Pharmacy Impact on Quality and Outcomes: New Era for Measuring Value

PATRICIA KIENLE, M.P.A., B.S.PHARM., FASHP
FRANK FEDERICO, B.S.PHARM.
Patricia C. Kienle, M.P.A., B.S.Pharm., FASHP
Director, Accreditation and Medication Safety
Cardinal Health Pharmacy Solutions
Houston, Texas

Patricia C. Kienle, M.P.A., B.S.Pharm., FASHP, is the Director of Accreditation and Medication Safety for Cardinal Health Pharmacy Solutions. She received her pharmacy degree from the Philadelphia College of Pharmacy and Science, and a Master of Public Administration from Marywood University in Scranton, Pennsylvania. She completed an Executive Fellowship in Patient Safety from Virginia Commonwealth University and is an Adjunct Associate Professor at Wilkes University in Wilkes-Barre, Pennsylvania.

Ms. Kienle has served on the Board of Directors of the American Society of Health-System Pharmacists (ASHP) and as President of the Pennsylvania Society of Hospital Pharmacists (PSHP). She is an ASHP Fellow, PSHP Pharmacist of the Year, and Distinguished Achievement Award in Hospital and Institutional Practice recipient from the American Pharmaceutical Association Academy of Pharmacy Practice and Management. She served on the Pharmacotherapy Specialty Council of the Board of Pharmaceutical Specialties, Hospital Professional and Technical Advisory Committee of the Joint Commission pharmacist member, and Board of Governors of the National Patient Safety Foundation member.

Ms. Kienle is a frequent presenter to professional groups, with special interests in promoting medication safety, compounding sterile preparations, accreditation and regulatory issues in pharmacy, and providing pharmacy services in integrated health systems. Ms. Kienle is the author of Compounding Sterile Preparations: ASHP's Visual Guide to Chapter <797> video and Companion Guide and co-author of Assuring Continuous Compliance with Joint Commission Standards: A Pharmacy Guide, 8th edition. She edited Understanding JCAHO Requirements for Hospital Pharmacies.
Frank Federico, B.S.Pharm.
Executive Director, Strategic Partners
Institute for Healthcare Improvement
Cambridge, Massachusetts

Frank Federico, B.S.Pharm. is Executive Director for Strategic Partners and patient safety faculty at the Institute for Healthcare Improvement in Cambridge, Massachusetts. His primary areas of focus include patient safety, application of reliability principles in health care and the Idealized Design of Perinatal Care. He is also faculty for the Patient Safety Executive Training Program. Mr. Federico has worked with the Institute for Healthcare Improvement since 1996 as a faculty member and Co-Chair of a number of Patient Safety Collaboratives. Prior to joining IHI, Mr. Federico was the Program Director of the Office Practice Evaluation Program and a Loss Prevention/Patient Safety Specialist at Risk Management Foundation (RMF) of the Harvard Affiliated Institutions in Cambridge, MA. He, along with a team of nurse surveyors, developed a compendium of effective practices to reduce risk and harm in the office setting. Mr. Federico is one of the Executive Producers of First, Do No Harm, Part 2: Taking the Lead.

His experience in improving medication and patient safety began with his role as assistant director and director of pharmacy services at Children’s Hospital in Boston. He co-chaired the medication safety committee, charged with re-designing the medication process. This led to participation in the Institute for Healthcare Improvement’s (IHI) first Adverse Drug Event Collaborative. During that collaborative, he joined the faculty and participated in subsequent collaboratives. Mr. Federico co-chaired a number of patient safety collaboratives where the scope of the work included medications. Mr. Federico is the content lead in IHI’s work in the Safer Patient Initiative I and Safer Patient Initiative II, and the Scottish Patient Safety Programme and the Denmark Patient Safety Program.

He was lead faculty for the medication-related interventions for the IHI 100,000 Lives Campaign and the IHI 5 Million Lives Campaign. He continues in that role for the IHI Improvement Map.

