Advancing Implementation and Improvement Science Education (AdvISE) Initiative

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Objectives

1: Outline the need for expanding quality improvement dissemination and implementation expertise among DNP faculty and students.

2: Describe how schools of nursing are working to expand the use of implementation and improvement science theories, frameworks, models, and tools among DNP faculty and students.

3: Identify strategies and tactics for expanding the use of implementation and improvement science among DNP faculty and students in order to more rapidly and effectively close the evidence into practice gap.
Objective 1: Outline the need for expanding quality improvement dissemination and implementation expertise among DNP faculty and students.
Institute of Medicine - 2001

It takes **17 years** to translate research into action.

“…engaging in quality improvement is NOT purely discretionary…”

Everyone is responsible

Education about quality and safety are necessary components to improve patient outcomes and meet DNP Essentials
DNP graduates with expertise in translation or diffusion of research into practice using QI methods are the key to reducing the 17-year research-to-practice gap!
2016 there were

- 2,857,180 RNs compared to 338,620 physicians and surgeons
- 303 DNP Programs
- 25,289 DNP Students enrolled nationally
- 4,855 DNP graduates
AT UMSON over 200 DNP students have graduated approximately 450 DNP students are enrolled
"Although respondents’ beliefs about EBP were positive, they reported their ability to implement EBP as extremely low."

Vision:
New DNP graduates will be implementation scholars.
They will graduate with the knowledge, skills, and confidence to develop and lead quality improvement initiatives that transform population health and healthcare.
Implementation Science and QI expertise is needed to increase evidence-based practices which improve the quality and safety of healthcare and reduce moral distress and burnout among RNs.
Definition of Quality Improvement (QI)

“… systematic, data-guided activities designed to bring about immediate, positive changes in the delivery of health care in particular settings.”

Bingham’s Evidence-Based Practice, Research, Implementation Science, and Quality Improvement Flow Chart

1. Evaluate & Grade the Research or Evidence for the Practice (EBP), Review Population Health Data & Clinical Outcomes
   * Review surveillance & utilization data to track and review population health and outcomes.
   * Review the research literature to determine which current practices need to change & how.
   * Determine the level of evidence and Evidence-Based Practice (EBP) Gaps

2. Design and Implement a Quality Improvement Initiatives
   * Implement evidence-based care using QI implementation and improvement science.
   * Utilize process models, determinant frameworks, classic theories, & implementation theories
   * Small tests of change

3. Evaluate & Determine Next Steps
   * Program evaluation:
     - Structures,
     - Processes,
     - Outcomes (Healthcare & Population Health)
   * Identify practice & policy implications
   * Track un-intended consequences
   * Recommend modifications
   * Sustain
   * Spread

Human Subjects Research to Generate New Clinical Knowledge

Implementation Science Research
Develop and test theories, frameworks, models

Improvement Science (Translation)
Study Implementation Methods (Strategies & Tactics, Validated Measures, Organizational Readiness, Barriers & Facilitators, Fidelity, etc.)
Objective 2: Discuss how schools of nursing are working to expand the use of implementation and improvement theories, frameworks, models, and tools among DNP faculty and students
How are you working to expand QI and Safety expertise among your faculty and students?
The University of Maryland School of Nursing has launched the:

Advancing Implementation Science Education (AdvISE) Initiative
Four Components of the UMSON initiative to Enhance the DNP Education about Quality Improvement and Safety

- Expertise of Faculty
- Expertise of Students
- Curriculum Review
- Local, Regional, and National Reputation

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Expertise of Faculty and Students
Challenges

• Science on quality improvement and implementation science is rapidly expanding
• The journal of Implementation Science is only 11 years old
• It is hard for faculty to keep up-to-date
• Many faculty may not have had education or experience implementing and evaluating QI
Spring 2017 UMSON Faculty Survey

- 21 (54%) out of 39 faculty members responded
- 76% had more than 5 years of experience
- Of the 23 quality improvement, dissemination and implementation, and safety topics surveyed:
  - 10% stated they were expert
  - 43% stated they were proficient
  - 43% stated they were somewhat proficient
  - 5% stated they were not very familiar
Topics of Greatest Interest

- QI Frameworks & theories
- Implementation Science
- Components of a QI Project
- Developing AIMS
- QI Process Models
- Logic Models
- Data Collection & Analysis
- Statistical Process Control
- SQUIRE Guidelines
- Human Errors
- High Reliability

(Spring 2017 Faculty Survey)
Efforts to Expand Expertise

- QI Briefs – Online Short Introductory Slides/Videos, with handouts, references, and resources
- Emails
- In Person Discussion Groups
  - Discuss key concepts & articles
  - Develop examples or case studies
- One-on-one consultations
- List of references and resources
- Other Activities as Identified
QI Briefs are in Blackboard and Are Available to Faculty and Students

