



Doctoral Nursing: Roles, Partnering, and Opportunities for DNP and PhD Collaboration

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Background

- This presentation builds on concepts introduced in the collaborative article, “Creating an Infrastructure to Advance Nursing Practice and Care for Veterans.” Published in *Nurse Leader* (2013), 11(5), 33-36:
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Objectives

- Discuss DNP and PhD roles
- Identify strengths of each of these programs
- Describe advantages of collaborative relationships between practice-focused and research-focused doctorates
- Identify specific challenges and potential solutions to fostering these relationships
- Describe examples of collaborative approaches and projects

Gaps in Nursing Practice Prior to DNP

- **Patient safety concerns**
 - 2013 study estimated preventable medical errors cost 440,000 lives per year in US.
- **Shortages of nursing personnel which demands a higher level of preparation for leaders who can design and assess care**
- **Shortages in nursing faculty**
- **Increasingly complex health care delivery systems**
- **Enhanced knowledge needed to improve nursing practice and patient outcomes**
- **Enhanced leadership skills needed to strengthen practice and health care delivery**
- **Rapid expansion of knowledge underlying practice**



Benefits of Practice-Focused Doctorate of Nursing Practice (DNP) Programs (AACN, 2004, p.4)

- **Development of needed advanced competencies for increasingly complex practice, faculty, and leadership roles**
- **Enhanced knowledge to improve nursing practice and patient outcomes**
- **Enhanced leadership skills to strengthen practice and health care delivery**
- **Development and management of practice models to transform healthcare with quality outcomes and cost savings**
- **Provision of an advanced educational credential for those who require advanced practice knowledge but do not need or want a strong research focus (e.g., practice faculty)**
- **Enhanced ability to attract individuals to nursing from non-nursing backgrounds**
- **Increased supply of faculty for practice instruction**

Comparison of Doctoral Nursing Programs

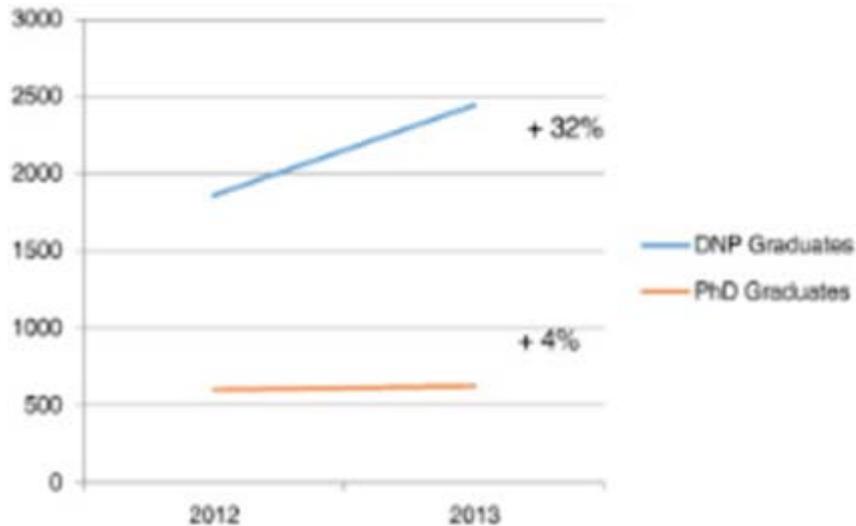
Doctor of Philosophy degree (PhD)

- **Research-focused** designed to prepare nurse scientists and scholars
- Focus heavily on scientific content and research methodology
- Requires an original research project and completion and defense of a dissertation or linked research papers

Doctorate of Nursing Practice degree (DNP)

- **Practice-focused** doctoral programs are designed to prepare experts in specialized advanced nursing practice
- Focus heavily on practice that is innovative and evidence-based
- Requires capstone project reflecting the translation of research findings into practice

Direction of the DNP



- Number of DNP Programs have increased from **20 programs** in 2006 to **241 programs** in 2013 (1,200% increase!)
- Rising **enrollments** in DNP Programs: 70 in 2004 to 14,669 in 2013 (**20,900% increase**) with graduation rate of 2443 (17%)
- Stable enrollments in PhD/DNS Programs: 3439 in 2004 and 5,124 in 2013 (**67% increase**) with graduation rate of 626 (12%)

