Performance Improvement

9th Annual LBM/MCWHLB Nursing Research Conference
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Objectives

• Differentiate PI, EBP, and Research

• Gain insights into PI projects

• Clarify the PI process
<table>
<thead>
<tr>
<th>Question</th>
<th>Purpose/ Intent</th>
<th>Methodology</th>
<th>Design</th>
<th>Who Benefits?</th>
<th>Risk/ Human Subjects</th>
<th>Oversight</th>
</tr>
</thead>
</table>
| PI       | Improves care processes or patient experience within a specific unit/ organization. | Process or outcome; Data driven to improve process/outcomes. | Simple measures; rapid cycles of change;  
- Six sigma  
- Lean Six-Sigma  
- Plan-Do-Study-Act (PDSA); FOCUS-PDSA | Current individual patients; staff; providers within a unit/ organization; immediate benefit.. | Risk of participating is standard care | Internal/ organization |
| EBP      | Integrates/ Translates existing best evidence into practice to produce desired outcomes. | Process or outcome; Uses combination of scientific evidence, clinical expertise and patient preferences when making patient care decisions from a guiding question. | Measure of key indicators using tools with face validity – may not have reliability or validity.  
- Iowa Model;  
- Steven’s ACE Star Model;  
- Advancing Practice and Clinical Research through Close Collaboration Model (ARCC) | Future families/patients/staff; possible benefit to professional community; delayed benefit.. | Risk of participating is standard care | Internal/ organization |
| RSH      | Describe, predict, and control using a rigorous systematic process that generates new knowledge through application of scientific principles and theory development. | Scientific Method: Quantitative/ Qualitative/ Mixed Methods | Complex measures:  
- Increased time to collect data/fill out the measure.  
- Require a detailed administration plan/protocol  
- Instruments used: reliability, validity, specificity, and/or sensitivity are required.  
- Sample size | Study participants may or may not benefit; broader scientific community. | Subjects put themselves at risk of harm knowing that personal benefit may not occur. Informed consent is mandatory. | Federal Office of Human Research Protection (OHRP)/state/local laws. |
Similarities

- Problem solving approaches
- Use data, existing evidence, and research
- Ethical conduct
Checklist: PI or Research

- Will the activities of this project occur within the standard of care? If NO, proceed to IRB.
- Is there risk? If YES, use provided chart to determine if PI or IRB review is required.
- Is this project primarily intended to generate generalizable knowledge? If YES, proceed to IRB.
- Does this project involve vulnerable populations? If YES, use provided chart to determine if PI or IRB review is required.

APPENDIX C: Performance Improvement or Human Subjects Research Determination Form

Project Title: ____________________________

Project Coordinator: ______________________

Form Completion Date: ____________________

Please indicate below the answer to each question

1. According to Appendix B (MHS Policy 204), this project may constitute human subjects research requiring MHS IRB review and approval?  
   ☐ YES  ☐ NO

2. Date of discussion with MHS IRB: _______ / _______ / _______
   ☐ N/A (The answer to question 1 [above] is no)

3. This project requires further MHS IRB review/approval?  
   ☐ YES  ☐ NO
   If yes, no further information is needed as the IRB application will serve as documentation of the IRB review process. If no, please document below any additional notes of importance.

This form serves as record for determination of project as either PI or Research (possibly requiring MHS IRB review and approval).

Project Evaluator Name (Print): ____________________________

Project Evaluator Signature: ____________________________

Date: ____________________________
APPENDIX B: Algorithm for Differentiating Performance Improvement and Human Subjects Research

1. Is the activity designed to:
   - Improve the quality of care at MHS, or
   - Collect patient data regarding the implementation of a practice that served to improve care, or
   - Deliver healthcare, or
   - Measure performance data for clinical or administrative purposes, or
   - Evaluate the adoption of EBP guidelines, or
   - Introduce accepted Best Practice guidelines.

   NO →

   YES →

2. Are any of the following true:
   - The project uses a clinical protocol that may not be altered by caregivers or staff, or
   - The project has objectives other than producing an improvement in safety or care that will be sustained over time (e.g., comparing different outcomes without a clear intent to implement the superior intervention), or
   - The project involves non-MHS locations or affiliates, or
   - The project involves a randomly assigned intervention, or
   - The project involves an intervention that poses risks greater than those presented by routine clinical care.
   - Practices, interventions, or treatments are non-standard (i.e., Not EBP, or Best Practice-based)

   NO →

   YES →

3. Is the project conducted as a “systematic investigation?”
   The term systematic investigation is generally thought of as a predetermined method for answering certain questions or studying a specific program or topic.

