The Value Imperative

Bob Pendleton MD FACP
ACP, Governor- UT Chapter
Chief Medical Quality Officer
University of Utah Healthcare

What Is Value?...
Marcus Welby?...

Bob Pendleton M.D.

The Information Tsunami

Annual published RCTs

To personally keep up with progress:
1980: Read 1 RCT daily
2010: Read 100 RCT daily

Since the last Scientific Meeting:
>30,000 RCTs published

Adapted from: Medline Trend: http://dan.corlan.net/medline-trend.html (accessed Jan 4 2013)
State of U.S. Healthcare System:

Skyrocketing Information → Evidence → Care → Results

Insights poorly managed → Evidence poorly executed → Care delivery inefficient → Endpoints poorly captured

Missed Opportunities, Waste, and Harm

“Every system is designed to achieve exactly the Results it gets” - D Berwick


The Result...

https://www.youtube.com/watch?v=5J67xJKpB6c
National Healthcare Scorecard

- 1 in 10 hospitalized patients will have a medication-related adverse event
- 1 in 15 hospitalized patients will develop a preventable hospital-acquired infection
- 1 in 6 patients will have an unplanned 30-day readmission after hospital discharge
- 1:2 patients do not receive recommended preventive care

$20B
$17B
$30B
$55B

Navigating an **OOWAA** …Ocean Of Words, Abbreviations, and Acronyms

P4P  HCAHPS  IQR  VBM  PSIs
MU   H-IT  VBP  P4P  IPPS
IQR  PQRS  HAC  NSQIP
MOC  OQR  SCIP  CGCAHPs
The Squeeze...

Value Defined...Who & What?

KEY STAKEHOLDERS

- Regulatory; CMS
- Employers
- Health plans
- Market strategies
- Payers
- Public: rankings: US News, etc
- Specialty Societies
- Patients
Perspective…

- Died
  - Mortality
  - Back in Hospital
  - Unplanned Readmission

- Procedure
- Prior Hx VTE
- VTE Px Forgotten
- SCIP Fall Out
- Meaningful Use
- Pulmonary Embolism
- PSI-12 ; HAC
- HCAHPs MD Communication
- Poor Transition
- SCIP Fall Out

The VALUE Puzzle

- Equitable
- Efficient
- Patient-Centered
- Safe
- Timely
- Access

- PSI (AHRQ, Others)
- HAIs (CDC/NHSN, others)
- HACs (CMS, others)
- PSIs (AHRQ, Others)
- HAIs (CDC/NHSN, others)
- HACs (CMS, others)
- HCAHPs (CMS, others)
- CGCAHPs (CMS, others)
- Process Measures
  - Mortality (CMS, UHC, Other)
  - LOS (UHC, others)
  - Appropriate (CMS, others)
- Cost
  - Readmissions (CMS, UHC)
- Inpatient Access (payers, patients)
- Time to PCI (CMS)
Are explicitly defined "best practice" measures of care delivery used to gauge how reliably we provide this care to our patients.

Standardized numerators and denominators to allow for performance comparisons across organizations.

<table>
<thead>
<tr>
<th>Measure Type</th>
<th>Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMS: Inpatient Quality Reporting (&quot;Core measures&quot;)</td>
<td>24</td>
</tr>
<tr>
<td>Payers (&gt;90%): Healthcare Effectiveness Data and Information Set (HEDIS)</td>
<td>75</td>
</tr>
<tr>
<td>CMS: Physician Quality Reporting (PQRS)</td>
<td>259</td>
</tr>
<tr>
<td>CMS: Outpatient Quality Reporting</td>
<td>23</td>
</tr>
<tr>
<td>Meaningful Use (EH &amp; EP)</td>
<td>Over 50</td>
</tr>
</tbody>
</table>

Care Process Measure (SCIP VTE-2):
Surgery Patients Who Received Appropriate, timely, VTE Prophylaxis

Numerator: Surgery patients who received appropriate venous thromboembolism (VTE) prophylaxis within 24 hours prior to Surgical Incision Time to 24 hours after Surgery End Time.

Denominator: All selected surgery patients without exceptions

- Patients who are less than 18 years of age
- Patients with procedures performed entirely by laparoscope
- Patients whose total surgery time is less than or equal to 30 minutes
- Patients who stayed less than or equal to 24 hours postop
- Burn patients (Refer to Appendix A, Table 5.14 for ICD-9-CM codes)
- Patients who are on warfarin prior to admission
- Patients with contraindications to both mechanical and pharmacological prophylaxis
- Patients whose ICD-9-CM principal procedure occurred prior to the date of admission
The Timeline can be found under "Running a Practice". Items can be viewed by quarter. Newly added and highlighted resources can always be found here at the top.

