Farewell to Hippocrates: Medicine in the Information Age

The Quality Colloquium at Harvard University Campus

Aug. 21, 2008

Presented by:
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The Hippocratic Oath

“I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone... In every house where I come I will enter only for the good of my patients.”

--Excerpt from Hippocratic Oath, c. 300-400 BCE
A Judgment-Based Culture

“The social obligation for best practice is part of the commodity the physician sells, even though it is a part that is not subject to thorough inspection by the buyer.”

-- Kenneth Arrow, PhD, Uncertainty and the Welfare Economics of Medical Care, 1963

“The application of knowledge at the bedside is largely the function of the sagacity inherent in or personally developed by the individual physician.”

-- Herman Blumgart, MD, Harvard University Medical School, 1973
50%  “Heads” vs. “Tails” in coin flip

54%  Doctors provide acute care indicated by the medical literature

56%  Doctors provide chronic care indicated by the medical literature

74%  Average airline on-time percentage

Sources: NEJM, 2003; DOT 2008 data
A Different Kind of Oath
“In God We Trust - All Others Bring Data”

- **Transparency** (performance data)
- **Consumerism** (new kinds of information)
- **Value** (quality/cost)

W. Edwards Deming
Why Will the Paradigm Shift?
Forces of Change Converge

- *Economics*: Soaring health care costs and global economic pressure make change urgent

- *Technology (Our era’s “movable type”)*: IT to *manage* (e.g., point-of-care guidelines) and *measure* (e.g., “dashboards”) brings actionable information

- *Zeitgeist*: Restless consumers and new expectations prompt power shift
A New Social Context
(The Hippocratic Loathe?)

“If there's one thing that can bankrupt the country, it's health care. It's out of control...affecting our economic and national security.” – David Walker, Comptroller General, U.S. General Accountability Office

“Improving the performance of our health care system is without doubt one of the most important challenges our nation faces.” – Ben Bernanke, Chairman, Federal Reserve

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Federal Clout

- Presidential Executive Order, August, 2006
  - Promoting Quality and Efficient Health Care in Government Administered or Sponsored Health Care Programs
- Directs Federal Agencies to:
  - Encourage adoption of *health information technology standards for interoperability*
  - Increase *transparency in healthcare quality measurements*
  - Increase *transparency in healthcare pricing information*
  - Promote *quality and efficiency of care, which may include pay for performance*
Employer and Medical Poobahs Concur
A value-based [health-care] system is grounded in three simple principles:

1. The goal is value for patients
2. Care delivery is organized around medical conditions and care cycles
3. Results are measured

Source: Porter and Teisberg, *JAMA*, 2007
**Ideologues Sing Chorus of Agreement (Mostly)**

1. “That this country tolerates the very worst along with the very best quality of medical care, the poorly trained doctor along with the well-trained, those who overcharge along with those who charge reasonable fees, can best be explained by the total lack of information consumers have about doctors.”
   -- Public Citizen Health Research Group, Jan. 17, 1974

2. “Medicare has detailed information on nearly every doctor and hospital in the country. Americans have a right to know this information [on performance, cost and quality], and taxpayers must continue to demand its release.”
The Hard Work of Change

“To do things differently, we must see things differently. When we see things we haven’t noticed before, we can ask questions we didn’t know to ask before.”

--John Kelsch, Xerox

“To become competent, you have to feel bad.”

--Hubert Dreyfus, Philosopher
Patients in higher-spending areas received 60% more care, but no gain in survival, function or satisfaction

Utilization driven by supply-sensitive services: specialists, tests, visits, inpatient and ICU use

Savings of up to 30% of Medicare spending might be possible

$17 billion - $29 billion extra costs from hospital errors (IOM, 2001)

Potentially inappropriate medications prescribed to one-quarter of Medicare patients. (JAMA 1994)

177,000 ER visits (2004) by elderly (Ann Int Med 2007) and $177 billion (2000) in potentially avoidable hospital admissions for all populations due to drug-related problems (J Am Pharm Assoc 2001)

...Gets Specific
(How many lives per dollar do you save?)

Massachusetts Hospitals
Hospital Standardized Mortality Ratio (Jarman)
Premier Hospital Demo
If they can do it, why can’t you?