Frank Federico is a member the USP’s National Coordinating Council for Medication Error Reporting (NCC-MERP). He is co-author of a chapter in Achieving Safe and Reliable Healthcare, Strategies and Solutions. Frank Federico lectures extensively, nationally and internationally, on patient safety.
Pharmacy Impact on Quality and Outcomes: New Era for Measuring Value

ABSTRACT

As consumers and insurers become more attuned to quality metrics, resource allocation based on outcomes will be more prevalent. Pharmacy is often charged with monitoring medication-related metrics, but is often overlooked as health systems devise monitoring parameters. This workshop will assist participants in developing practical methods to assess metrics to measure value of medication-related issues.

LEARNING OBJECTIVES

After participating in this application-based educational activity, participants should be able to

- Analyze common medication-related metrics.
- Summarize the impact of medication-related quality measures based on the National Quality Forum (NQF) National Voluntary Consensus Standards for Medication Management.
- Identify and monitor measures for quality metrics relevant to your institution.
Pharmacy Impact on Quality and Outcomes
New Era for Measuring Value

Patricia C. Kienle, M.P.A., B.S.Pharm., FASHP
Director, Accreditation and Medication Safety
Cardinal Health Pharmacy Solutions
Houston, Texas

Frank Federico, B.S.Pharm.,
Executive Director, Strategic Partners
Institute for Healthcare Improvement
Cambridge, Massachusetts

Learning Objectives

• Analyze common medication-related metrics.
• Summarize the impact of medication-related quality measures based on the National Quality Forum (NQF) National Voluntary Consensus Standards for Medication Management.
• Identify and monitor measures for quality metrics relevant to your institution.

Agenda

• Define quality
• Identify current external reporting
• Case Study: Hospital system
• BREAK
• Case Study: Your hospital
• Determine appropriate pharmacy-centered metrics
Quality Metrics

Are Quality Metrics a focus in your organization?
- Reported, but limited pharmacy involvement
- Reported; pharmacy is involved
- Unaware of metrics used

Questions

- How are measures collected in your organization?
- Do you believe that those measures accurately reflect the activities of your organization and department?
- How do you use the information to drive improvement?
- Do staff see the data?
- For which of the measures are you held accountable?

How Many Measures?

- The National Quality Forum has endorsed approximately 626 quality measures
- The Joint Commission from a selection of 57 inpatient measures
  - currently, 31 of these are publicly reported,
  - and there are plans to add the remaining, newly implemented measures over time

References:
Where Does Your Data Appear?

- Hospital Compare Web site at http://www.hospitalcompare.hhs.gov/

- The Centers for Medicare & Medicaid Services (CMS) encourages the use of nationally recognized, tested and vetted quality measures in state quality improvement activities where applicable

All Health Systems Need ...

Continuous measurements of clinical quality and value & business performance – at all levels of a health system – to guide planning, management and improvement

R Lloyd, MHI.

“In God we trust. All others bring data.”

W. E. Deming
<table>
<thead>
<tr>
<th>What’s Needed?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every system must have ...</td>
</tr>
</tbody>
</table>
| 1. High measured quality based on evidence and patient perceptions  
  - NQF, TJC, CMS                                                                                                                                            |
| 2. Ways to improve quality and take out costs  
  - CMS, Leapfrog                                                                                                                                            |
| 3. Transparent quality and cost measures for public to use  
  - IOM, CMS, AHA, Dartmouth Atlas, Solucient                                                                                                                |
| 4. High performance at all levels of the organization to improve quality & value & operating margin while attracting a highly engaged workforce  
  - Boards, Bond Raters (Moody, Standard & Poors)                                                                                                            |

---

<table>
<thead>
<tr>
<th>Working Toward a Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Health systems must answer the 2 big questions:</td>
</tr>
<tr>
<td>1. Quality &amp; Value: Is the system providing care and services that meet patients’ needs for high quality and value care?</td>
</tr>
<tr>
<td>2. Business Performance: Is the organization performing in a way that will enable it to grow and survive given available resources?</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Safety as a Dimension of Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.Lloyd, IHI.</td>
</tr>
</tbody>
</table>
IOM Dimensions

Care that is
• Safe
• Effective
• Patient-centered
• Timely
• Efficient
• Equitable

Thinking about measuring?

