Platforms for Performance: Clinical Dashboards to Improve Quality and Safety

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Disclosures
The program chair and presenters for this continuing pharmacy education activity report no relevant financial relationships.

Introduction to Clinical Performance Measure Dashboards: Evidence and Required Resources

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Learning Objectives
- Explain the evidence in support of the use of clinical performance metrics to achieve outcomes
- Identify the resources and personnel necessary for the implementation of clinical analysis measure dashboards
- Generate a strategy to determine appropriate clinical measures to meet the needs of a healthcare system
- Execute effective programs to gain support for the use of clinical dashboards by providers in patient care
- Systematize processes of multi-disciplinary and pharmaceutical care using Clinical Analysis metrics and dashboards

Why are We Trying to Improve?

The Cost of a Long Life

Gaps in Care

Incentive structures need to support appropriate utilization and improved quality
A system can’t deliver evidenced-based health care without the support of evidenced management

<table>
<thead>
<tr>
<th>Patients Receiving Evidence-based Care</th>
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<tbody>
<tr>
<td>Acute</td>
</tr>
<tr>
<td>$</td>
</tr>
<tr>
<td>53.5%</td>
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</tbody>
</table>

Source: Pham et al, "Delivery of Preventive Services to Older Adults by Primary Care Physicians," JAMA, July 27, 2005
Source: McGlynn et al, "The Quality of Health Care Delivered to Adults in the United States," NAM, 2003" To Err Is Human, Institute of Medicine, 1999
Developing a Process Improvement Culture

- Quality measurement and reporting is changing rapidly and will continue to do so
  - Improvement Science – manage variability
  - Rapid Process Improvement Team
  - Lean Thinking – waste

- While measuring the quality of healthcare and using those measurements to promote improvement is commonplace, it is not universally embraced
  - Clipboard Quality operations are being replaced
  - Analysis of data for Transactional Quality

- Many quality measurement have been tied to incentives to promote involvement
  - Focus now on value not just performance

Are we really hitting the target?

Performance Measures

Advanced Analytics

- Understanding variation and association, i.e., what are the factors that explain the relationship between X and Y
  - Adjustment and multivariate analysis, e.g., risk-adjusted mortality rates (Hospital Compare)

- Prediction, e.g., high-risk patients

- Data Mining

Example: Poor hypertension control

- ~80% VA patients have BP <140/90.
- Is this a problem?

In clinical trials, antihypertensive therapy has reduced the incidence of stroke on average 35-40%; AMI 20-25%; and heart failure 50%
Question: Why? What additional data might be helpful

- Data about providers
  - Do all teams, providers achieve equivalent control?
  - Are providers not adjusting therapy appropriately?

- Data about patients
  - Are certain patients more likely to be in poor control (elderly, women, with mental health diagnosis)?
  - Is poor control related to poor adherence to meds?

- Data about facility level factors

Is it a Provider Problem?

<table>
<thead>
<tr>
<th>SBP&lt;140 and DBP&lt;90</th>
<th>82%</th>
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</thead>
<tbody>
<tr>
<td>SBP&lt;150 and DBP&lt;65</td>
<td>21%</td>
</tr>
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</table>

Index SBP<150 and on ≥3 moderate dose BP meds 15%

Appropriate clinical action within 90 days

↑ dose current BP med, start new med, or switch class 33%

Repeat SBP<140 and DBP<90 21%

Meets new measure 94%

Nationally 26% of diabetic patients with BP < 140/65, of whom nearly 80,000 - or ~8% - were potentially being over-treated.

- E Kerr et al, Ann Arbor VAMC

Building Value in the Delivery System

- Continuous improvement is embraced as a core operating principle
- Improving our work is our work!
  - Requires accurate and timely data about quality, cost, access and satisfaction
  - The system must provide time and resources dedicated to doing improvement work
- The goal is to operate in a high reliability healthcare system

Value = Technical Quality + Pt. Satisfaction
Unit Cost + Appropriateness

For the past 12 years the VHA has emphasized “Quality” as the main “Corporate” goal

Value is the management of Quality, Safety and Reliability

Background You Bring to this Topic?

- A. IT Pharmacist interested in Analytics
- B. Pharmacist Clinician
- C. Administrator
- D. Other
Definitions

- Provider = any of the various levels of healthcare in the system whose performance may be evaluated, usually an individual practitioner, group, sight of care
- Measure = metric = indicator
- User = intended consumer of the information, such as providers, administrator, quality managers

Criteria to Measure New Metrics *

1. Must be based on a strong foundation of research showing the process to improve will lead to improved clinical outcomes
   - Similar to process recommended for practice guidelines
2. The measurement strategy must accurately capture whether evidence-based care has been delivered
   - ASA, β-blocker or ACE/ARB at discharge
   - If not titrated to target dose after discharge there may be no associated decreased mortality
3. The measure should address a process quite proximal to the desired outcome with few intervening processes in between
   - Scheduled Mammography or Pap smears
   - Couple with timeliness of f/u
4. The measure should have no or minimal unintended adverse consequences
   - ↓ A1C and hypoglycemia