- Hospitals achieving >75% percentile quality scores
- Fewer complications
- Fewer readmissions
- Significantly lower hospital costs
- Significantly shorter length of stay

Source: CMS, 2007
If they can tell me, why can’t you?

Cardiovascular procedures

Cardiovascular procedures include heart and circulatory system procedures. Many indicators in the surgery and infection control sections also apply to cardiovascular procedures. These indicators include various complication rates and death rates, and summarize how well certain recommended approaches to these procedures are followed. At Norton Healthcare, only Norton Audubon Hospital and Norton Hospital (downtown) perform open heart and interventional cardiology procedures.

Source: Norton Healthcare, Louisville

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When surgical complications occur, hospitals experience a decline in profits and profit margin per case, but reimbursement usually covers their costs. In contrast, payors always lose money with complications.”
Procedure-Specific Transparency (Quality/Cost of Pancreatic Resection)


Cost per Patient = $25,488 × O/E Morbidity Ratio – $3064

Median Cost per Patient, $

0

5000

10000

15000

20000

25000

30000

35000

40000

0.50

0.75

1.00

1.25

1.50

O/E Morbidity Ratio

Actual Costs
Procedure-Specific Transparency
Risk-Adjusted Cost (No Outcomes)

ARIZONA ORTHOPEDIC SURGICAL HOSPITAL
2905 WEST WARNER
Chandler, AZ 85224
480-603-9000

Knee Replacement
July 2006 - June 2007

<table>
<thead>
<tr>
<th>Filter on Severity of Illness:</th>
<th>ARIZONA ORTHOPEDIC SURGICAL HOSPITAL</th>
<th>CHANDLER REGIONAL MEDICAL CENTER</th>
<th>ARIZONA SPINE AND JOINT</th>
<th>BANNER GOOD SAMARITAN MEDICAL CENTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Update Report</td>
<td>Number of Discharges: 662</td>
<td>92</td>
<td>381</td>
<td>493</td>
</tr>
<tr>
<td>Average Length of Stay</td>
<td>2.7 Day(s)</td>
<td>3.6 Day(s)</td>
<td>3.1 Day(s)</td>
<td>3.4 Day(s)</td>
</tr>
<tr>
<td>Average Charge</td>
<td>$49,886</td>
<td>$85,624</td>
<td>$39,096</td>
<td>$46,474</td>
</tr>
<tr>
<td>Average Charge Per Day</td>
<td>$18,286</td>
<td>$23,515</td>
<td>$12,634</td>
<td>$13,827</td>
</tr>
<tr>
<td>Median Charge</td>
<td>$48,106</td>
<td>$79,730</td>
<td>$37,603</td>
<td>$39,603</td>
</tr>
<tr>
<td>Median Age</td>
<td>63</td>
<td>65</td>
<td>70</td>
<td>63</td>
</tr>
<tr>
<td>Percentage Male</td>
<td>46.1%</td>
<td>38%</td>
<td>42.5%</td>
<td>39.6%</td>
</tr>
<tr>
<td>Percentage Female</td>
<td>53.9%</td>
<td>62%</td>
<td>57.5%</td>
<td>60.4%</td>
</tr>
</tbody>
</table>

Notes About this Table
Understanding Facility Charge Information
Why Charges May Differ Between Facilities

Select New Hospital
Select New Service at this Hospital
Back to Standard Hospital Report

Health Quality Advisors LLC
Procedure-Specific Transparency
A Different Value Proposition
All Sorts of Media Are the Message

“America’s 50 Best Hospitals”
– National Examiner

“America’s Best Hospitals”
-- US News & World Report

“Keys to finding the right physician”
-- Martha Stewart Living

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Preventing for a Hospital Stay

“When you arrive at your hospital room, decide which item you'd be willing to accept as the final thing you see on this earth.”
The geography of life and death

A USA TODAY analysis of government reports to top hospitals shows differences in death rates of Medicare heart attack and heart failure patients who died within 30 days of being admitted to the hospital. Reported mortality rates:

<table>
<thead>
<tr>
<th>Institution</th>
<th>Admissions</th>
<th>Heart attack mortality</th>
<th>Heart failure mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Hospital, Cincinnati</td>
<td>135</td>
<td>18.0</td>
<td>19.9</td>
</tr>
<tr>
<td>University of Pittsburgh Medical Center, Shadyside</td>
<td>638</td>
<td>17.9</td>
<td>15.4</td>
</tr>
<tr>
<td>University of Minnesota Medical Center</td>
<td>91</td>
<td>17.6</td>
<td>16.7</td>
</tr>
<tr>
<td>The Johns Hopkins Hospital, Maryland</td>
<td>249</td>
<td>16.5</td>
<td>N/A</td>
</tr>
<tr>
<td>UCSF Medical Center</td>
<td>170</td>
<td>16.2</td>
<td>14.5</td>
</tr>
<tr>
<td>The Fort Hamilton Hospital, Hamilton, Ohio</td>
<td>175</td>
<td>16.1</td>
<td>N/A</td>
</tr>
<tr>
<td>The Jewish Hospital, Cincinnati</td>
<td>394</td>
<td>15.9</td>
<td>N/A</td>
</tr>
<tr>
<td>Atlanticare Regional Medical Center, New Jersey</td>
<td>525</td>
<td>15.5</td>
<td>19.8</td>
</tr>
<tr>
<td>Cleveland Clinic Foundation, Ohio</td>
<td>486</td>
<td>15.0</td>
<td>15.0</td>
</tr>
<tr>
<td>UCLA Medical Center</td>
<td>179</td>
<td>14.9</td>
<td>16.1</td>
</tr>
<tr>
<td>The Christ Hospital, Cincinnati</td>
<td>405</td>
<td>14.6</td>
<td>N/A</td>
</tr>
<tr>
<td>Yale-New Haven Hospital, Conn.</td>
<td>565</td>
<td>14.4</td>
<td>13.4</td>
</tr>
<tr>
<td>Mayo Clinic (St. Marys Hospital), Rochester, Minn.</td>
<td>836</td>
<td>14.2</td>
<td>15.3</td>
</tr>
<tr>
<td>Massachusetts General Hospital</td>
<td>754</td>
<td>14.0</td>
<td>13.8</td>
</tr>
<tr>
<td>Brigham and Women's Hospital, Mass.</td>
<td>375</td>
<td>13.7</td>
<td>15.1</td>
</tr>
<tr>
<td>New York-Presbyterian Hospital</td>
<td>1,057</td>
<td>12.3</td>
<td>14.5</td>
</tr>
<tr>
<td>United States</td>
<td>645,462</td>
<td>16.4</td>
<td>17.8</td>
</tr>
</tbody>
</table>

### Graph

- **If my preferred hospital received a below-average rating for clinical quality**
  - Would Change: 57.3%
  - Would Not Change: 42.8%

- **If my own physician received a below-average rating for clinical quality**
  - Would Change: 24.2%
  - Would Not Change: 75.8%
A New Information Environment

Marketing

Data

Consumer Information

Health Quality Advisors LLC
Know Thyself
The Accountability Audit

My Hospital Quality

Welcome, Demo

Quality Measures

Currently highlighting failure: Highlight success.

Heart Attack

<table>
<thead>
<tr>
<th>Metric</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Attack Composite: 2% failure</td>
<td></td>
</tr>
<tr>
<td>Aspirin on arrival: 0% failure (0 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Beta blocker on arrival: 4% failure (5 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>LVSDACE inhibitor: 5% failure (2 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Smoking cessation: 0% failure (0 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Aspirin at discharge: 1% failure (2 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Beta blocker at discharge: 2% failure (3 missed opportunities)</td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- 10 National top ten percent
- Better than national average
- Worse than national average
- Neither significantly better nor significantly worse than national average
- Improved from last quarter
- Got worse from last quarter
- No change from last quarter
- Information not available

Heart Failure

<table>
<thead>
<tr>
<th>Metric</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Failure Composite: 13% failure</td>
<td></td>
</tr>
<tr>
<td>LV function assessed: 15% failure (52 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>LVSDACE inhibitor: 7% failure (9 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Smoking cessation: 2% failure (1 missed opportunities)</td>
<td></td>
</tr>
<tr>
<td>Discharge instructions: 54% failure (147 missed opportunities)</td>
<td></td>
</tr>
</tbody>
</table>

Top Quality Concerns

Below National Average:
- Discharge instructions
- Flu vaccine
- Pneumococcal vaccine
Figure 1. At the current rate, more than 2,000 lives have been saved a year compared to baseline mortality. This figure was developed by Ascension Health using Care Science risk-adjusted data from the Ascension Health Outcomes Measures database.

