CHAPTER 9

PERFORMANCE IMPROVEMENT
HOSPITAL
PERFORMANCE IMPROVEMENT
Introduction to terminology and requirements

Performance Improvement (PI)

- PI program required by:
  - Florida Board of Pharmacy
  - The Joint Commission
  - Center for Medicaid/Medicare Services (CMS)
- Powerful tool
- Systematic process
  - Example: Plan-Do-Study-Act (PDSA) methodology
- Focus on patient safety and optimizing care

Required areas for hospital performance improvement:

- Medication Error Detection and Prevention Program
- Adverse Drug Reactions
- CMS Hospital Core Measures
- Medication Use Evaluation (MUE)
- Proactive Risk Assessment (FMEA)
- External Benchmarking - optional

Medication Error Detection and Prevention Program

Florida Board of Pharmacy

- Requirement for Continuous Quality Improvement Program (CQI) to identify quality-related events and to improve patient care (64B16-27.300).
- Applies to all pharmacy permits
- Inappropriate dispensing
  - Variation from the prescription (incorrect drug strength, dosage form, patient, inadequate or incorrect labeling or directions)
  - Failure to identify and manage therapy (under or over utilization, duplication, contraindications, interactions, duration, allergy, or monitoring)
- Requires policy and procedure
- Quarterly meetings with documentation requirements for 4 years
- Includes assessing the impact of staffing levels, work flow, and technical support
Medicare CoP §482.25 (b) (6) and 482.21 - The hospital must report drug administrative errors, adverse drug reactions and drug incompatibilities to its hospital-wide QAPI program”. Definition of medication error and ADR should be broad enough to include “near misses”. Program should be non-punitive with the focus on the system and not the involved health care professionals.

The Joint Commission (MM.07.01.03)

- The hospital collects data on significant medication errors and significant adverse drug reactions, adverse events related to moderate or deep sedation or anesthesia, and the use of blood and blood components.
- Root cause analysis (RCA) required for sentinel events.
  - Definition: “Unexpected occurrence involving death or serious physical or psychological injury, or the risk thereof. Serious injury includes loss of limb or function.”
  - Voluntary reporting to The Joint Commission. Includes assessment of human factors, equipment factors, controllable environmental factors and uncontrollable external factors, leadership issues such as culture and communication.
  - Commonly identified root causes include medication use (formulary, storage/control, labeling, ordering, preparing/distributing, administering and/or patient monitoring) with most having multiple root causes (leadership, communication, human factors, assessment, information management, physical environment, continuum of care, care planning, and patient education)

“CODE 15” – state required reporting of significant medical errors. Reported by hospital Risk Manager. Pharmacy Director involved if medication event.

Adverse Drug Reactions

TJC Standard MM.07.01.03 - The hospital responds to actual or potential adverse drug events, significant adverse drug reactions, and medication errors. The hospital has a written process addressing prescriber notification in the event of an adverse drug event, significant adverse drug reaction, or medication error.
Hospital Core Measures

- The Joint Commission ORYX Core Measures are required to be reported by hospitals
- Measurement results posted for public on Hospital Compare website (www.hospitalcompare.hhs.gov)
- Compliance affects hospital reimbursement

Acute Myocardial Infarction (AMI)
- Aspirin at Arrival
- Aspirin at Discharge
- ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction
- Beta Blocker at Arrival
- Beta Blocker at Discharge
- Fibrinolytic Medication Within 30 Minutes Of Arrival
- Percutaneous Coronary Intervention (PCI) Received Within 90 Minutes of Hospital Arrival
- Smoking Cessation Advice/Counseling

Heart Failure
- Evaluation of Left Ventricular Systolic (LVS) Function
- ACE Inhibitor or ARB for Left Ventricular Systolic Dysfunction
- Discharge Instructions
- Smoking Cessation Advice/Counseling

Pneumonia
- Oxygenation Assessment
- Pneumococcal Vaccination
- Influenza Vaccination
- Blood Culture Performed in the Emergency Department Prior to Initial Antibiotic Received in Hospital
- Appropriate Initial Antibiotic Selection
- Smoking Cessation Advice/Counseling

