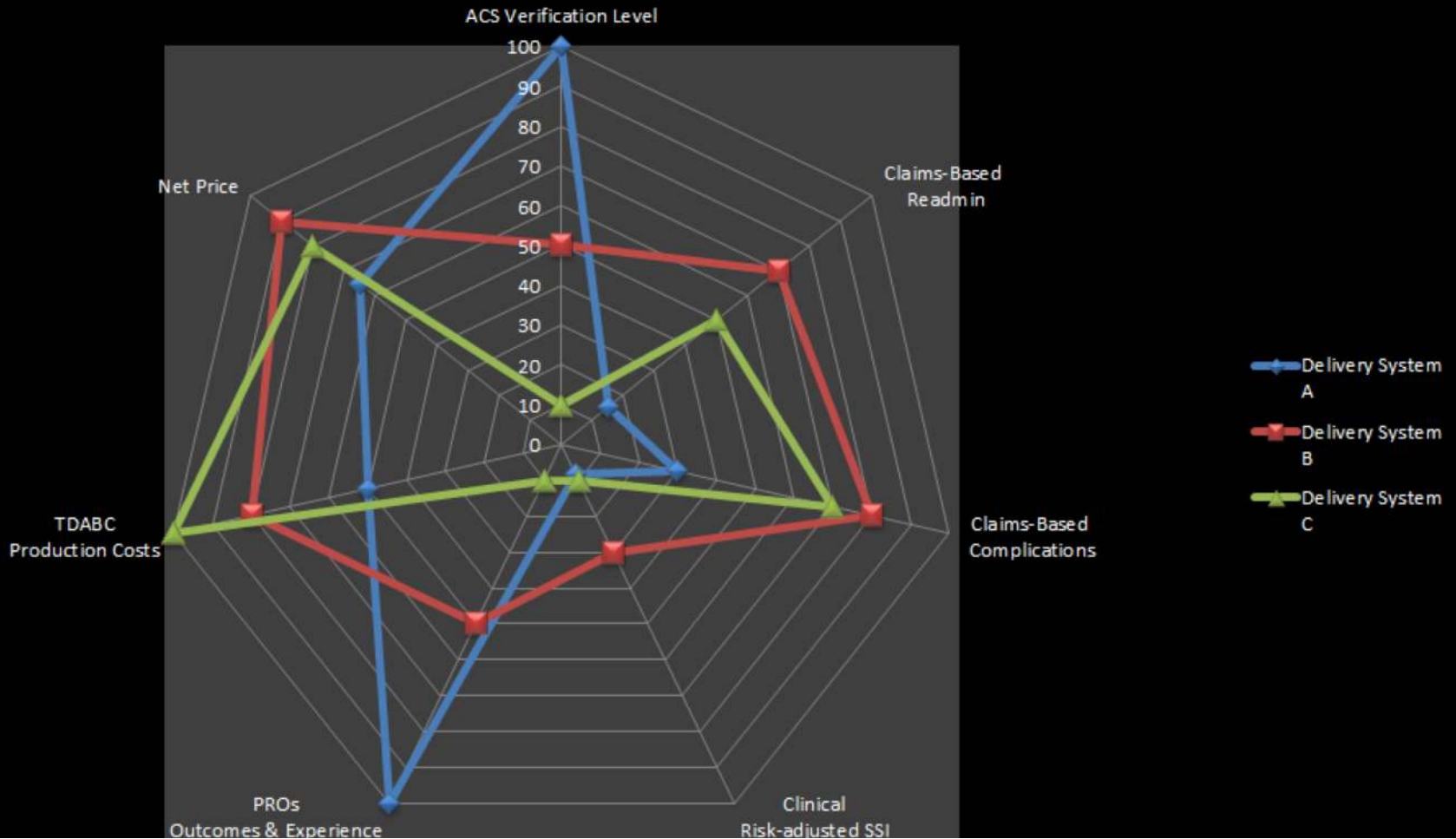
60% scored on 100 points using Verification standards which include Participation in Conformance measures (NSQIP or Claims) and in Performance measures (PROs)

To score the full 60% based on 100 points:

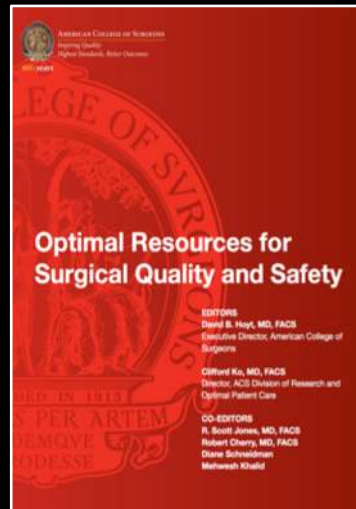
**Redbook Verification Standards:**

Domains in Redbook Verification	Points
1. Leadership Commitment	
2. Culture of Safety & High Reliability	25
3. Surgical Quality Officer	
4. Surgical Quality Committee	
5. Team processes in Five Phases of Surgical Care	25
6. Disease Based Management	
7. Data collection and surveillance in surgical domain	25
8. Data-driven quality improvement in surgical domain	
9. Case Review	
10. Peer Review	25
11. Credentialing & Privileging	
12. Compliance with regulatory performance metrics	

# A Value Expression (Mock-up)



# We can teach health care providers HOW to provide high quality care



AMERICAN  
COLLEGE  
of SURGEONS

ACS  
NSQIP

MBSAQIP

Cancer  
PROGRAMS

TRAUMA  
PROGRAMS

Children's Surgery  
Verification

ACS  
NSQIP

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INCENTIVE

ACS QUALITY  
and SAFETY  
CONFERENCE

SAVE THE DATE  
July 19-22, 2019 | Washington, DC

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# Value-Based Healthcare

This is a story of  
*taking better care of our patients and communities  
in a more sustainable way...*

*Thank you!*