• Why?
  − Improvement? (learning)
  − Accountability? (judgment)
  − Research? (developing new knowledge)

• What?
  − The phenomenon?
  − The perception of the phenomenon?

• At what stage?
  − Structure?
  − Process?
  − Outcome?

• Internal vs. External Reporting

The Three Faces of Performance Measurement
### Measurement for Learning
**Not for Judgment**

<table>
<thead>
<tr>
<th>Learning</th>
<th>Judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Daily weight</td>
<td>1. Weight loss of 30 lb or not</td>
</tr>
<tr>
<td>2. LOS weekly</td>
<td>2. LOS reduced to 5 days or less</td>
</tr>
<tr>
<td>3. % time each of X# of tasks completed</td>
<td>3. All or nothing measure: all X# of tasks completed or not</td>
</tr>
<tr>
<td>4. Turnaround times</td>
<td>4. % turnaround time within 12 hours</td>
</tr>
<tr>
<td>5. LOS in the ED for admitted patients</td>
<td>5. % of patients admitted from the ED &lt; 2 hours</td>
</tr>
</tbody>
</table>

---

### U.S. Department of Health & Human Services (HHS) Measure Inventory

The U.S. Department of Health & Human Services (HHS) is committed to providing the public an inventory of the measures that are currently being used by the Divisions in HHS for quality measurement, improvement, and reporting. The Department’s goal is to further advance collaboration among members of the quality community and to advance the effective use and harmonization of quality of care measures. The Department’s transparency about the quality measures being used lays the foundation for the measurement enterprise and local users to build and improve upon.


---

- Guess the number of measures listed in the inventory:

1476
NQF Measures

• Approximately 626 NQF-endorsed measures
• Estimated 257 of those measures relate to medication use

How Does Measurement Help Us?

• By showing the variation that lives within our data (and therefore our processes)
• By indicating whether the way we react to that variation is taking us in the right direction


Good Measures Allow Us To ...

• Move us from anecdotes to focusing on objective data
• Increase the understanding for variation in the processes
• Follow a process over time
• See the effects of change
Building a Cascading System of Measures

L 1
Board & CEO

Macro Metrics – Mainly Outcomes

L 2
Departments Clusters
Clinical programs

Meso Metrics – Outcomes + Processes + Structure

L 3
Microsystems: Units

Micro Metrics – Processes + Structure

L 4/ 5
Physician & Patient

Individual Metrics Processes + Structure

Multiple measures
Donabedian’s Quality Framework

Structure (structures of care)

Process (care processes – delivery & coordination)

Outcomes (health outcomes)

Balanced measurement system
Whole System Measures

- Show performance of their health care system over time.
- Allow the organization to see how it is performing relative to its strategic plans for improvement.
- Allow comparisons to other similar organizations.
- Serve as inputs to strategic quality improvement planning.

Use Multiple Measures

- **Outcome Measures** (voice of the customer or patient): How is the system performing? What is the result?
- **Process Measures** (voice of the workings of the system): Are the parts/steps in the system performing as planned?
- **Balancing Measures** (looking at a system from different directions/dimensions): Are changes designed to improve one part of the system causing new problems in other parts of the system?

Criteria

<table>
<thead>
<tr>
<th>Table 1. Four Criteria for Accountability Measures That Address Processes of Care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There is a strong evidence base showing that the care process leads to improved outcomes.</td>
</tr>
<tr>
<td>2. The measure accurately captures whether the evidence based care process has, in fact, been provided.</td>
</tr>
<tr>
<td>3. The measure addresses a process that has few intervening care processes that must occur before the improved outcome is realized.</td>
</tr>
<tr>
<td>4. Implementing the measure has little or no chance of inducing unintended adverse consequences.</td>
</tr>
</tbody>
</table>
Healthcare Quality Evolution

1999 IOM  2002 Core Measures ???

Quality Metrics

What organization drives quality issues in your organization?
- Joint Commission
- IHI
- Other