Source: Jt Comm Jnl, Dec., 2007

Health Quality Advisors LLC
Eliminating Avoidable Deaths
Walsall NHS Hospital

Reduction of Observed-Expected Deaths By Diagnostic Category, 3-yr. Period

Source: Sir Brian Jarman
Health Quality Advisors LLC
Value of a Primary Care Physician
The Employer View

Source: Bridges to Excellence

Health Quality Advisors LLC
Value of a Primary Care Physician
Sharing the View with the Patient

Source: Priority Health, Grand Rapids, MI

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<table>
<thead>
<tr>
<th>Name</th>
<th>Shirley Holmes, MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
</tr>
<tr>
<td>Specialty</td>
<td>Internal Medicine</td>
</tr>
<tr>
<td>Board Certification</td>
<td>Certified</td>
</tr>
<tr>
<td>Group Practice</td>
<td>Munson Internal Medicine</td>
</tr>
<tr>
<td>Office</td>
<td>7722 ^981-3622</td>
</tr>
<tr>
<td>Office Hours</td>
<td>M-F 8:00AM-5:00PM</td>
</tr>
<tr>
<td>Patient Ages Accepted</td>
<td>All Ages</td>
</tr>
</tbody>
</table>

**Quality Measures**

- **Diabetes Care**
- **Asthma Care**
- **Depression**

**Preventive Health**

- **Adult Immunizations**
- **Flu Vaccine**
- **Child Immunizations**

**Patient Satisfaction**

- **Overall Performance**

This physician has earned 28 out of 32 possible points in providing quality care to patients. On average, PMPs achieved 22 points.

Key:

- **Red Circle**: Major exceeded Priority Health's target rate
- **Green Circle**: Scored in the highest 10% of performance relative to the target rate
- **Blue Circle**: Scored in the middle 70% of performance relative to the target rate
- **Yellow Circle**: Scored in the lowest 10% of performance relative to the target rate
- **Gray Circle**: This ISP did not have enough Priority Health patients in this category to qualify for measurement.
Value of a Surgeon
An Employer View

Source: Mercer HR Consulting
Health Quality Advisors LLC
CIGNA Shows “Value” To Members

When you receive covered services from a health care provider that is not a “Participating Provider” as defined in your plan, you may be able to reduce your out of pocket costs (e.g. coinsurance) by using a provider that has agreed to provide care to CIGNA Health Care plan participants at discounted charges. Please look for the Out of Your Network logo on your ID card to see if you are eligible for this program. Click a provider’s name for more detail. Please note that the inclusion of a provider in our list below does not guarantee that you will be eligible for a discount when you receive services from the listed provider. In addition, these providers have not been reviewed against our credentialing standards.

### Provider Directory - Provider Results by Condition

<table>
<thead>
<tr>
<th>Provider Name</th>
<th>CIGNA Care Designation</th>
<th>Practice Name Address Phone</th>
<th>Distance</th>
<th>Specialty</th>
<th>Quality Distinctions</th>
<th>Cost Value Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skelton, Endo, MD</td>
<td>No</td>
<td>100 Street Avenue Anywhere, CT 12345 (123) 456-7890</td>
<td>1.0 Miles</td>
<td>Map</td>
<td>Surgery - Orthopedic</td>
<td>B &amp; C</td>
</tr>
<tr>
<td>Morrow, Molly, MD</td>
<td>No</td>
<td>1 Main Street Anywhere, CT 12345 (123) 100-0000</td>
<td>0.0 Miles</td>
<td>Map</td>
<td>Surgery - Orthopedic</td>
<td>B &amp; E</td>
</tr>
<tr>
<td>Patella, Peter, MD</td>
<td>Yes</td>
<td>200 Avenue Road Anywhere, CT 12345 (123) 200-1234</td>
<td>2.5 Miles</td>
<td>Map</td>
<td>Surgery - Orthopedic</td>
<td>B &amp; E</td>
</tr>
<tr>
<td>Giands, Greg, MD</td>
<td>Yes</td>
<td>5 Main Street Anywhere, CT 12345 (123) 300-0000</td>
<td>0.0 Miles</td>
<td>Map</td>
<td>Surgery - Orthopedic</td>
<td>B &amp; E</td>
</tr>
<tr>
<td>Peds, Otto, MD</td>
<td>No</td>
<td>100 Avenue Road Anywhere, CT 12345 (123) 200-2345</td>
<td>2.0 Miles</td>
<td>Map</td>
<td>Surgery - Orthopedic</td>
<td>B &amp; E</td>
</tr>
</tbody>
</table>

