Nursing Research in a Practice Organization: A Nurse Scientist's Perspective

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Objectives

• Describe a clinical nursing research model
• Outline the role of the Nurse Scientist in a practice organization
• Share an example of successful clinical research project
Massachusetts General Hospital

- 1000 beds with 48,000 admitted patients, 1.5 million outpatient visits, 42,000 surgical procedures and 3,600 babies delivered annually
- First Magnet hospital in Massachusetts
- Three Magnet re-designations
- 5,000 nurses
- Over 60 doctorally prepared nurses
Key Strategies

- Create a culture of inquiry
- Develop infrastructure to enhance professional practice and clinical expertise
- Designate a nursing research center
- Integrate evidence into practice

Chief Nurse
Jeanette Ives Erickson, DNP, RN, FAAN
Creating a Culture of Inquiry

- Initiate an agenda for change
- Integrate inquiry into the philosophy of care delivery
- Create a learning environment
Munn Center for Nursing Research

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• Provide the strategic structure to generate the resources to advance evidence-based practice and nursing research
• Foster an organizational climate that integrates and advances nursing research
• Expand the professional practice model to include evidence-based nursing practice to the community

Dottie Jones, EdD, RN, First Director

Gaurdia Banister, PhD, RN
Current Director and the Connell-Jones Endowed Chair in Nursing and Patient Care Research
Yvonne L Munn Research Awards

– Started in 1998, award designed to support research initiated by nurses to improve care to patients and their families

– There have been 43 awards to clinical staff nurses with:
  • Mentoring
  • Implementation funds
  • Statistical consultation
  • Dissemination support
Connell Nursing Research Scholars

Promote the advancement of patient care through research

– Develop knowledge
– Attain proficiency in conduct of research
– Participate in translation of research into practice
– Disseminate research findings

• There has been 9 Connell Scholars
Integrating Evidence

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Advancing Evidence-Based Nursing Practice

– Adopted the Johns Hopkins Program
– Initiated a 4-hour training program for 50 inter-disciplinary participants
  • Updated knowledge
  • Introduced PET* team projects
  • Consultative mentors
  • Practice in searching
  • Instruction on translation
– 8 EBP projects in motion

*P = practice question, E = evidence T=Translation
Partnerships

External Faculty Nurse Scientists
- 41 External Faculty
- 21 Senior Scientists

Connell Nursing Scholar Mentor
- 9 nationally known Nurse Scholars
Visibility of Nursing Research

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2017

45 Nursing Research Posters displayed
Clinical Research Model

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BUILD
the Science with an Interdisciplinary team

USE
direct links to patient & the healthcare system

COMMUNICATE
Results

Research is a value and a belief
Role of the Nurse Scientist

**Passion Scale**

- Total Apathy
- Indifference
- A glimmer of interest
- Highly interested
- A glimmer of passion
- Passionate
- Highly passionate
- Most Passionate

• Create the spirit of inquiry
  ✓ support questioning of ritualistic practices
  ✓ foster the intellectual curiosity about care
  ✓ identify **passion** for an answer

• Create the capacity
  ✓ develop research teams
  ✓ provide credible useful research to review
Role of the Nurse Scientist

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• Guide the research process:
  ✓ Clarify purpose of the research
  ✓ Collaborate on the design to support the review process
  ✓ Identify potential site for subject recruitment
  ✓ Provide assistance with data analysis
  ✓ Guide the utilization of results
Mentor/Nurse Roles

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- Staff Nurse
- Mentor

Graph showing the roles of mentors and staff nurses in different stages of research:
- Idea
- Proposal
- IRB
- Collection
- Analysis
- Reporting
Recent Successes

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*Munn Nursing Research Awards*
An Evidence-based Practice Project on the Use of Non-invasive Mechanical Modalities for Venous Thromboembolism (VTE) Prophylaxis in the Surgical Intensive Care Unit

Paula Restrepo, RN, Staff Nurse
Deborah Jameson, Librarian
Diane L Carroll, Mentor
Challenges identified early on...

**General:**

Controversy and questions about mechanical prophylaxis with variations in terms, types, and specifications of Intermittent Pneumatic Compression Device (IPC) and Graduated Compression Stockings (GCS)

**Specific:**

- Lack of unit protocol
- Older hospital protocol
- Traditions (‘The 1811 Rules’)
Methods

**Purpose 1:** Discover barriers to VTE prophylaxis that are appropriate for system improvement

- Group discussions and seeking expert opinion with multi-disciplinary team members on system barriers:
  - Three group discussions with facilitator with SICU staff nurses:
  - Consensus development with key stakeholders from:
    - Anesthesia
    - Vascular
    - Trauma
Purpose 1

- Discussants ~ 25 ICU Nurses
  - Mean age 38.5±12 years, 21 females, 4 males
  - Years in Nursing - 15.6±12.8 year
  - Education : 88% baccalaureate in nursing

- Discussants ~ 3 Physicians representing Anesthesia, Vascular, & Trauma
Barriers

• Devices
  – Poor fit --- need to be measured correctly
  – Thigh high devices
  – Wrinkles in GCS
  – Pump for IPC not ‘on’

• System
  – Physician Orders
  – Older hospital policy
  – Tradition/beliefs/misconceptions ‘1811 Rules”
  – Insufficient education to pt/family regarding devices
**Methods**

**Purpose 2:** Develop a written guideline and an educational program to define and disseminate a standard of care for proper use of non-invasive mechanical modalities.

- Comprehensive review of the literature including widely accepted guidelines
- Development and implementation of an evidence based unit guideline
Purpose 2

1) Perform initial comprehensive literature search in MEDLINE and CINAHL from 1984 to 2016 using Subject Headings and keyword with ongoing retrieval of additional references until today

2) Maintain extensive collection of references in a team RefWorks account (over 500 articles)

3) Communicate specific questions with five international physician experts in VTE prevention
Guideline

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- 22 recommendations for surgical patient:
  - all recommend IPCs
  - 12 IPCs preferentially
  - 4 IPCs exclusively
Methods

Purpose 3: Identify the compliance rate of VTE prophylaxis with non-invasive mechanical modalities in SICU patients

• Two observational data collection periods for 21 days

Baseline data on admission:
  – Use of IPC/GCS in OR
  – Provider orders during SICU stay
  – VTE Risk Score and contraindications

Daily
  – IPC/GCS on patient?
  – IPC/GCS on appropriately?
  – IPC Pump on?
Compliance Comparison

In studies that measured compliance:

– Comerota (1992) - 78% in ICUs
– Macatangay (2008) - 85% in ICUs
– Restrepo (2015)- 78-80% in SICU
New VTE Prevention Guideline
Recommendation

• GCS not recommended for adult SICU patients due to increased risk of skin tears, patient discomfort, and “tourniquet effect.”

• Use properly sized IPC devices as the mechanical method of choice to prevent VTE in adult surgical patients
Organizational Outcomes

• Fostered multidisciplinary collaboration
• New evidence-based nursing procedure
• Removal of GCS from surgical order sets
• $45,000 cost savings from reduced use of GCS
• Publication in *Journal of Nursing Care Quality* (2015)
• Accepted as a ‘Choosing Wisely’ statement by American Academy of Nursing

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Summary

• Organizations must welcome and reward those that develop and implement a nursing research agenda

• The presence of the Nurse Scientist demonstrates a pledge to explore and engage nurses in the pursuit of knowledge

• Patient care that is knowledge-based is safe, efficient, and promotes high quality patient outcomes
Thank You!

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