Surgical Care Improvement/Surgical Infection Prevention (SCIP)
- Prophylactic Antibiotic Received Within 1 Hour Prior to Surgical Incision
- Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery End Time
- Prophylactic Antibiotic Selection
- Appropriate Venous Thromboembolism Prophylaxis started at the right time
- Appropriate body temperature

Perinatal Care
Venous Thromboembolism (VTE)
Stroke (STK)
Hospital Based Inpatient Psychiatric Services (HBIPS)
Children’s Asthma Care
Mortality
Readmission rates
This document presents the measures evaluated in the 2014 UHC Quality and Accountability ranking. This scorecard provides a comparison of your organization’s performance with that of other academic medical centers. The data were obtained from existing UHC data resources, including the Clinical Data Base (Q3 2013 – Q2 2014), Core Measures Data Base (Q2 2013 – Q1 2014), as well as HCAHPS data from the Hospital Compare Web site (Q4 2012 – Q3 2013) and National Healthcare Safety Network data (Q2 2013 – Q1 2014).

The goal of the Quality and Accountability ranking is to assess organizational performance across a broad spectrum of high-priority dimensions of patient care. The 2014 scoring and ranking cover the domains of mortality, effectiveness, safety, equity, patient centeredness and efficiency using measures developed by national organizations or the federal government. Refer to the methodology white paper (available at www.uhc.edu) for specifics regarding the metrics, scoring methods, and data sources used.

### Overall Composite Performance

<table>
<thead>
<tr>
<th>Rating</th>
<th>Composite Score</th>
<th>Top-Performer Score</th>
<th>Group Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>★★★★★</td>
<td>68.4</td>
<td>76.9</td>
<td>65.7</td>
</tr>
</tbody>
</table>

#### Clinical Domain Performance

<table>
<thead>
<tr>
<th>Domain</th>
<th>Rank</th>
<th>Domain Score</th>
<th>Top-Performer Score</th>
<th>Group Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mortality (25%)</td>
<td>46*</td>
<td>59.4%</td>
<td>85.2%</td>
<td>54.3%</td>
</tr>
<tr>
<td>Effectiveness (25%)</td>
<td>48</td>
<td>83.1%</td>
<td>90.6%</td>
<td>81.9%</td>
</tr>
<tr>
<td>Safety (25%)</td>
<td>9*</td>
<td>68.8%</td>
<td>73.4%</td>
<td>60.9%</td>
</tr>
<tr>
<td>Equity (5%)</td>
<td>88</td>
<td>91.7%</td>
<td>100.0%</td>
<td>97.9%</td>
</tr>
<tr>
<td>Patient Centeredness (10%)</td>
<td>23*</td>
<td>62.5%</td>
<td>79.7%</td>
<td>56.3%</td>
</tr>
<tr>
<td>Efficiency (10%)</td>
<td>86</td>
<td>47.7%</td>
<td>70.3%</td>
<td>57.8%</td>
</tr>
</tbody>
</table>

© 2014 University HealthSystem Consortium. All rights reserved. NOTICE: This document contains proprietary information that is confidential and protected by state and federal privacy and peer review laws. Any unauthorized copying of this document is forbidden.
Medication Use Evaluation (MUE)

- **The Joint Commission specifies data may be collected retrospectively or prospectively**
- Focus on specific drug or treatment
- **Target drug, drug class, or disease MUE based on high risk, high volume, problem prone, new formulary item, or request from health care practitioner**

1. Prescribing examples:
   a. Appropriate use of vancomycin with goal to reduce resistance and drug related morbidity
   b. Appropriate dosage of drugs
      i. Adjustment for renal function
      ii. Adjustment for patient weight
   c. Appropriate order writing
      i. PRN orders have clear indication for use
      ii. No dangerous abbreviations

2. Dispensing examples:
   a. Turnaround time for STAT orders
   b. Accuracy of dispensing
   c. Appropriate auxiliary labels
      i. Storage requirements: refrigerate, do not refrigerate
      ii. Expiration dating
      iii. Special precautions such as hazardous handling, do not shake

3. Administration examples
   a. Patient education about medications
   b. Appropriate use of infusion pumps
   c. Compliance with giving medications on time
   d. eMAR scanning rates
   e. Arm band checks