AACN Position Statement on the Practice Doctorate in Nursing (October 2004): DNP Essential Competencies

- **Eight competencies**
 - Scientific Underpinnings for Practice
 - Organizational and Systems Leadership for Quality Improvement and Systems Thinking
 - Clinical Scholarship and Analytical Methods for Evidence-Based Practice
 - Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
 - Health Care Policy for Advocacy in Health Care
 - Interprofessional Collaboration for Improving Patient and Population Health Outcomes¹
 - Clinical Prevention and Population Health for Improving the Nation's Health
 - Advanced Nursing Practice
- **Recommendation 1:** The terminology practice doctorate be used instead of clinical doctorate.
- **Recommendation 2:** The practice-focused doctoral program be a distinct model of doctoral education .
- **Recommendation 3:** Practice-focused doctoral programs prepare graduates for the highest level of nursing practice.



National Organization of Nurse Practitioner Faculties (NONPF) Core DNP Core Competencies (9)

(April 2011, Amended 2012)

- **Scientific foundation**
- **Leadership**
- **Quality**
- **Practice inquiry**
- **Technology and information literacy**
- **Policy:**
- **Health delivery system**
- **Ethics**
- **Independent Practice**

PhD – Focus and Competencies

- PhD program core focus is on nursing theory and research methods and the development of **competencies to expand science** that supports the discipline and practice of nursing (AACN, 2010).
- Prepares one to **conduct** independent research which contributes to a body of knowledge and is translated into practice to advance nursing science.
- Research regulatory compliance.
- PhD curriculum includes courses on statistics, research, methods, and theory to **develop knowledge and skills in theoretical, methodological, and analytic approaches to discovery** and application of knowledge in nursing/healthcare.