Key Organizations
- Joint Commission
- Medicare (CMS)
- Institute of Medicine (IOM)
- Institute for Healthcare Improvement (IHI)
- National Quality Forum (NQF)
NQF

- Created in 1999
- Public-private partnership: providers and industry
- National strategy for healthcare quality measurement and reporting
- Harmonization: the final common pathway for review and approval of performance measures
- www.qualityforum.org

NQF

- Voluntary Consensus Standards
- Safe Practices for Better Healthcare
- Serious Reportable Events

Voluntary Consensus Standards

- End-Stage Renal Disease
- Care of Adults with Diabetes
- Emergency Care
- Perinatal Care
- Treatment of Substance Abuse Conditions
- Nursing-Sensitive Care
Quality Metrics

Who is aware of Never Events?

• Heard term; unaware of details
• Never heard the term used
• Aware of at least one

Safe Practices for Better Healthcare

• Leadership
• Culture
• Identification and mitigation of risks and hazards
• Pharmacist leadership

Serious Reportable Events

• Death or serious disability due to
  – Medication error
  – Contaminated drug
  – Use or function of a device
  – Hypoglycemia
  – Impersonating a pharmacist
Quality Indicator Process

- National Goals
- Measure Development
- NQF Endorsement
- Measure Selection
- Data Collection, Aggregation, Verification
- Public Reporting and Accountability
- Quality Improvement

Were the goals achieved?

Quality Measurement

- Goal: evidence-based link between process indicator and patient outcomes
- Do current measures meet this goal?

Quality Metrics

- Do current measures meet this goal?
  - Evidence-based
  - Link indicator and outcomes
  - Don’t meet these criteria
Quality Measures – Now

- Standardized measurement
- Accreditation requirement
- Public reporting
- Potential decreased reimbursement

Quality Measures – The Future

- Research demonstrates that process measured leads to improved clinical outcomes
- Measurement must accurately capture if the care has been delivered
- Measure should address a process proximate to the desired outcome, with relatively few intervening processes
- Measure should have minimal or no unintended consequences

Goals

- Identify best practices
- Health care’s goal
- Pharmacy’s goal
Case Study

- During a recent directors’ meeting you learned that the CEO is extremely upset. The chairperson of the hospital board contacted the CEO after a conversation he had with a prominent community member and patient of the hospital.
- The patient shared how he had visited the Hospital Compare website and noticed that the local hospital rated poorly in a number of quality measures. In aggregate, the hospital ranked below all other hospitals in the region.

- The agenda for the directors’ meeting included a discussion of how the hospital would improve the scores so that the hospital would rank as the top in class in all areas of care for the region.
- You have been charged with finding ways to improve the results.
Questions

- What responsibility does the pharmacy director have to improve the performance of this organization?
- Do you believe that those measures accurately reflect the activities of your organization and department?
- How do you as a pharmacy leader use this information to drive improvement?
- Do staff see this data?
Case Study

- Your CFO has been promoted to CEO
- He is aware of your department’s stellar clinical reputation
- Previous encounters with him have largely centered around cost/patient day and FTEs/occupied bed; these are consistently greater than the other hospitals in your system

- He has asked each department head to define and monitor 3 quality measures, in line with the hospital’s key service offerings
- Your meeting with him is tomorrow

Questions

- What responsibility does the pharmacy director have to improve the performance of this organization?
- Do you believe that those measures accurately reflect the activities of your organization and department?
- How do you as a pharmacy leader use this information to drive improvement?
- Do staff see this data?
### 2008 PATIENT SAFETY AND PERFORMANCE IMPROVEMENT PRIORITIES