4. Monitoring examples:
   a. INR is assessed prior to administration of warfarin
   b. Pain assessment and reassessment for pain medications
   c. Incidence of hypoglycemia or hyperglycemia

Proactive risk assessment

- Required by The Joint Commission and Medicare COP (§482.25 (b) (6)).
- Used to prioritize performance improvement efforts.
- The assessment should include medication errors, adverse drug reactions, and the medication management system (MM 08.01.01).
- An accepted methodology involves Failure Mode and Effects Analysis (FMEA) requires clarifying the process (e.g., flow chart), assigning severity and risk scores to each process. The scores are used to prioritize performance improvement.
64B16-27.300 Standards of Practice - Continuous Quality Improvement Program.

(1) “Continuous Quality Improvement Program” means a system of standards and procedures to identify and evaluate quality-related events and improve patient care.

(2) “Quality-Related Event” means the inappropriate dispensing or administration of a prescribed medication including:

(a) A variation from the prescriber’s prescription order, including, but not limited to:
   1. Incorrect drug;
   2. Incorrect drug strength;
   3. Incorrect dosage form;
   4. Incorrect patient; or
   5. Inadequate or incorrect packaging, labeling, or directions.

(b) A failure to identify and manage:
   1. Over-utilization or under-utilization;
   2. Therapeutic duplication;
   3. Drug-disease contraindications;
   4. Drug-drug interactions;
   5. Incorrect drug dosage or duration of drug treatment;
   6. Drug-allergy interactions; or

(3) (a) Each pharmacy shall establish a Continuous Quality Improvement Program which program shall be described in the pharmacy’s policy and procedure manual and, at a minimum shall contain:

   1. Provisions for a Continuous Quality Improvement Committee that may be comprised of staff members of the pharmacy, including pharmacists, registered pharmacy interns, registered pharmacy technicians, clerical staff, and other personnel deemed necessary by the prescription department manager or the consultant pharmacist of record;

   2. Provisions for the prescription department manager or the consultant pharmacist of record to ensure that the committee conducts a review of Quality Related Events at least every three months.

   3. A planned process to record, measure, assess, and improve the quality of patient care; and

   4. The procedure for reviewing Quality Related Events.

(b) As a component of its Continuous Quality Improvement Program, each pharmacy shall assure that, following a Quality-Related Event, all reasonably necessary steps have been taken to remedy any problem for the patient.

(c) At a minimum, the review shall consider the effects on quality of the pharmacy system due to staffing levels, workflow, and technologcal support.

(4) Each Quality-Related Event that occurs, or is alleged to have occurred, as the result of activities in a pharmacy, shall be documented in a written record or computer database created solely for that purpose. The Quality-Related Event shall be initially documented by the pharmacist to whom it is described, and it shall be recorded on the same day of its having been described to the pharmacist. Documentation of a Quality-Related Event shall include a description of the event that is sufficient to permit categorization and analysis of the event. Pharmacists shall maintain such records at least until the event has been considered by the committee and incorporated in the summary required in subsection (5) below.

(5) Records maintained as a component of a pharmacy Continuous Quality Improvement Program are confidential under the provisions of Section 766.101, F.S. In order to determine compliance the Department may review the policy and procedures and a Summarization of Quality-Related Events. The summarization document shall analyze remedial measures undertaken following a Quality-Related Event. No patient name or employee name shall be included in this summarization. The summarization shall be maintained for two years. Records are considered peer-review documents and are not subject to discovery in civil litigation or administrative actions.