**Cost data helps members understand providers’ cost performance in treating entire episodes of care.**

**Detailed quality information. Usability tested with members to ensure understanding.**
Safety at the Practice Level

Types of medication errors that resulted in patient harm, as a percentage of all preventable adverse drug events among Medicare beneficiaries at a large physician practice

- **Prescribing Errors**
  - Wrong drug/wrong therapeutic choice: 27%
  - Wrong dose: 24%
  - Inadequate patient education: 18%
  - Drug-drug interaction: 13%

- **Monitoring Errors**
  - Failure to act on available information*: 37%
  - Inadequate monitoring of drug therapy: 36%

- **Patient Adherence**: 21%

Preventable ADEs in Ambulatory Care – Multispecialty Group Practice

Source: Gurwitz et al., *JAMA* 2003

Health Quality Advisors LLC
Types of medication errors that resulted in patient harm, as a percentage of all preventable adverse drug events among Medicare beneficiaries at a large physician practice

- Are your numbers better or worse?
- If you don’t know the answer, why not?
- What will you do if “someone” (patient, health plan, employer, CMS, attorney) asks?
- What will be the consequences of your answer?
“Raise the standard of your work if you are expecting to raise your income.”

-- Charles Elton Blanchard, MD, *Medical Dollars and Sense*, 1912
Medicare Leads the Way

CMS Policy on Value-Based Payment

- Shift payment policy from volume
- Pay for quality care for a specific beneficiary not by provider type
- Pay for services across the continuum and not by location
- Reward systems and providers who efficiently provide service (quality and process management)
- Use IT innovation, traditional administrative data, and focused initiatives to support all three

Source: CMS 2007
Evidence-Based Policy
Disclosure + Pay = Results

What’s the Return? Assessing the Effect of “Pay-for-Performance” Initiatives on the Quality of Care Delivery

Stephen R. Grossbart
Catholic Healthcare Partners

This article evaluates the impact of the Centers for Medicare & Medicaid Services/Premier pay-for-performance innovation program on performance improvement in 30 clinical areas in a multihospital health care system. The study compared a group of hospitals participating in this project against a control group of similar hospitals that did not participate. Although the incentives are extremely small, the findings show that participation in the pay-for-performance initiative had a significant impact on the rate and magnitude of performance improvement. The project led to marked improvement in the delivery of clinical processes and accelerated the adoption of evidence-based practices.

Sources: Grossbart, Medical Care, 2006; Lindenauer et al., NEJM, 2007
Intelligent Design
The Evolution of Incentives

What is Evidence Based Benefit Design?

Key Principles:
- Individuals need financial “skin in the game,” ideally means tested.
- Benefit design should be used to steer individuals towards evidence based medical and pharmaceutical interventions and high performing plans and providers.
- Individuals who reduce risk factors and self manage chronic illness should be rewarded through reduction/waiver of insurance copays.
- Basic architecture should rely on broad choice but with differential tiering.

Source: National Business Coalition on Health
Marketing “Value” Care

Raising the level of healthcare to save lives.

Recently, Hackensack University Medical Center received some very good news. We were one of only one percent of the hospitals in the country ranked in the HealthGrades America’s 50 Best Hospitals list, the only national hospital rating based on clinical outcomes.

In the latest edition of America’s 50 Best Hospitals, your clinical outcomes must be among the top five percent in the nation, not just in one specialty either, but across 27 procedures and diagnoses. And you must continue to perform at those superior levels of care during all the years studied.

HealthGrades America’s 50 Best Hospitals have survival rates among the highest in the nation and complication rates among the lowest. And if every hospital performed at the level of HealthGrades America’s 50 Best Hospitals, hundreds of thousands of lives would be saved and thousands of complications avoided.

All of this is very impressive. Why doesn’t every hospital perform at the level of HealthGrades America’s 50 Best Hospitals? Why? Why? Why?

We were the only hospital in New York, New Jersey or New England to make the list. Why? Why wasn’t every hospital in New York, New Jersey, and New England on that list? We were only one percent of the hospitals in the country to make the list. What happened to the other 99 percent?