**[Severity x Occurrence x (2x Regulatory) + (2x GAP) + (2x Financial Impact)]**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>Level of Severity</th>
<th>Severity</th>
<th>Occurrence</th>
<th>Regulatory</th>
<th>GAP</th>
<th>Financial Impact</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ventilator-Associated Pneumonia</td>
<td>Hazardous</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>162</td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>High-Very High</td>
<td>8-9</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>138</td>
</tr>
<tr>
<td>Team Training</td>
<td>High-Moderate</td>
<td>7</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>135</td>
</tr>
<tr>
<td>Medication Administration</td>
<td>Hazardous</td>
<td>10</td>
<td>9</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>125</td>
</tr>
<tr>
<td>Antibiotics</td>
<td>Hazardous</td>
<td>10</td>
<td>9</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>120</td>
</tr>
<tr>
<td>Infection Prevention</td>
<td>High-Very High</td>
<td>8-9</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>115</td>
</tr>
<tr>
<td>Medication Reconciliation</td>
<td>High-Moderate</td>
<td>7</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>110</td>
</tr>
<tr>
<td>NOF Line Infection</td>
<td>Moderate</td>
<td>4-5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>Central Line Infection</td>
<td>Moderate</td>
<td>4-5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>Preventable stew deaths</td>
<td>Moderate</td>
<td>4-5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>105</td>
</tr>
<tr>
<td>Partnership W/ Patient</td>
<td>Moderate</td>
<td>4-5</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>105</td>
</tr>
</tbody>
</table>

#### SEVERITY

<table>
<thead>
<tr>
<th>Level of Severity</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous</td>
<td>10</td>
<td>Impact to individual patient can result in death.</td>
</tr>
<tr>
<td>High-Very High</td>
<td>8-9</td>
<td>Impact to individual can result in permanent injury/major injury.</td>
</tr>
<tr>
<td>High-Moderate</td>
<td>7</td>
<td>Minor injury or causes high degree of customer dissatisfaction; may seriously interrupt subsequent processes; requires major re-work or significant waste.</td>
</tr>
<tr>
<td>Moderate</td>
<td>4-5</td>
<td>Major system problem that may affect patients or causes some customer dissatisfaction; may require re-work or change to equipment.</td>
</tr>
<tr>
<td>Minor</td>
<td>2-3</td>
<td>Moderate system problem. Causes some customer annoyance; may cause inconvenience to the subsequent process users.</td>
</tr>
<tr>
<td>None</td>
<td>1</td>
<td>No effect.</td>
</tr>
</tbody>
</table>

---

**Doug Salvador, Maine Medical Center**
Pharmacy-Sensitive Quality Metrics

- What should pharmacy adopt as quality metrics for inpatient care?

- Criteria to consider
  - Measurable
  - Sensitive to key quality initiatives
  - Applicable to all sizes and scopes of acute care facilities

- Nursing-sensitive criteria
  - Important
  - Scientifically acceptable
  - Useable

- Categories
  - Patient-centered outcomes (falls)
  - Nursing-centered interventions (smoking cessation)
  - System-centered measures (skill mix, hours per patient day)
Pharmacy-Sensitive Quality Metrics

Resources

- Chassin MR, et al, Accountability measures – using measurement to promote quality improvement, NEJM, 3 July 2010
- Joint Commission Perspectives, Helping hospitals with accountability measures, 2010: 30(8)
- Nursing-Sensitive Care, NQF, www.qualityforum.org/Projects/n-r/Nursing-Sensitive_Care_Initial_Measures/Nursing_Sensitive_Care_Initial_Measures.aspx

The Changing Landscape of Health Care: Cultivating Leadership in Health-System Pharmacy

Pharmacy Impact on Quality and Outcomes
New Era for Measuring Value

Thank You!
 SELF-ASSESSMENT QUESTIONS

1. Which of the following organizations is the common clearinghouse for endorsed quality measures?
   a. The Joint Commission.
   c. CMS.
   d. IHI.

2. One website where you can view reported metrics and compare hospitals is
   a. Joint Commission Quality Check.
   b. Hospital Compare.
   c. CMS’ Medicare Information for Providers.

3. NQF’s Serious Reportable Events is commonly referred to as
   a. Quality Events.
   b. State Reportable Events.
   c. Sentinel Events.
   d. Never Events.

4. National quality metrics for hospitals should be
   a. Specific to the size of the hospital.
   b. Locally developed.
   c. Applicable to all acute care facilities.
   d. Applied when approved by an organization’s P&T committee.

 ANSWERS:

 1. b
 2. b
 3. d
 4. c