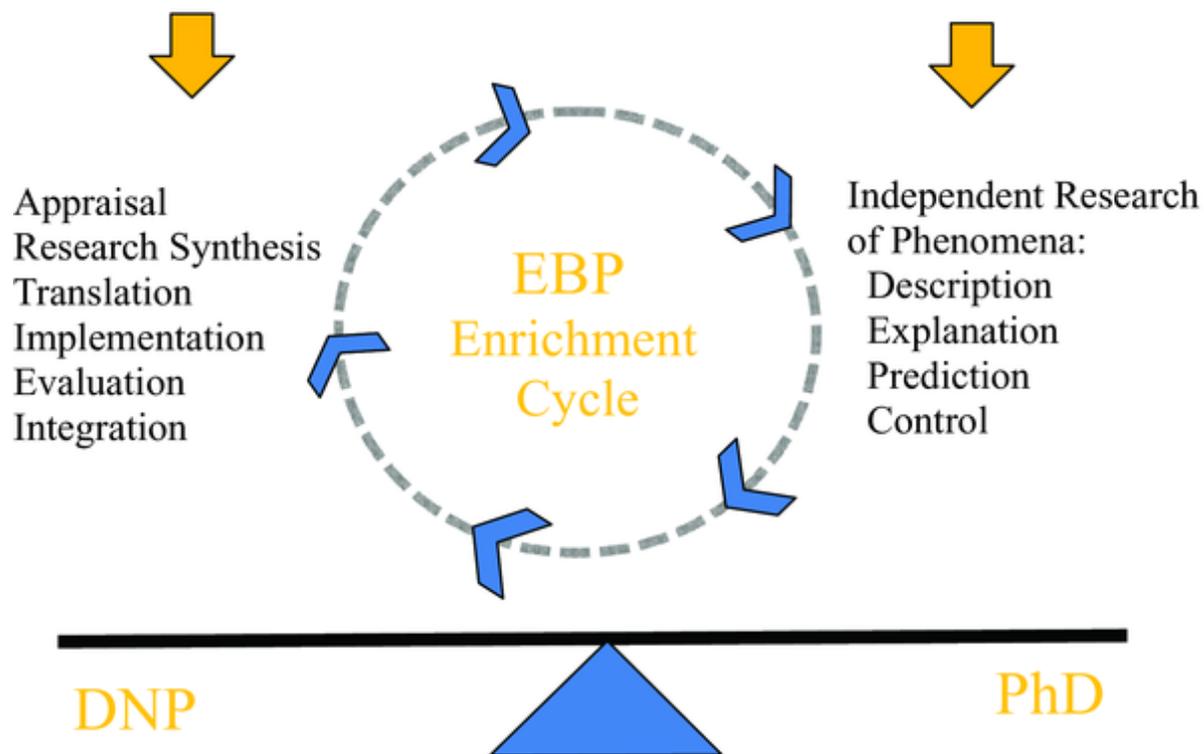
Practice Scholar

Research Scholar

Both are full scholars, emphasis is different

Knowledge Application