The fact that 50 hospitals made the list shows that quality healthcare can be institutionalized and operationalized. It can be done. If hundreds of thousands of lives could be saved, why isn’t every hospital doing it? Why just 50? Why not 500 or 5,000?

We made a commitment to quality, safety and service. And that commitment is paying off for our patients. Why can’t every hospital make that same commitment?

Make A Commitment

Why can’t every hospital communicate better with their patients? So that patients are more knowledgeable about their care, especially after they’ve been discharged.

Why can’t every hospital benchmark outcomes both as an incentive to improve and as a way of providing patients with the objective decision-making data to help them make informed judgments?

Why can’t every hospital build a more proactive, ongoing, healing relationship with its patients instead of the occasional visit?

Why can’t every hospital create a partnership between caregiver and cared for?

Why can’t every hospital invest in technology, but only as an answer, not as the only answer?

Why can’t every hospital improve internal communication to reduce errors?

Why can’t we cut through the red tape of the recently discharged hospital patients in the country recommend their hospitals to family and friends?

Why can’t we all provide our patients with better care so that we preserve not just their lives but also their lifestyles?

Why can’t we at treat our patients better, faster and at lower costs?

Why can’t we all have better clinical outcomes?

But maybe the question shouldn’t be why it should be how.

John P. Ferguson
President and Chief Executive Officer
Hackensack University Medical Center

John P. Ferguson has been president and chief executive officer of Hackensack University Medical Center for 37 years and has earned the distinction of being selected as one of the 100 Most Powerful People in Healthcare by Modern Healthcare magazine for the past four years.
The Choice: Improve Value...

SIX AIMS FOR IMPROVEMENT

• Safe
• Effective
• Patient-Centered
• Timely
• Efficient
• Equitable

TEN RULES TO GUIDE THE REDESIGN OF CARE

• Continuous Healing Relationships
• Evidence Based Decisions
• Customized Care
• Patient as Source of Control
• Shared Knowledge
• Transparency
• Safety as a System Property
• Cooperation Among Clinicians
• Needs are Anticipated
• Waste is Decreased

EFFECTIVE ORGANIZATIONAL SUPPORT

• Invest in Information Technology
• Coordinate Care
• Redesign Care Processes
• Manage Knowledge and Skills
• Develop Effective Multidisciplinary Teams
• Measure and Improve Performance and Outcomes

Source: IOM; adapted from Reed Tuckson, MD
...Or Accept Gradual Decline

- Squeeze Payments
- Price controls
- Rules, rules, rules
- Export jobs to reduce insured employee cost
- Export care
New Expectations, New Rules

“Who measures, matters”
- Consumer-driven measures of clinical and service quality
- Peer assessment
- Payer-driven measures
- Regulators, accreditors, lawyers, reporters

“The customer is always right”
- Physician-patient partnering
- Plan-physician partnering
- Hospital-physician partnering
- More and better team efforts

You cannot solve the problems of the present with the solutions that produced them.” -- Albert Einstein
The Impact

- Transparency is triumphant
  - Physician accountability
  - Plan accountability
  - Patient accountability

- The reality of change is complex
  - Arguments about measures and money
  - IT makes many things better, some things worse
  - “Reform” gives way to uncomfortable transformation

- The Cottage Industry Collapses
  - Paid like everyone else
“Trying harder will not work. Changing systems of care will.” *Institute of Medicine, 2001*

“As a result of the information revolution, the magic, mystery and power of the profession may be somewhat diminished, [but it] will create unanticipated opportunities for physicians to bolster the cognitive and moral pillars of their professional identities.” *David Blumenthal, Milbank Quarterly, 2002*
“Information, in the form of skilled care, is precisely what is being bought [by the patient] from most physicians.”
-- Kenneth Arrow, 1963

“There are, in effect, two things, to know and to believe one knows; to know is science; to believe one knows is ignorance.”
-- Hippocrates
21st Century Health Care

Improving quality by promoting a culture of safety through Value-Driven Health Care

Information-rich, patient-focused enterprises

Evidence is continually refined as a by-product of care delivery

Information and evidence transform interactions from reactive to proactive (benefits and harms)

Actionable information available – to clinicians AND patients – “just in time”

Source: AHRQ