   NO →

   YES →

4. Is the project thought to contribute to “generalizable knowledge”?
   An activity may be thought to develop or contribute to generalizable knowledge if the information collected can be applied beyond a particular program or outside of MHS.

   NO →

   YES →

   Are those from whom information is gathered individually identifiable?

   YES →

   NO →

   YES →

   Likely Human Subjects Research
   Submit to MR/IRB for Review

   NO →

   Likely PI/QA Project
   NOT RESEARCH
Brainstorming a Project

- **Patient** or **Nurse Satisfaction scores**.
- **Review scores** above benchmarks and those that need improvement; can strategies from areas with higher scores be applied to areas in need of improvement?
- Review **UORs** or sentinel events with risk management.
- **Observe practices**, collect information, **talk to those closest to the problem**.
- Consider **existing systems** when planning.
- **Attend conferences** or **professional organization meetings**.
- Review & learn from the **literature**.
Having trouble accessing electronic resources remotely? (You should NOT be prompted to enter a username and password while on the MemorialCare network). You can try resetting your Internet Explorer’s settings.

Key Electronic Resources
- UpToDate
- OvidSP
- MICROMEDEX
- PubMed
- Google
- Google
- STAT!Ref
- CINAHL Plus
- Nursing Reference Center
- CIPRATES FREE
- The NNT

Resources
- Request Form
- ABOG Reading List
- ABOG Reading List Archive
- Continuing Medical Education
- PX Connection
- PX Connection Archive

Guides & Tutorials
- CINAHL
- Nursing Reference Center
- Ovid Medline
- PubMed
- STAT!Ref
- UpToDate

Library Information, Locations & Hours
Email: MIMedicalLibrary@memorialcare.org
HCAHPS Categories

- **Nursing Care: During this hospital stay:**
  - How often did your nurse treat you with courtesy and respect?
  - How often did nurses explain things in a way you could understand?

- **Hospital Experience: During this hospital stay:**
  - How often was your pain well controlled?
  - How often did hospital staff do everything they could to help with your pain?
  - Before given any new medicine, how often did hospital staff tell you what the medicine was for?
  - How often did hospital staff describe side effects in a way you could understand?
  - How often did get help in getting to the BR or using a bedpan as soon as you wanted?

- **Discharge:** When I left the hospital:
  - I had a good understanding of the things I was responsible for in managing my health.
  - I clearly understood the purpose for taking each of my medications.
HCAHPS Categories

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Response Options

- Never
- Sometimes
- Usually
- Always

Would you recommend this hospital to your friends and family?

- Definitely no
- Probably no
- Probably yes
- Definitely yes
PDSA

P – PLAN
D – DO
S – STUDY
A – ACT
PDSA

Plan - plan the change; analyze current data-establish baseline, determine the aim(s)/goals

Do - Implement your plan

Study - Analyze new data and check results

Act - Make further improvements/act to sustain gains-iterative cycles
Indicators to Measure

STRUCTURE

- Policies, regulatory requirements-non-negotiable/non-modifiable
  - Examples: licensure, advance directives, number of hospital beds, electronic medical record

PROCESS

- Care provider identified actions and responsibilities in the delivery of care and services
  - Examples: procedures, documentation, adherence, protocols

OUTCOMES

- Expected outcomes from care and delivery of services
  - Examples: Satisfaction-patient/staff focused; LOS; clinical, financial/cost, complication or readmission rate
Pediatric Scenario: Unplanned Extubations

- **Goal:** Reduce unplanned extubations (UPE) to 1 UPE per 100 patient-intubated days.
- **Plan:** Baseline UPEs audits established; implementation of bundles to study outcomes in short sequences.
- **Do:** Bundles of potentially better practices were implemented in sequential PDSA cycles.
- **Study:** Rates of UPEs were analyzed **monthly** by using control charts, causes of UPE were analyzed by using Pareto charts.
Study: Causes included:
- Dislodgement during care procedures and
- Variation in the fixation of the ET tube.
- Majority of events occurred in very low birth weight infants during the daytime shift.
- Best bundle was mittens on hands and a posted display of progress in a central area.