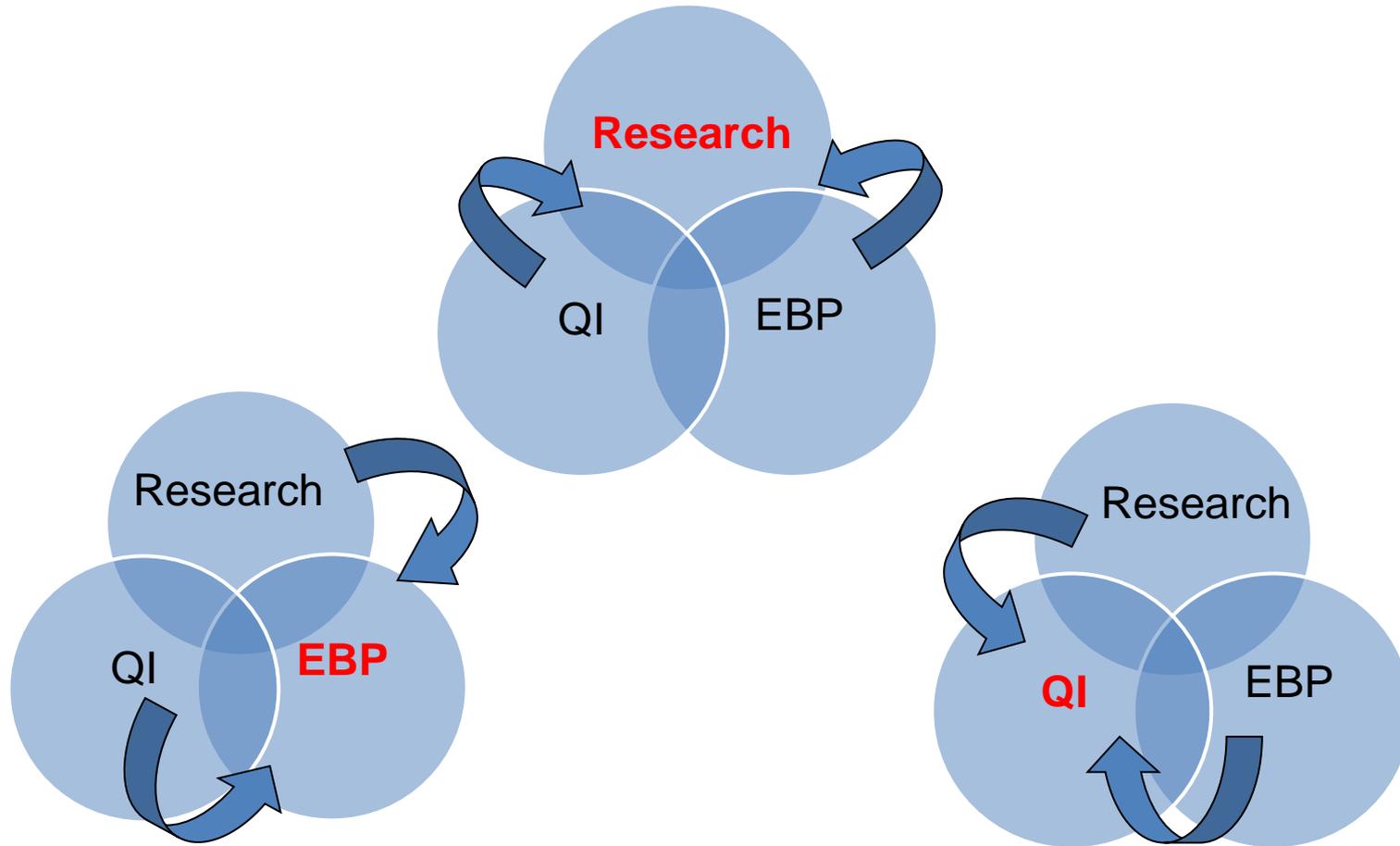
Knowledge Generation



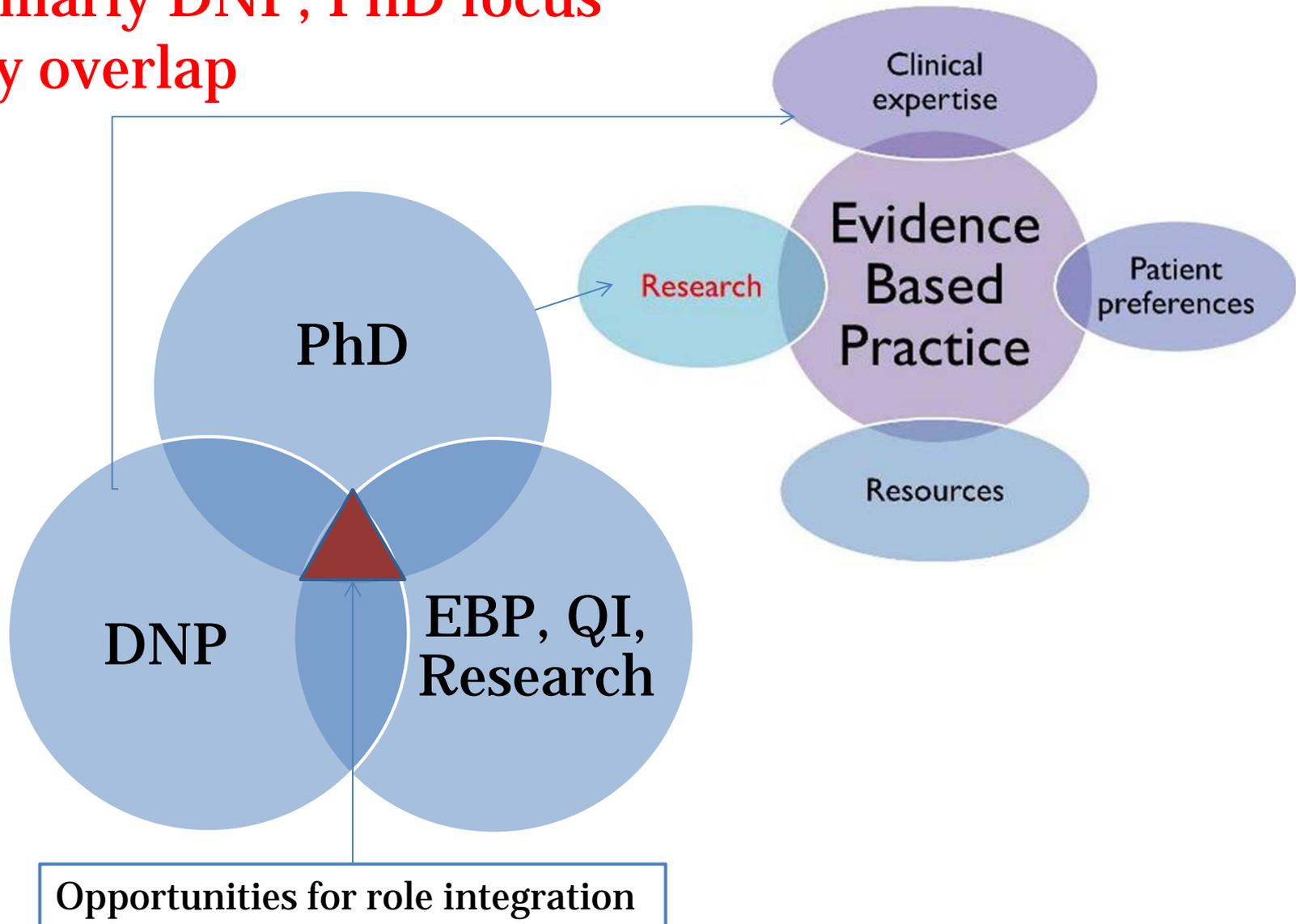
Courtney, 2011

Both are needed for Global Effectiveness!