**QI Brief 1.3: The Differences Between QI and Research (14.22 min.)**

**Description**

The Objectives of QI Brief 1.3 *The Differences Between QI and Research* are:

1. Define Evidence-Based Practice (EBP), Quality Improvement (QI), and Research.
2. Describe the relationships among EBP, QI, and Research.
Quality Improvement (QI) Briefs Course Model

1. Concepts for a Solid Foundation
2. Mobilizing, Assessing, & Planning (MAP)
3. Implementing & Tracking (IT)
4. Sustainability & Spread
5. Dissemination
National Standards Used in UMSON’s Curriculum Crosswalk

• AACN DNP Essentials
• Nurse Practitioner Core Competencies
• Nurse Anesthetists Professional Competencies
• Clinical Nurse Specialist Core Competencies
• Graduate-Level Quality and Safety Education in Nursing Competencies
Four Sub-Work Groups Formed

- Leadership
- Theory
- Measurement and Data
- DNP Project Courses
Local, State, National Reputation
Dissemination of Scholarship

- Student posters, presentations and publications
- Faculty posters, presentations and publications
- New modalities
  - Social Media
  - Other technological platforms
  - Infographics
Objective 3: Identify strategies and tactics for expanding the use of implementation and improvement science among DNP faculty and students in order to more rapidly and effectively close the evidence into practice gap.
No two DNP Projects are identical

Yet ---- all DNP Projects share a similar road to success
• Implementation Theories – Predicting & explaining
  – Roger’s Diffusion of Innovations
  – Klein and Sorra Determinants and Consequences of Implementation Effectiveness
• Frameworks – Planning and describing, checklists
  – Consolidated Framework for Implementation Research (CFIR)
  – Integrated Promoting Action on Research Implementation in Health Sciences (i-PARIHS)
• Process Models – Implementation Plan or Protocol
  – PDSA
  – MAP-IT
  – Six Sigma DAMAIC
IMPLEMENTATION SCIENCE IS THE PHYSIOLOGY OF QUALITY IMPROVEMENT

Posted By Institute for Perinatal Quality Improvement, Thursday, December 21, 2017

Author: Debra Bingham, DrPH, RN, FAAN

Have you ever been a part of a quality improvement (QI) effort that felt like a waste of time?

Have you gone to meeting after meeting or collected a lot of data but no changes were ever made?

Or have you made changes that did not improve outcomes?

Have you wondered what you could do to make QI efforts more effective?

While thinking about how to reduce QI-related frustration, I was reminded of when I first became a labor and delivery nurse. Initially I did not understand the physiology behind the patterns I was seeing. I knew how to recognize some fetal heart monitoring patterns, but I was like the proverbial blind man

Subscribe to the blog.
Implementation theories and frameworks should guide the strategies and tactics of the implementation plan that follows a specific QI Process Model.
MAP-IT is a QI Process Model
Mobilize – Assess – Plan – Implement – Track
(MAP-IT)

MAP-IT is the QI Process Model used by the University of Maryland School of Nursing

Comparing MAP-IT and Six Sigma

- Mobilize
- Assess
- Plan
- Implement
- Track
- Define
- Measure (Process Measures)
- Analyze (Process Mapping)
- Improve
- Control
Perform Small Tests of Change
Learn then Adjust (as often as needed)

MAP-IT Cycle 1
MAP-IT Cycle 2
MAP-IT Cycle 3

QI Saves Lives!
www.perinatalQI.org
Mobilize
Mobilize

**WHO will help facilitate the needed changes in structures and processes (practices)?**
Assess
Assess

**WHAT structures and processes (practices) need to change and WHY?**

**WHAT metrics will be used to measure progress?**

**WHAT is the problem?**
Blank Driver Diagram

Goals:

GOALS PRIMARY SECONDARY CHANGE IDEAS
Problem: Healthy Infants are not kept skin-to-skin with Healthy Mothers during the first two hours of life

People
- Improve knowledge, attitudes, and practices of clinicians, women, & childbirth educators

Process
- Timing of nursery admission procedures
- The newborn baby is warmed on the mother skin-to-skin rather than on the warmer
- Allow the baby to self initiate breast-feeding when ready

Equipment
- Update QS charting options to capture reasons why infant not skin-to-skin

Materials
- Provide education materials for both clinicians and patients

Environment
- Improve clinicians’ awareness of the importance of performing skin-to-skin

Management
- Improve the amount of feedback clinicians receive on the number of infants who are kept skin-to-skin
- Follow-up with clinicians’ who do not keep mothers and babies skin-to-skin. Identify the reasons.