Act: A significant decrease in the UPE rates after implementation of the first bundle of “potentially better practices” was observed. Repeated cycles conducted.
PI Journey
Active Committee Member

Observed repeated practices reported

Observed possible solution in MCH
Nurse Sensitive Indicators

CALNOC: Collaborative Alliance for Nursing Outcomes

1. Medication Administration Accuracy Safe Practices

2. Medication Administration Accuracy Safe Practices Finding and Error Rates
PI Journey

Active Committee Member

Observed repeated practices reported

Talked to co-workers closest to problem

Observed possible solution in MCH

Searched literature for solutions

Consulted resources

Developed a PI proposal
Adult Unit PI Project

- **Title:** The Effect of a "No Interruption Zone" on Nurse Interruptions, Distractions, and Medication Administration Errors (MAEs)
- **Task Force Members**
- **Background/Literature Review Topics:**
  - MAEs, patient safety, and costs;
  - Nurses perceptions of medication errors;
  - Frequency and source of interruptions.
Adult Unit Project

PLAN

• **Goal:** To improve patient outcomes, nurse satisfaction, and standard nurse workflow by reducing avoidable interruptions and distractions during medication administration (MA), **to reduce medication administration errors (MAE).**

• **Aim 1:** Examine the impact of a “**No Interruption Safe Zone**” during MA; and identify the frequency and sources of distractions/interruptions.

• **Aim 2:** Examine nurses’ perceptions of factors that may contribute to MAE and perceived occurrences and the extent to which they are/or not reported.
**PLAN:** Map goal, intervention (DO) including identify tools and methods for data collection, implementation timeline- baseline data / post implementation data, and study metrics.
Adult Unit Project

DO

• Method(s) used to describe how the project will be executed:

• A 2 phase design will be carried out over 6 months to pilot a “safe zone” as an intervention protocol on a 54 bed med-surg unit.

  – **Phase I**: Administer a hospital wide cross sectional survey to understand nurses perceptions of the MAE reporting process, reasons why MAEs occur, and why MAEs are not reported.

  – **Phase II**: Implement an established protocol of a “Safe Zone Project” intervention borrowed from the aircraft industry’s “sterile cockpit” which ensures the aircraft pilot has no distractions or interruptions when preforming critical tasks.
Develop the Intervention Protocol:

**DO**

- **Protocol** and **education** include:

1. Clearly **marked** "**Quiet Zone**" for med prep.

2. **Med preparation/administration Safety Checklist** in designated "quiet zone."

3. **Signage for “Quiet Zone”**

4. **Triage algorithm** for unit secretaries to divert avoidable interruptions during med prep/administration.
Analysis of the process of data/outcomes will determine if the “No Interruption Safe Zone and Standard Work Safety Checklist” affect the outcome of reduced MAE

Statistical methods planned:
- Descriptive
- Data analysis
Adult Unit Project

ACT

Analyze Data for Outcomes:

- Were the **goal** and **aims** met?
- What changes occurred during the study?
- Is there **evidence** to implement a **practice change**?
- What are the **sustaining factors**?
- P&P development
- **Standard work**, e.g., medication safety bundle?
• Refine writing skills.

• Review PDSA reports examples.

• Review by a clinical leader or peer for constructive feedback.

• Disseminate findings to target audience.
Practical tips for a real-life PDSA

PLAN

Although this step can include a wide range of activities, here are a few critical components:

1. Define the nature and scope of the project. Make sure you are crystal clear about what you are trying to accomplish.
2. Identify the people, time and resources required.
3. Analyze the process or problem you are trying to improve. You must have good insight into the system you are trying to make better to know what changes will lead to an improvement. For process improvement, this step usually includes a process mapping exercise.
4. Decide what metrics you will use to determine the impact of the change. Estimate how long you will need to track these metrics to see results.
5. Collect baseline data on the metrics you will be using to make it easier to evaluate the impact of the change.

DO

1. Make sure that everyone understands the changes that will be made during the PDSA cycle. This may require training in the new process or system.
2. Keep the team engaged in the new way of doing things with regular communication.
3. Let the new process or system run for a while before you jump to conclusions about whether or not it is working.
4. Keep monitoring your metrics and don’t prematurely analyze them.