### ASSESS - ERR™

**Medication System Worksheet**

<table>
<thead>
<tr>
<th>Patient MR#</th>
<th>Medication System Worksheet</th>
<th>Incident #</th>
</tr>
</thead>
<tbody>
<tr>
<td>(If error reached patient)</td>
<td>y if no callback identified</td>
<td></td>
</tr>
<tr>
<td>Date of error:</td>
<td>Date information obtained:</td>
<td>Patient age:</td>
</tr>
</tbody>
</table>

**Drug(s) involved in error:**

<table>
<thead>
<tr>
<th>Non-formulary drug(s)?</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug sample(s)?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Drug(s) packaged in unit dose/unit of use?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Drug(s) dispensed from pharmacy?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Error within 24 hours of admission, transfer, or after discharge?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Did the error reach the patient?</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Source of IV solution:</td>
<td>Manufacturer premixed solution</td>
<td>Pharmacy IV admixture</td>
</tr>
</tbody>
</table>

**Brief description of the event: (what, when, and why)**

<table>
<thead>
<tr>
<th>Possible causes</th>
<th>Y/N</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical patient information missing?</td>
<td></td>
<td>(age, weight, allergies, VS, lab values, pregnancy, patient identity, location, renal/liver impairment, diagnoses, etc.)</td>
</tr>
<tr>
<td>Critical drug information missing?</td>
<td></td>
<td>(outdated/absent references, inadequate computer screening, inaccessible pharmacist, uncontrolled drug formulary, etc.)</td>
</tr>
<tr>
<td>Miscommunication of drug order?</td>
<td></td>
<td>(illegible, ambiguous, incomplete, misheard, or misunderstood orders, intimidation/faulty interaction, etc.)</td>
</tr>
<tr>
<td>Drug name, label, packaging problem?</td>
<td></td>
<td>(look/sound-alike names, look-alike packaging, unclear/absent labeling, faulty drug identification, etc.)</td>
</tr>
<tr>
<td>Drug storage or delivery problem?</td>
<td></td>
<td>(slow turn around time, inaccurate delivery, doses missing or expired, multiple concentrations, placed in wrong bin, etc.)</td>
</tr>
<tr>
<td>Drug delivery device problem?</td>
<td></td>
<td>(poor device design, misprogramming, free-flow, mixed up lines, IV administration of oral syringe contents, etc.)</td>
</tr>
<tr>
<td>Environmental, staffing, or workflow problems?</td>
<td></td>
<td>(lighting, noise, clutter, interruptions, staffing deficiencies, workload, inefficient workflow, employee safety, etc.)</td>
</tr>
<tr>
<td>Lack of staff education?</td>
<td></td>
<td>(competency validation, new or unfamiliar drugs/devices, orientation process, feedback about errors/prevention, etc.)</td>
</tr>
<tr>
<td>Patient education problem?</td>
<td></td>
<td>(lack of information, noncompliance, not encouraged to ask questions, lack of investigating patient inquiries, etc.)</td>
</tr>
<tr>
<td>Lack of quality control or independent check systems?</td>
<td></td>
<td>(equipment quality control checks, independent checks for high alert drugs/high risk patient population drugs etc.)</td>
</tr>
</tbody>
</table>

**Did the patient require any of the following actions after the error that you would not have done if the event had not occurred?**

- Testing
- Additional observation
- Gave antidote
- Care escalated (transferred, etc.)
- Additional LOS
- Other

**Patient outcome:**

© 2006 Institute for Safe Medication Practices
PDSA: Plan-Do-Study-Act

Also called: Rapid Cycle Improvement, PDCA (Plan-Do-Check-Act)

What is PDSA?

PDSA, or Plan-Do-Study-Act, is an iterative, four-stage problem-solving model used for improving a process or carrying out change.

When using the PDSA cycle, it’s important to include internal and external customers; they can provide feedback about what works and what doesn’t. The customer defines quality, so it would make sense to also involve them in the process when appropriate or feasible, to increase acceptance of the end result. (If you’re unsure about who your customers are, you may want to create a customer chain to assist in identification.)

In applying PDSA, ask yourself three questions:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in an improvement?

Stage 1: Plan

A. Recruit Team

Assemble a team that has knowledge of the problem or opportunity for improvement. Consider the strengths each team member brings—look for engaged, forward-thinking staff.

After recruiting team members, identify roles and responsibilities, set timelines, and establish a meeting schedule.

B. Draft an Aim Statement

Describe what you want to accomplish in an Aim Statement (QI Toolbox: Aim Statement). Try to answer those three fundamental questions:

1. What are we trying to accomplish?
2. How will we know that a change is an improvement?
3. What changes can we make that will result in improvement?