Process of Quality Improvement and Safety

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Components included in this module

1. Data
2. Patient Safety
3. Quality Improvement & Quality Improvement Models
4. Quality Improvement Scenario
Purpose of module

- Foster quality improvement and safety in patient care
- Empower the new graduate nurse to engage in quality improvement efforts through an ability to create safe patient situations and environments while utilizing appropriate credible research data
Needs assessment statement

- The Institute of Medicine (IOM) laid out a vision of a health system that delivered safe, effective, patient-centered, timely, efficient and equitable care in its 2001 report: *Crossing the quality chasm: A new health system for the 21st century*

- The quality of health care is important to the consumer, the providers and the payers and is reflected in standards set by regulatory agencies
Needs assessment statement

- Nursing is uniquely positioned and obligated to have a leadership role in improving and sustaining quality in our healthcare system.

- As a profession entrusted by the public to provide safe and effective care we must understand the meaning of quality, the process of improving quality and be armed with the tools and knowledge to identify and implement change.
Needs assessment statement

A need for nursing leadership and participation in quality is supported by:

- Accreditation standards requiring nurse-led quality improvement programs
  - Health Facilities Accreditation Program (HFAP)
  - The Joint Commission

- Hospital licensure standards requiring nurse-led quality improvement programs

- American Nurses Association: Scope of Practice
Module objectives

1. Demonstrate the ability to utilize appropriate search methods to locate credible data supporting current and future nursing practice

2. Illustrate the process of maintaining and creating safe patient care and environments

3. Differentiate between the different quality improvement (QI) models

4. Create a QI environment utilizing evidence-based data
References

www.nursesbooks.org

Data
Pre-test

1. A hospital is interested in decreasing post-operative infection rates. What type of research is necessary to determine if antibiotic start times play a role in decreasing infection?
   a. Qualitative research
   b. Action research
   c. Mixed-method (Pragmatic) research
   d. Quantitative research
Pre-test

2. A labor and delivery unit has had high turnover rates for the last three years. The nurse manager is interested in the reasons nurses are leaving the unit. Each nurse who leaves is interviewed over a six month period. What type of research utilizes interviews to understand perceptions and behaviors?

a. Advocacy research
b. Qualitative research
c. Quantitative research
d. Action research
Pre-test

3. Which of the following search engines can be used to search the literature for creditable research articles to support or change nursing practice? **Choose all that apply**

- a. Cinahl
- b. Google Scholar
- c. Proquest
- d. Wikipedia
- e. World Wide Web
Pre-test

4. After finding an article through a search engine, what information is important to evaluate the reliability of the research and its usefulness in nursing practice? **Choose all that apply**

a. Peer reviewed article
b. Statistics support the results
c. The results make sense and can be used to support or direct change
d. There are at least three authors
e. Date of publication
Pre-test

5. It is essential for policies and procedures to be supported by research
   a. True
   b. False
Objectives

The new graduate RN will learn to:

1. Differentiate between quantitative and qualitative research data
2. Identify appropriate sources for data in the literature
3. Understand the importance of evaluating data to support or change nursing practice
Deciphering data

- In order for nurses to practice evidence-based nursing, a basic understanding of the data presented in the literature is imperative.

- When deciphering data results from research studies, the following questions are helpful:
  - What is the question being asked?
  - What method was used to answer the question?
  - Does the data support the researcher’s stated findings?
  - What is the best way to utilize the information gained through the research?
Research methodology

- Research methodology refers to the method the investigator uses to become more informed about a particular topic.

- Methods are driven by the questions being asked.

- There are several methods, but for the purpose of this module only quantitative and qualitative methods will be reviewed.
Quantitative research

- Historically has been the method used for social sciences
- Reduces characteristics to a numerical value
- The numerical value allows for statistical manipulation of the numbers to identify relationships and/or correlations
Quantitative research example

- An example of this method would be research used to assess confidence
- Confidence assessment tools utilize Likert scales to assign numbers to descriptions
- New nurses may complete a confidence assessment tool at the beginning of orientation, after orientation and 3 months after completing orientation
- The results will be analyzed statistically to represent levels of confidence
- The desired results are increased confidence directly after orientation and 3 months following orientation
Qualitative research

- Historically found in anthropology seeking to understand cultures and behaviors
- Involves a phenomena to be interpreted
- A phenomena is a fact, occurrence, or circumstance observed or observable (Phenomenon, 2012)

Qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world (Merriam, 2009)
Qualitative research example

- Qualitative research often involves interviewing individuals to understand how the person interprets an experience.