Types of Measures

- **Outcome** – typically refer to clinical events such as mortality, morbidity, and quality of life
  - Need risk adjustment, usually low frequency
- **Process** – reflect what is actually done for a patient in terms of diagnosis, treatment, and other support services
  - Require careful consideration contraindications, most common
- **Structure** – describe component or characteristics of the care delivery system thought to have an influence on healthcare delivery or outcomes e.g. physical facilities, staff qualifications, case volume or use of HER
  - Indirect measure of care
- **Other** -- Patient Satisfaction, Appropriateness, Resources (cost) associated with healthcare

Criteria for Selecting and Evaluating Performance Measures

- Trade off between importance and feasibility
  - Strategic Importance vs. What can be measured reliably
- Reliability – true differences (signal) and chance variation (noise)
  - Many types – Construct, Face, Criterion, Precisions/Reliability
- Evidence should link better performance with improved patient outcomes
  - To date empirical studies have found only a modest association between measures and outcomes*
- Internal consistency of indicators


Accountability Measure Groups (Performance Measures Development)

What Performance Measure Group are You Most Familiar With?

- A. Joint Commission -- ORYX
- B. CMS – Hospital Compare
- C. National Quality Forum (NQF)
- D. NCQA – HEDIS Measures
- E. Unfamiliar with them all – it’s alphabet soup to me
HEDIS® (Health Plan Employer Data and Information Set)

- HEDIS is NCQA's tool used by health plans to collect data about the quality of care and service they provide.
- HEDIS consists of a set of performance measures that tell how well health plans perform in key areas: quality of care, access to care and member satisfaction with the health plan and doctors.
- HEDIS requires health plans to collect data in a standardized way so that comparisons are fair and valid.

The National Quality Forum (NQF)

- The mission of the National Quality Forum is to improve the quality of American healthcare by setting national priorities and goals for performance improvement, endorsing national consensus standards for measuring and publicly reporting on performance, and promoting the attainment of national goals through education and outreach programs.

NQF Three Steps

- Define quality with uniform standards and measures
  
  **Draft Guidance for Measure Testing and Evaluating Scientific Acceptability of Measure Properties**
  

- Information gleaned from measuring performance is reported and analyzed to pinpoint where patient care falls short

- Caregivers examine information about the care they are providing and use it to improve

National Quality Forum

- **Goal of Performance Measures:** to achieve quality care

- How do we know we’re getting quality?

  Three step process:
  
  - Measure
  - Report
  - Improve

  NQF-Endorsed Standards – 615

Centers for Medicare & Medicaid Services (CMS)

- **The Hospital Quality Alliance:**
  Improving Care Through Information (HQA) is a public-private collaboration to improve the quality of care provided by the nation's hospitals by measuring and publicly reporting on that care

- **CMS Medication Measures**
  
  - Medicaid and Medicare Part D
**Hospital Compare**

- An important element is a website tool developed to publicly report credible and user-friendly information about the quality of care delivered in the nation’s hospitals by zip code.
- Measures reported include (risk-adjusted):
  - Treatments for heart attack, heart failure, COPD, pneumonia DM in adults, chest pain, and surgical care improvement/surgical infection prevention.

  - [www.hospitalcompare.hhs.gov](http://www.hospitalcompare.hhs.gov)
  - [www.medicare.gov](http://www.medicare.gov)

**JC ORYX**

Joint Commission initiative that integrates performance measures into the accreditation process

**Structure of the VA Executive Career Field Plan**

- Element 1: Organizational Performance Goals
  - sub-elements encompass specific measureable requirements
  - Reported Publically as Aspire Data

- Does Your Employer Currently Use Files from Electronic Health Records to Report Performance Measures to Improve Patient Care?
  - **A. Yes**
  - **B. No**

**Why Dashboards?**

(Strongest Version of the Truth)

- Analytic data to look at a problem from many angles
- Combine many related measures
- Decrease the cost of data collection (all EHR files)
- 100% sample
- If real time, Dashboards can be used directly by providers to:
  - Improve care
  - Validate data and results
  - Analyze cycle time (plan, do, study, act)
  - Evaluate prospectively vs. retrospectively (GPS vs. Rearview mirror)
- Performance Measures are not perfect (all or none)
- Allow application to individualize care
- Prioritize work of improvement to healthcare teams (PACT)
  - Worst performing group first
  - Most available group based on next appointment
  - Most important – Pay 4 Performance
- Allows sustained improvement
- Not one and done

**Outpatient Clinical Performance Dashboard**

- The dashboard is used to improve patient care.
- Performance Measures are not perfect (all or none).
- Allows application to individualize care.
- Prioritize work of improvement to healthcare teams (PACT)
  - Worst performing group first
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  - Most important – Pay 4 Performance
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