STUDY

1. Once you have collected enough data to assess the impact of the change on the selected metrics, you should be able to determine if there has been any significant improvement.
2. The most important aspect of this part of the cycle is seeing what new insights come to light about the process or system during the test. With this information, you will have a better understanding of how the initial changes might lead to improvement in the next PDSA cycle.

ACT

1. Often this step gets short-changed because people are anxious to get started on the next project. If you have made a change that is clearly an improvement, figure out how to “hardwire” it into the process or system in the future. This might require modification of training for new employees or rewriting policies and procedures.
2. Once you have completed the first PDSA cycle, consider starting another on the same process until you have optimized your practice performance. Many people think that a single PDSA cycle is enough, but engaging in continuous small tests of changes to processes and systems is the most advantageous path to excellence.

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<thead>
<tr>
<th>Use of Existing Knowledge or Knowledge</th>
<th>Study Interventions</th>
<th>Outcomes</th>
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<tbody>
<tr>
<td>Students want to focus on skill mastery prior to their clinical experience</td>
<td>32 third year generic nursing students participated in a supplemental didactic/simulation learning of VADs.</td>
<td>All but one student stated the intervention should become a part of the curriculum.</td>
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<tr>
<td>90% of patients have some type of VAD.</td>
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<td></td>
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</tbody>
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| Enhance patient safety/ comfort by reducing radiation dermatitis for head and neck cancer surgical patients. | ▪ Used best available evidence to develop a skin care protocol w/ a theoretical educational approach.  
▪ Patient satisfaction was evaluated after 3 teaching interventions.  
▪ Retrospective chart reviews compared a past protocol w/ present protocol for onset of radiation dermatitis and severity. | ▪ Radiation dermatitis was delayed by 4 days.  
▪ 91% increased patient adherence to skin care protocol was reported.  
▪ Increased patient satisfaction was reported.  
▪ No statistical difference was observed between the 2 protocols. |

### A-voiding catastrophe: Implementing a Nurse Driven Protocol

<table>
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| Evaluate the effectiveness of a nurse driven protocol of indwelling urinary catheters incidence, duration, use, and CAUTI in hospitalized adults in a 150 community hospital | • Removal of an indwelling urinary catheter protocol was developed from CDC guidelines.  
• A 3 month retrospective chart review established baseline data on incidence, dwell times, and CAUTIs  
• Protocol education was completed with implementation and post intervention data collected for 3 months. | • A reduction of indwelling urinary catheter days and reduction in CAUTIs was reported.  
• Improved care practices and reduced costs were reported. |

### Predictors of Compassion Fatigue and Compassion Satisfaction in Acute Care Nurses

**Use of Existing Knowledge or Knowledge Study Interventions Outcomes**

Examined compassion fatigue and compassion satisfaction in acute care nurses in multiple specialties in a hospital based setting.

- Direct care nurses completed a survey measuring their professional QOL (i.e., burnout, secondary traumatic stress; and compassion satisfaction).
- Analysis assessed differences between demographics, specialties, job satisfaction, and intent to leave current position.

- Findings added to the literature about the impact that meaningful recognition may have on compassion satisfaction and fatigue, particularly with the millennials.
- Meaningful recognition may increase compassion satisfaction and positively impact retention.

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Butterfly Effect
• PI, EBP, and Research are all important activities for **advancing nursing practice**.

• After leaving today, jot down a key indicator of your interest and make an appointment to talk with your manager; Consider
  – your topic or question.
  – your resources & your team.
  – Make your plan----one step at a time.

• Partner with your **nurse scientist** and **IRB** to determine if a IRB review is required.
Do you remember when all we had to do is look after people?
Thank you!
References

- Stausmire, J. M. (2014). Quality improvement or research-deciding which road to take. Critical Care Nurse, 34(6) 58-63.
- https://www.stepsforward.org/modules/pdsa-quality-improvement offers tools to assist processes
- http://www.ihi.org/education/IHIOpenSchool/resources/Pages/AudioandVideo/default.aspx offers free short courses to improve skills
- http://www.ihi.org/resources/Pages/HowtoImprove/default.aspx