- For example, the researcher wants to understand how the new graduate describes the experience of being in orientation.

- At two separate points during orientation the researcher interviews several new graduates.

- After the interviews, the interviews are coded and monitored for frequency of statements or themes.

- The results of the study will involve common themes that indicate shared experiences and interpretations of being in orientation.
Sources of data

Traditional library
- Journal articles
- Books

Policies and procedures of an institution
Databases--often available through an alumni university site or place of employment
- Cinahl
- Proquest
- Academic premier

Internet
- Accrediting organization websites
- Google Scholar
Evaluation of data

Evaluation of the data found in literature is essential for determining the appropriateness of research findings before incorporating the evidence into practice.

The steps to evaluating research articles include:

- Is the research peer reviewed?
- When was the article published?
- Is the research published by a reputable source?
- Does the data make sense or does it directly result in application to practice?
- Do the statistics support the findings in quantitative research?
- Is there a review of the literature? (not always present due to lack of space in some publications)
Utilizing data

- Data gained through reviewing research can be used to support current practice and to implement practice change.
- All policies and procedures must be supported by current valid research.

be the change agent who desires to practice evidence-based nursing to enhance quality patient care and safety.
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e. Date of publication
Post-test

5. It is essential for policies and procedures to be supported by research
   a. True
   b. False
Data pre & post test answers

1. d
2. b
3. a, b, c
4. a, b, c, e
5. a
References


Patient Safety
Pre-test

1. Which of the following organizations are concerned with patient safety
   a. Institute for Health Care Improvement
   b. Agency for Health Care Research and Quality
   c. National Quality forum
   d. All the above

2. What is the IOM’s definition of patient safety?
   a. Freedom from accidental injury
   b. A discipline in the health care professions that applies safety science methods
   c. Prevention of errors and adverse effects
   d. The process by which an organization makes patient care safer
Pre-test

3. What components make up an effective patient safety program? **Choose all that apply**

a. A work culture that encourages reporting of errors and hazardous conditions, as well as communication among staff about safety concerns

b. Ensuring incident reports are part of medical records
c. Designing systems that prevent errors
d. Designing procedures to make errors visible when they do occur
e. Designing procedures that can mitigate the harm to patient from errors that are not detected or intercepted
Pre-test

4. Root cause analysis involves which of these steps?
   a. Blaming an individual
   b. Causal factor charting
   c. Identifying individual who made the error
   d. Reporting the individual responsible for the error to the appropriate regulatory body

5. The Joint Commission has mandated the reporting of all sentinel events
   a. True
   b. False
Objectives

The new graduate RN will:

1. Identify regulatory agencies and other organizations involved in patient safety
2. Demonstrate knowledge of roles and responsibilities of the nurse in patient safety
3. Describe the components of an effective patient safety program
4. Apply knowledge of root cause analysis process to a case study
Patient safety definition

The Institute of Medicine (IOM) defines patient safety as:

freedom from accidental injury

(Institute of Medicine, 2000)
Patient safety organizations and agencies

Agency for Healthcare Research and Quality - AHRQ

The Agency for Healthcare Research and Quality's (AHRQ) mission is to produce evidence to make health care safer, higher quality, more accessible, equitable, and affordable, and to work within the U.S. Department of Health and Human Services and with other partners to make sure that the evidence is understood and used.

Patient safety organizations and agencies

Priorities of focus for AHRQ

- Improve healthcare quality by accelerating implementation of PCOR (patient-centered outcomes research)
- Make healthcare safer
- Increase accessibility to healthcare
- Improve healthcare affordability, efficiency and cost transparency

(Retrieved from http://www.ahrq.gov/cpi/about/profile/index.html#)
Patient safety organizations and agencies

Institute for Healthcare Improvement (IHI)

IHI was officially founded in 1991, but our work began in the late 1980s as part of the National Demonstration Project on Quality Improvement in Health Care, led by Dr. Don Berwick and a group of visionary individuals committed to redesigning health care into a system without errors, waste, delay, and unsustainable costs. Since then, we’ve grown from an initial collection of grant-supported programs to a self-sustaining organization with worldwide influence.