Understand the Rules: The Physician & Practice Timeline

- Items with timeframes that run over one quarter are shown in "Ongoing Items".
- The Timeline can be found under "Running a Practice".
- Newly added and highlighted resources can always be found here at the top.
- Items can be viewed by quarter.

Highlighted Resources: PQRS Podcasts
- 2013 PQRS Overview
- PQRS Overview 2013
- "Save Link As" feature on Internet Explorer.
- Click the colored badge for more information about specific programs.

2013: Ongoing Items
- Check the items below for guidance on what you should be working on, collecting, and thinking about right now.
Bring Knowledge to the Encounter…
http://smartmedicine.acponline.org

QI Theories & Methods…

Lean

Total Quality Management

PDSA

Universities of Utah Healthcare
Design for Change...

http://www.youtube.com/watch?v=osUwukXSd0k
High Value Care: Case Example

The context: Last week a patient of yours for the past 20 years suffered an unexpected and fatal myocardial infarction

Today in clinic you see David who is a 49yo non-smoking male with no family history of CAD. He is here for an annual and mentions his concerns about his risk of a heart attack and is requesting additional testing.

On exam: Weight 215 pounds & height is 72 inches. SBP 129. Normal Exam.
Fasting Labs: HDL 40, TC 200, glc 95.

What do you advise David?

a) Exercise ECG (Treadmill)
b) Stress with imaging
c) Coronary angiogram
d) Other
Cost of Waste, Missed Opportunities and Harm

<table>
<thead>
<tr>
<th>Category</th>
<th>Sources</th>
<th>Estimate of excess cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unnecessary Services</td>
<td>• Overuse • Discretionary use beyond benchmarks • Unnecessary choice of higher $ services</td>
<td>$210B</td>
</tr>
<tr>
<td>Inefficient Services</td>
<td>• Mistakes – preventable complications • Care fragmentation • Operational inefficiencies</td>
<td>$130B</td>
</tr>
<tr>
<td>Excess Administrative</td>
<td>• Inefficiencies due to documentation requirements • Insurer’s administrative inefficiencies</td>
<td>$190B</td>
</tr>
<tr>
<td>Excess Pricing</td>
<td>• Service and product prices beyond competitive benchmarks</td>
<td>$105B</td>
</tr>
<tr>
<td>Missed Prevention</td>
<td>• Primary prevention • Secondary &amp; Tertiary prevention</td>
<td>$55B</td>
</tr>
</tbody>
</table>

Total estimated waste: ≈ $700 billion/yr


Growth in volume of physician services per Medicare beneficiary, 2000-2009

From Reinhardt blog, NY Times, 12/24/2010
# Healthcare Utilization Comparisons

<table>
<thead>
<tr>
<th>Service</th>
<th>U.S.</th>
<th>Non-U.S. OECD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital DC / 100,000 persons</td>
<td>13,086</td>
<td>16,243</td>
</tr>
<tr>
<td>Average hospital LOS, d</td>
<td>5.4</td>
<td>6.1</td>
</tr>
<tr>
<td>Physician consultation per capita</td>
<td>3.9</td>
<td>6.5</td>
</tr>
<tr>
<td>Cost per hospital stay</td>
<td>$15,000</td>
<td>$4,000</td>
</tr>
<tr>
<td>CT Scans / 1000 persons</td>
<td>228</td>
<td>115</td>
</tr>
<tr>
<td>MRI Scans / 1000 persons</td>
<td>91</td>
<td>25</td>
</tr>
<tr>
<td>Cardiac Cath / 100,000 persons</td>
<td>358</td>
<td>172</td>
</tr>
<tr>
<td>C-section / 1000 live births</td>
<td>323</td>
<td>234</td>
</tr>
<tr>
<td>Tonsillectomies / 100,000 persons</td>
<td>254</td>
<td>136</td>
</tr>
</tbody>
</table>


