Guidelines and Performance Measurement for Accountability

Van Rijn, Rembrandt, The Sampling Officials 1662, Rijksmuseum, Amsterdam, Netherlands

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Topics

• The power of measurement instruments
• Accomplishments and awkward challenges
• The fork in the road: Revise or reimagine?
• Collaboration between guideline and measure developers: is it optional?
On the third, at the seventh hour, the stars were arranged in this sequence. The eastern one was 1 minute, 30 seconds from Jupiter; the closest western one 2 minutes; and the other western one was 10 minutes removed from this one. They were absolutely on the same straight line and of equal magnitude.

On the fourth, at the second hour, there were four stars around Jupiter, two to the east and two to the west, and arranged precisely on a straight line, as in the adjoining figure. The easternmost was distant 3 minutes from the next one, while this one was 40 seconds from Jupiter; Jupiter was 4 minutes from the nearest western one, and this one 6 minutes from the westernmost one. Their magnitudes were nearly equal; the one closest to Jupiter appeared a little smaller than the rest. But at the seventh hour the eastern stars were only 30 seconds apart. Jupiter was 2 minutes from the nearer eastern one, while he was 4 minutes from the next western one, and this one was 3 minutes from the westernmost one. They were all equal and extended on the same straight line along the ecliptic.

On the fifth, the sky was cloudy.

On the sixth, only two stars appeared flanking Jupiter, as is seen.
Performance Measurement: Significant Progress over 20 Years
Quality of U.S. Health Care

All Adults (55%)

Pediatric (47%)

Geriatric Conditions (32%)

GREEN = Care that meets quality standards

McGlynn et al, 2003
Mangione-Smith et al., 2007
National Quality Measures Clearinghouse

• 8,954 measures submitted by 61 orgs*
• 2,133 measure summaries currently published (55 orgs*)
• ~19 measure summaries published per week (September 1, 2012-August 31, 2013 weekly average)

*as of August 31, 2013
NQMC Content Statistics:
Published as of August 31, 2013

- Process Measures: 56%
- Outcome Measures: 17%
- Patient Experience Measures: 15%
- Structure Measures: 6%
- Use of Services Measures: 4%
- Access Measures: 4%
- Other Measures: 1%

*Other includes: User Enrollee Health State Measures; Management Measures and Cost measures
Potential Uses of Measurement, Feedback, and Reporting

• Professional (QI)
  • Promote and reinforce the evidence base of health care
  • Appeal to intrinsic motivation to improve
  • Identify improvement opportunities and monitor progress
  • Guide resource allocation within organizations

• Market (Selection)
  • Stimulate competition among providers on quality and price
  • Enable consumers/purchasers to select providers
  • Set payment incentives
Do Public Reporting and Payment Incentives Accelerate Quality Improvement?

**A. Acute Myocardial Infarction**
- Pay for performance
- Public reporting

**B. Heart Failure**
- Pay for performance
- Public reporting

**C. Pneumonia**
- Pay for performance
- Public reporting

**D. Composite of 10 Measures**
- Pay for performance
- Public reporting

Affordable, quality health care. For everyone.
U.S. Hospital Value-based Purchasing Program

Payment Weights
- Clinical Process Measures 45%
- Outcome Measures 25%
- Patient Experience Measures 30%

30-day Mortality:
- Acute MI
- Heart Failure
- Pneumonia

Patient Experience Measures:
1) Communication
2) Pain Management
3) Discharge Information
4) Hospital Cleanliness
5) Overall Rating

Clinical Process Measures:
1) Acute Myocardial Infarction
2) Heart Failure
3) Pneumonia
4) Perioperative Safety Measures

Outcome Measures:
- Acute MI
- Heart Failure
- Pneumonia
MARTIANS FINISH CANAL ON PLANET

MARS' IRRIGATION SCHEME SEEN TO WORK WONDERS.

Professor Percival Lowell, of Flagstaff, A. T., says he's photographed redeemed desert.

CHICAGO, Febr. 14.—(Special)—An announcement of final proof that the planet Mars is inhabited was made by Professor Percival Lowell, the famous...
Performance Measurement: Theory and Practice

- Skepticism about results
  - Risk adjustment
  - Patient preferences
  - Outcomes vs. process

- Disconnect between measurement system and day-to-day work of clinicians

- Burdensome data collection and reporting requirements
Quality Measures Are Still Rudimentary

Preventive services
  Was recommended screening performed on schedule?

Chronic disease management
  Were basic tests and treatments provided?

Intermediate outcomes
  Blood pressure control, blood glucose control

Structure
  Does the provider have an electronic health record?
Too Many Measures for Accountability?

• Redundant and misaligned measures in US federal programs
  – Smoking cessation (61)
  – HIV (113)
  – Obesity (19)
  – Perinatal health (68)

• IOM proposed solution
  – “Core measures:” a mix of measures (obesity, heart attack composite) and public health goals (individual engagement, community engagement,...)
Current Measures Inadequate to Support Value-based Purchasing

U.S. General Accounting Office, 2015
Growing pains or serious disease?
Methodological Challenges

• Proliferation of guidelines that vary
• Data constraints
• Sampling, non-response bias, missing data, unmeasured populations
• Serial cross section approach not designed to assess the effectiveness of care for a patient over time
Proposal for a Way Forward: Reimagining Quality Measurement

• Integrate with care delivery
  – Make it useful in supporting real-time care delivery

• Address the challenges that clinicians face on a daily basis
  – Common and uncommon diseases, multiple comorbidity patients

• Reflect patient goals and preferences
  – Formalize data that are currently unstructured
A Reimagined Measurement System: Three Components

- Comprehensive inventory of each patient’s health and health care needs (a dashboard)
- Mechanism for matching potential evidence-based interventions to the needs (guideline-driven)
- Structured assessment of patients’ health goals and preferences (formalized)

McGlynn EM, Schneider EC, Kerr EA; NEJM 2014
The Output

• An aggregate estimate of the effectiveness of clinicians and systems at delivering appropriate and effective care to the right individuals based on jointly-developed individual goals and preferences

\[ \text{Benefit delivered to patient } i = b_{1i}p_{1i} + b_{2i}p_{2i} + b_{3i}p_{3i} + \ldots + b_{ki}p_{ki} + \ldots \]
What will be necessary?

1. Redesigned patient record: a “care-plan dashboard”

2. Compendium of best-in-class, evidence-based, standardized guideline recommendations

3. Identify patient groups identified as having preference-sensitive treatment options
What will be necessary?

4. New systematic approach to recording patient goals and preferences

5. Mapping of enterprise-wide data flows to support a nimble and flexible measurement infrastructure

6. Methods for quality score construction with various units of analysis

McGlynn EM, Schneider EC, Kerr EA; NEJM 2014
Why is Collaboration between Guideline and Measure Developers Critical?

• Guideline developers
  – have deep knowledge of patient and treatment heterogeneity
  – apply rigorous evidence synthesis to development of recommendations for selected populations

• Measure developers
  – have deep knowledge about the application of evidence in practice
  – convert recommendations and epidemiological knowledge to measure specifications
Crossing the Quality Chasm

Hanging onto the cable.