Research and Practice Improvement Overlap



Similarly DNP, PhD focus may overlap



It Takes a Team – Promoting Collaboration





Benefits of DNP and PhD collaboration

- Development and enhancement of existing working relationships
- Improvement of research skills for nurses working in practice areas
- Growth of an evidence base to support best practices
- Dissemination of combined expert knowledge
- Provision of relevant, current, and dynamic research
- Collaboration lends richness to our discipline and profession
- Sharing a common vision of improvement in patient health outcomes.

(Whitehead, 2015)

Focusing on Strengths

Practice Doctorate:

- Healthcare Policy and Advocacy
- Nursing Management
- Clinical expertise
- Quality Improvement
- Implementation – practice change
- Academia
- Disseminate to clinicians and organizations
- Evidence “super-users”

Research Doctorate:

- Build programs of research
- Obtain research funding
- Design & conduct research
- Manage research teams
- Research regulatory compliance expertise
- Generate new knowledge to guide when practice change is needed
- Academia
- Disseminate to scientific field, generalize and publish
- Evidence generators

How DNP may need PhD input:

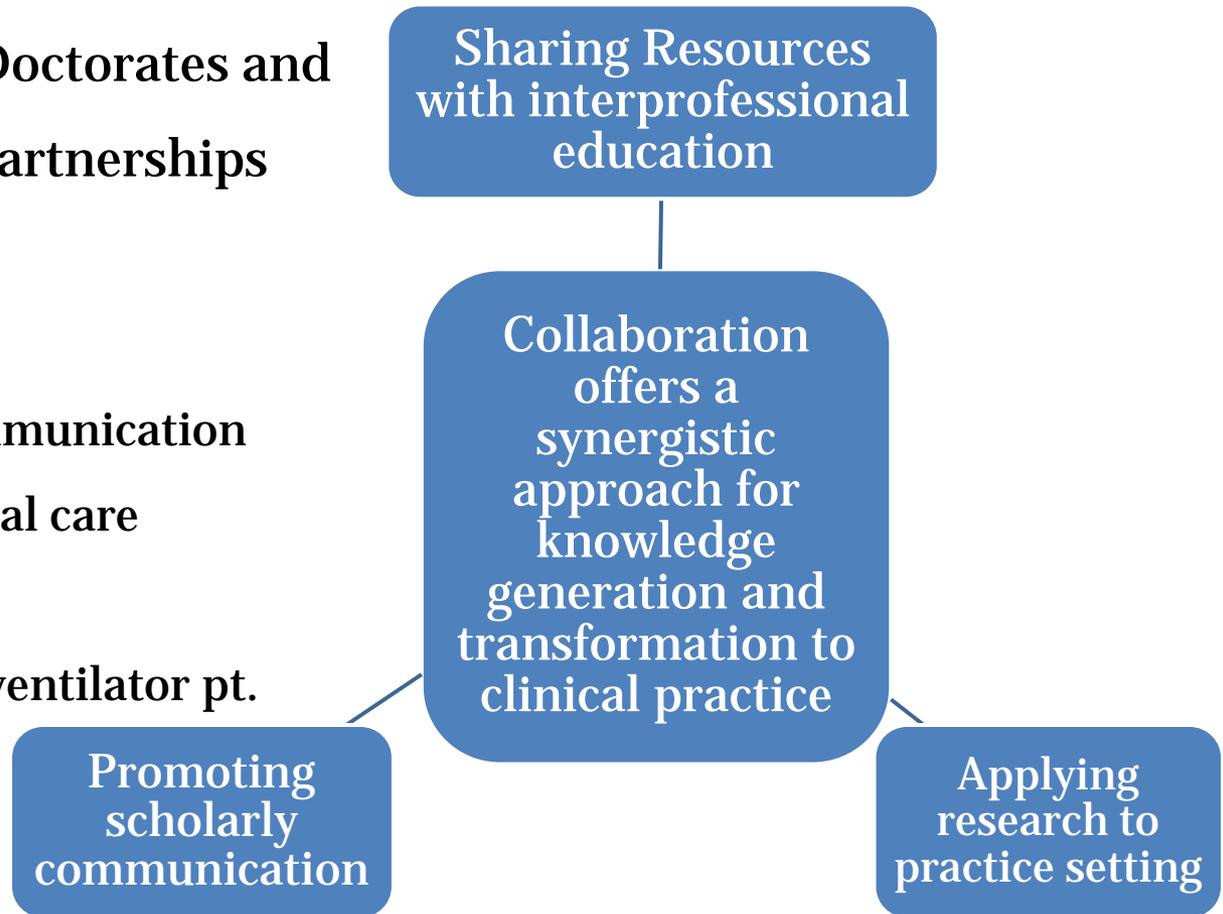
- Study design
- Setting up data collection
- Statistical analysis
- Implementing prospective studies
- Theory development
- Secondary Analysis
- Generalizing findings and replicating findings
- Grant writing - obtaining funding
- Regulatory compliance
- Program evaluation
- Publication review