# Price Comparison's for Selected Medical Services or Procedures

<table>
<thead>
<tr>
<th>Service/Procedure</th>
<th>U.S. (US $)</th>
<th>France (US $)</th>
<th>Germany (US $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine office visit</td>
<td>89</td>
<td>23</td>
<td>40</td>
</tr>
<tr>
<td>MRI</td>
<td>1080</td>
<td>281</td>
<td>599</td>
</tr>
<tr>
<td>Hospital Stay</td>
<td>15,734</td>
<td>3,396</td>
<td>5,004</td>
</tr>
<tr>
<td>Normal Delivery</td>
<td>9,280</td>
<td>2,536</td>
<td>2,157</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>38,017</td>
<td>11,353</td>
<td>11,418</td>
</tr>
<tr>
<td>CABG</td>
<td>67,583</td>
<td>16,140</td>
<td>16,578</td>
</tr>
</tbody>
</table>

Geographic Variations in the Rates of Stress Test Imaging Procedure
Reprinted with permission from Wennberg et al. (6), The Dartmouth Atlas of Cardiovascular Health Care. Copyright 1999 The Trustees of Dartmouth College.

Figure Legend:
Geographic Variations in the Rates of Stress Test Imaging Procedure
Reprinted with permission from Wennberg et al. (6), The Dartmouth Atlas of Cardiovascular Health Care. Copyright 1999 The Trustees of Dartmouth College.

Geographic Variation in Spending per Medicare Beneficiary
(Part A+B Spending per Beneficiary)

- Unexplained
- Health status of Medicare population
- Medicare Special Payments (GME/IME/DSH)
- Medicare wage adjustments
- Supply (# physicians, # beds, etc.)
- Population characteristics (age, race, etc.)
- Population socioeconomic status (income, education, etc.)
Financial Interests Drive Behavior

Stress Testing Within 30 Days of Outpatient Visit
After Coronary Revascularization (%)

Source: Shah BR et al. JAMA. 2011; 306:1993

Cardiac Stress Test

Description

Indications and Use

Recognize that stress testing should not be routinely used to screen healthy, asymptomatic men and women for CAD. Recognize that routine screening of healthy, asymptomatic men and women with cardiac stress testing is not useful or effective and may have negative consequences because of the low pretest likelihood of disease.

Evidence

- General population screening programs aimed at identifying young patients with early disease are limited in that it is extremely rare to have severe CAD necessitating intervention in asymptomatic patients. Although the physical risks of exercise testing are negligible, false-positive results may cause inappropriate mental anxiety and adversely affect employment and insurance coverage.

Comments

- Although the risk of an abnormal exercise test is apparent, problems regarding employment and insurance resulting from screening must be considered. The USPSTF states that “false positive tests are common among asymptomatic adults, especially women, and may lead to unnecessary diagnostic testing, over treatment and labelling.” This statement summarizes the current USPSTF recommendations on screening for coronary heart disease and the supporting scientific evidence and updates the 1996 recommendations on this topic. In most asymptomatic people, screening with any test or test add-ons is more likely to yield false-positive results than true-positive results, a mathematical reality associated with all of the available tests.

- Three recent studies raise the question of whether exercise testing should be part of the preventive health recommendations for screening healthy, asymptomatic individuals. An analysis of risk factor assessment (2; 3; 4). These studies have shown incremental risk ratios for the synergistic combination of the standard exercise test and risk factors. Other modalities without the documented favorable test characteristics of the exercise test are currently being promoted for screening. Physical inactivity has reached epidemic proportions and what better way to make patients conscious of their deconditioning than by having them do an exercise test that can also “check them” for exercise? Each 1-MET increase in exercise capacity equates with a 10% decrease in mortality in all forms of chronic disease as well as a 4% decline in health care costs.
Back to David...

Calculation of probability of coronary artery disease

45 year-old asymptomatic man with hypercholesterolemia, hypertension, and diabetes

55 year-old man with typical angina

1,000 "Davids" tested
120 test positive
100+ False Positive
2 Harmed

No benefit

J Am Coll Cardiol 1989;13:1563

American College of Physicians
Five Things Physicians and Patients Should Question

1. Don’t obtain screening exercise electrocardiogram testing in individuals who are asymptomatic and at low risk for coronary heart disease.

2. Don’t obtain imaging studies in patients with non-specific low back pain.

3. In the evaluation of simple syncope and a normal neurological examination, don’t obtain brain imaging studies (CT or MRI).

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.

5. Don’t obtain preoperative chest radiography in the absence of a clinical suspicion for intrathoracic pathology.
What Is Value?...

Price is what you pay.

Value is what you get.

-Warren Buffett