(Retrieved from http://www.ihi.org/about/Pages/History.aspx)
Patient safety organizations and agencies

Institute for Healthcare Improvement (IHI)

Vision
- Everyone has the best care and health possible

Mission
- Improve health and healthcare worldwide
Patient safety organizations and agencies

The National Quality Forum (NQF) is a not-for-profit, nonpartisan, membership-based organization that works to catalyze improvements in healthcare

- Specifically, NQF:
  - Convenes working groups to foster quality improvement in both public- and private-sectors
  - Endorses consensus standards for performance measurement
  - Ensures that consistent, high-quality performance information is publicly available
  - Seeks real time feedback to ensure measures are meaningful and accurate

(Retrieved from http://www.qualityforum.org/story/About_Us.aspx)
The Indiana State Department of Health (ISDH) Health Care Quality and Regulatory Commission is responsible for programs in the areas of health care facility licensing and certification, healthcare quality, vital records, and weights and measures. Its programs:

- Promote health care quality
- License and certify health care facilities, agencies, clinics, centers, and providers
- Ensure accurate state vital records and statistics
- Ensure accurate state standards for weights, measures and metrology

(Retrieved from http://www.state.in.us/isdh/19041.htm)
Patient safety organizations and agencies

Health Facilities Accreditation Program (HFAP) is a nationally recognized healthcare facility accreditation organization, with deeming authority from the Centers for Medicare and Medicaid Services (CMS). HFAP meets or exceeds the standards required by CMS to provide accreditation to all hospitals, ambulatory care/surgical facilities, mental health facilities, physical rehabilitation facilities, clinical laboratories, and critical access. HFAP also provides certification to primary stroke centers.

Patient safety organizations and agencies

Basis of HFAP accreditation survey standards:

- Medicare Conditions of Participation (CoPs)
- Institute for Healthcare Improvement
- Agency for Healthcare Research & Quality (AHRQ)
- National Quality Forum
- Additional non-Medicare quality standards
- Suggestions and input from our customers

Mandatory reporting of safety events

- State-specific adverse event tracking
- Food and drug administration
- Occupational Safety and Health Administration (HOSA) Requirements
  - All work-related fatalities within 8 hours
  - Within 24 hours, all work-related:
    - inpatient hospitalizations
    - amputations
    - loss of an eye
An effective patient safety program

A work culture that encourages reporting of errors and hazardous conditions, as well as communication among staff about safety concerns

Designing systems that prevent errors

- Designing jobs for safety
- Avoiding reliance on memory and vigilance
- Simplifying and standardizing key processes such as checklists and protocols
- Evidenced-based medicine
An effective patient safety program designs procedures....

To make errors visible when they do occur

- Pharmaceutical software that can alert user of potential drug interactions
- Patient disclosure

That can mitigate the harm to patients from errors that are not detected or intercepted

- Antidotes or up-to-date information available to clinicians
- Equipment that is designed to default to the least harmful mode
- Ensure teams are trained in effective recovery from crisis
Root cause analysis: what is it?

Root cause analysis (RCA) is a structured method used to analyze serious adverse events

(AHRQ, 2014)

- This approach is used to identify underlying systems problems that increase likelihood of errors, rather than blaming errors on individuals
- Mandated by the Joint Commission to review sentinel events
Root cause analysis process

- Data collection
- Causal factor charting
  - Institutional/regulatory factors
  - Organizational/management factors
  - Work environment
  - Team environment
  - Staffing
  - Task-related
  - Patient characteristics
- Root cause identification
- Recommendation generation and implementation
A case study exemplifying the root cause process is *The Wrong Patient* by Chassin and Becher posted at

Post-test

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Patient Safety pre & post-test answers