L&D Cause & Effect Diagram

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Write Out The Plan

• Project Charter
• MAP-IT Worksheet
• Logic Model
• Measures of success
SMART Objectives or Goals

- **Specific**
- **Measurable**
- **Achievable**
- **Relevant**
- **Time**

What is the difference between a benchmark and goal?

Logic Model for Nursing’s Perinatal Quality Improvement Project: Keeping Mothers and Babies Together

Target Population/Entity: All healthy mothers and newborns born at Fabulous Medical Center.

Long-term Goal: Improve bonding and breast-feeding by keeping 100% of healthy mothers and babies together.

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Strategies/Activities</th>
<th>Outputs</th>
<th>Short-Term Outcomes</th>
<th>Mid-Term Outcomes</th>
<th>Long-Term Outcomes</th>
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</thead>
<tbody>
<tr>
<td>Meetings with nursing managers and supervisors</td>
<td>Education: L&amp;D and Mother Baby staff education on the changes in routines and new competencies</td>
<td>All L&amp;D and Mother Baby staff will meet the pre-determined minimal clinical competencies</td>
<td>Labor &amp; Delivery: By ____ 100% of well babies and mothers will be skin-to-skin for 30 minutes immediately after birth.</td>
<td>Labor and Delivery: By ____ 100% of healthy mothers who gave birth to full-term healthy babies at Fabulous Hospital will be skin-to-skin for 60 minutes after birth.</td>
<td>By ____ in order to improve bonding and exclusive breastfeeding rates, 100% of healthy mothers who want to breastfeed and who gave birth to full-term healthy babies at Fabulous Hospital will be exclusively breastfeeding at time of discharge.</td>
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<td>Meetings with the Mother Baby Committee</td>
<td>Measurement L&amp;D: Revise L&amp;D QS skin-to-skin charting element to include minutes and why separated. Develop tracking tool.</td>
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<td>In person meetings with physician leaders</td>
<td>Measurement Mother Baby Unit: Develop tracking tool to document the number of hours a baby spends in the well-baby nursery.</td>
<td>Baseline and on-going monthly measurement of the gap between goals and practice</td>
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<tr>
<td>In person meetings with physician leaders</td>
<td>Outcome Measure: Develop tracking tool of the number of well women and newborns who exclusively breast-feed</td>
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<td>Policies &amp; Procedures: Update L&amp;D and Mother Baby Policies and Procedures, e.g., delivery, newborn care, hypoglycemia</td>
<td>Integrate supplies on Mother Baby Unit</td>
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<td>Staffing: Develop plan for caring for newborns and mothers who become unstable after transfer</td>
<td>Prepare and execute a pilot period where the new systems are tested on the Mother Baby Unit</td>
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<tr>
<td>Staffing: Develop Mother Baby Unit Mock Staffing Plans for stable newborns</td>
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<td>Physician Work Flow &amp; Communications: Mother Baby</td>
<td>Medical Records: Determine location and elements of the mother and newborn chart</td>
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Project Rationale: Improved breastfeeding improves the health of our community with increased IQ’s and lower rates of diabetes, intestinal disorders, breast cancer, & obesity. Improved bonding leads to healthier relationships between parents and their children, e.g., lower rates of abandonment and abuse. Receive national recognition by following Lamaze International’s Safe and Healthy Birth Practice #8 & AHONN’s Perinatal Nursing Care Quality Measure 03 & 04. Complete Baby Friendly Steps 4, 6, 7, 8 toward becoming a Baby Friendly Hospital.
Implement
Implementation Strategies and Tactics

- **Education Strategy**
  - Grand rounds, classes, conferences, simulation training, competency fairs, tests, on-line learning

- **Data Strategy**
  - Audits
  - Feedback
  - Public release of data

- **Discourse Strategy**
  - One-to-one discussion, Academic detailing
  - Reminders
  - Emails
  - Reward
  - Disciplinary discussions

Figure 1: PPH Project Process Metrics

Note. Percent improvement is the median percentage of the data abstracted from randomly select chart audits each month. The charts audits were performed by the hospital-based PPH Project Leaders who then entered their data into to the Association of Women's Health, Obstetric and Neonatal Nurses PPH Project data portal.

Bingham, D. et. al. (2018). JOGNN.
Commonly Used Process Model Symbols
Track

• **WHAT structures and processes (practices) were changed based on the metrics we used to measure progress (including frequency of assessment)?**

• **HOW did these changes affect outcomes?**

• **WHAT do we need to do differently to make greater progress toward improving outcomes?**
Questions?

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