1. d
2. a
3. a, c, d, e
4. b
5. a
References


References


Quality Improvement and Quality Improvement Models
1. Quality Improvement involves the betterment of what three elements?  **Choose all that apply**
   
   a. Patient outcomes
   b. Nurse job satisfaction
   c. Excellent physicians
   d. System performance
   e. Professional development
Pre-test

2. Which of the following does not influence quality in healthcare?
   a. Public policy
   b. Legislation
   c. Environmental agencies
   d. Economic incentives

3. Name the types of quality measures. Choose all that apply
   a. Joint Commission
   b. Compliance
   c. Outcomes
   d. Process improvement
   e. Data analysis
Pre-test

4. Which improvement model is a scientific model used for action-oriented learning?
   a. PDSA
   b. DMAIC
   c. HFAP
   d. FACE

5. Are nurses required to contribute to patient safety initiatives?
   a. Yes
   b. No
Objectives

The new graduate RN will:

1. Demonstrate knowledge of significance of quality improvement in nursing practice
2. Identify organizations that direct and influence quality improvement in nursing practice
3. Differentiate between differing measurements of quality
4. Recognize at least 3 different quality improvement models to nursing practice
What is quality improvement?

The combined and unceasing efforts of everyone—healthcare professionals, patients and their families, researchers, payers, planners and educators—to make the changes that will lead to better patient outcomes (health), better system performance (care) and better professional development

(Batalden, & Davidoff, 2007)
What is a quality improvement program?

- It involves systematic activities that are organized and implemented by an organization to **monitor, assess** and **improve** its quality of healthcare.

- The process begins with the identification of a ‘gap’ between actual performance and desired performance and continues until sustained improvements have been made.
Quality domains

In healthcare, quality activities can be divided into 3 broad categories based on the type of opportunity being addressed (better patient outcomes or better system performance)

**Domain One: (Misuse)**
- Patient Safety

**Domain Two: (Overuse and Underuse)**
- The provision of services in a manner that is consistent with current medical knowledge and best practices
- Standardization

**Domain Three:**
- The ability to meet customer specific values and expectation
Why is quality and quality improvement important?

Quality in healthcare is an important concept for health care providers and for the public. As a nation we want to ensure that patients receive the most appropriate care, by the most appropriate person at the most appropriate time to ensure the best possible health outcomes for the patient. By constantly reviewing data and processes we can be assured of quality in our healthcare system.
Quality in healthcare is influenced by

Regulation and legislative action
- Public policy such as licensing
- Legal impacts such as liability
- Sanctions for poor quality or non-compliance

Economic and other marketplace incentives
- Actions of purchasers and consumers
- Norms and values of health care professionals
- Social values of the population
Quality improvement in nursing practice

Standard 10 of the Scope and Standards of Practice published by the ANA require that:

the registered nurse contribute
to quality nursing practice

This document specifies certain competencies in relation to this standard including:

- Analyzing quality data to identify opportunities for improving nursing practice
- Formulating recommendations to improve nursing practice or outcomes
- Implementing activities to enhance the quality of nursing practice

(American Nurses Association, 2010)
Quality organizations

- National Quality Forum (NQF)
- Institute for Healthcare Improvement (IHI)
- Centers for Medicare and Medicaid (CMS)
- Joint Commission
- Healthcare Facilities Accreditation Program (HFAP)
Quality reporting—internal or external

**Internal** reporting is often done through the use of dashboards and graphs and can be done for various audiences

- Individual departments or team members
- Physician groups
- Administrative groups
- Hospital boards
Quality reporting—internal or external

**External** reporting is done in order to demonstrate compliance to predetermined standards or to benchmark performance against other organizations. External reporting can be mandatory or voluntary.

- **Mandatory quality reporting**
  - Centers for Medicaid and Medicare (CMS) Value-Based Purchasing (VBP) requirements
  - Reporting requirements of other insurers

- **Voluntary quality reporting**
  - Leapfrog organization
Types of quality measures

Compliance

- Measures compliance to a specified indicator usually regulatory or payment related
- Example: CMS measures such as Surgical Care Improvement Project (SCIP)

Outcomes

- Measures patient outcomes rather than processes – usually measures incidence of an occurrence
- Example HAI rates or mortality rates

Process Improvements

- Measures the effectiveness of a change in process
Quality improvement models

**PDSA**

Once a team has set an aim, established its membership, and developed measures to determine whether a change leads to an improvement, the next step is to test a change in the real work setting. The PDSA cycle is shorthand for testing a change—by planning it, trying it, observing the results, and acting on what is learned. This is the scientific method, used for action-oriented learning.
PDSA

Plan the test or observation, including a plan for collecting data

Do--try out the test on a small scale

Study--set aside time to analyze the data and study the results

Act--refine the change, based on what was learned from the test
Quality improvement models

**DMAIC**

DMAIC is a data-driven quality strategy used to improve processes. It is an integral part of a Six Sigma initiative, but in general can be implemented as a standalone quality improvement procedure or as part of other process improvement initiatives such as lean.

DMAIC

D - Define the problem, improvement activity, opportunity for improvement, project goals and customer (internal and external) requirements

M - Measure process performance

A - Analyze the process to determine root causes of variation, poor performance (defects)

I - Improve process performance by addressing and eliminating the root causes

C - Control the improved process and future process performance
Quality improvement models

**FADE** - a cyclical model consisting of 4 steps

- **F**ocus – define the process to be improved
- **A**nalyste – collect and analyze data
- **D**evelop – action plans for improvement
- **E**xecute – implement the action plans *and*
- **E**valuate – measure and monitor the system to ensure success
1. Quality improvement involves the betterment of what three elements? *Choose all that apply*

a. Patient outcomes  
b. Nurse job satisfaction  
c. Excellent physicians  
d. System performance  
e. Professional development
2. Which of the following does not influence quality in healthcare?
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   a. Yes
   b. No
Quality improvement pre & post test answers

1. a, d, e
2. c
3. b, c, d
4. a
5. a
Quality Improvement
Scenario
Quality improvement scenario

As part of a quality improvement initiative, a labor and delivery unit sets out to decrease fall rates following vaginal deliveries. In the last 3 months there have been 6 falls after vaginal deliveries. Four of the patients had epidurals. The remaining 2 did not have any pain medication. All the falls were within 4 hours of delivery as the patient was ambulating to the restroom for the first time after the delivery. No major injuries were incurred, but length of stay in the labor and delivery area was extended for further evaluation. Only one patient had significant postpartum blood loss of 700 ml (EBL). The unit has been extremely busy and understaffed during this time.

Utilize the PDSA quality improvement model to develop a plan for the QI initiative. Fill in the chart provided on the next slide. Give specifics related to the scenario.
<table>
<thead>
<tr>
<th>Plan</th>
<th>QI Details</th>
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<tbody>
<tr>
<td>Plan the test or observation, including a plan for collecting data</td>
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<td>Do</td>
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<td>Act</td>
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**Plan**

- Review existing unit based fall data for each incident to identify potential causative factors
- Search the literature
  - Fall prevention in obstetric/labor & delivery/postpartum patients
  - General fall prevention articles
  - Both qualitative and quantitative studies may give insight into this safety concern.
- Search AWHONN website (an organization dedicated to obstetric/newborn nursing care) for standards of care
- Search the internet for equipment to decrease the risk of falls
- Review the current policy and procedure for congruency with literature findings
- Develop a plan based on the research
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<tr>
<th>QI Details</th>
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<tbody>
<tr>
<td><strong>Do</strong></td>
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<td>- Set up methods for data collection</td>
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<td>- Incident report findings</td>
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<td>- Huddle report (an immediate meeting of all involved to discuss the fall and the contributing factors)</td>
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<td>- Survey of the patient</td>
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<td>- Identify barriers to implementation</td>
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<td>- Staff buy-in</td>
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<td>- Lack of equipment or supplies</td>
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<td>- Cost considerations</td>
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<td>- Time considerations</td>
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<td>- Lack of staff</td>
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<td>- Educate the staff to gain buy-in including</td>
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<td>- Purpose of process change</td>
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<td>- Process/policy/procedure change</td>
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<tr>
<td>- Data collection methods</td>
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<tr>
<td>- Implement the quality improvement measure</td>
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