How PhD may need DNP input:

- Clinical expert / practice collaboration and input
- Comprehensive needs assessment using CQI process
- Clinical practice and key stakeholder contacts
- Implementing evidence-based practice change and improvement methodology (translating research to practice)
- Evaluating provider practices
- Clinical education design and implementation
- Access to quality data / quality indicators
- Evaluating sustainability, performance measures, and financial impact
- Publication review

Collaborative Partnerships for Success

- **Examples of Practice Doctorates and Research Doctorates Partnerships (DNP + PhD)**
 - CABG pathway
 - Improved handoff communication
 - Home based transitional care
 - Early Mobility
 - Evaluating prolonged ventilator pt. outcomes
 - Transition of Care



(From Murphy, 2015)

DNP and PhD

- Formulate question
- Perform Lit search: evidence support for Clinical Concern

DNP

- Meet with stakeholders
- Perform Needs Assessment
- Implement Clinical Path
- P-D-C-A

DNP

- Evaluate clinical outcomes- should practice change continue?
- Make change sustainable

PhD and DNP

- IRB approval (if not already Obtained)
- Secondary Data Analysis
- Disseminate Findings



DNP-led QI approach

- The Cardiothoracic Surgeons and Intensive Care Unit (CTICU) learned of poor outcomes compared to national benchmark data.
- A VA interdisciplinary team formed to evaluate current provider, practices, processes and patient outcomes.
- Consulting a PhD nurse, the team utilized methods which did not include research methodology.
- Quality data for the CTICU unit was collected by nurse manager on length of stay (LOS), postoperative ventilation hours, and early patient mobilization.
- The PhD assisted with the ROL, Fast-Tracking or Rapid-Recovery Processes were identified to standardize and streamline care



DNP-Led Quality Improvement (QI) Team

- Evaluated current postoperative outcome trends and care practices in unit's cardiac surgical patients;
- Identified outcomes which needed improvement - found to be:
 - length of stay (LOS),
 - prolonged intubation,
 - delayed mobility due to invasive lines,
 - patient education,
 - patient readmissions or “bounce backs” from the floor to the CTICU,
 - surgical site infections (SSI)
- Utilized "Clinical Pathway" to improve interdisciplinary communication, patient education, streamline care and thereby, improve patient outcomes.



Coronary Artery Bypass Graft (CABG) CLINICAL PATHWAY Key Elements

- Clinical pathway or care plan: “6 day stay” based on current evidence and cardiac surgeon expert opinion
- Clinical pathway implemented June 1, 2010 by CTSICU nursing, physician, and respiratory therapy staff.
- Included standardized pre-operative patient education and daily post-operative clinical mile markers and decision support components promoting early ambulation and early ventilator weaning when possible for all CABG and Valve Replacement pts.



Clinical Outcomes of EBP-QI Project

- Improved effective communication among interdisciplinary team
- Early postoperative extubation;
- Reduced respiratory complications;
- Early ambulation;
- Early weaning of vasoactive medications;
- Timely removal of invasive catheters and arterial lines;
- Expedited transfer to a step-down unit;
- Early discharge to home.

PhD Assisted Research Study

PhD assisted DNP with study design and data collection tool and methods.

Purpose of this study was to evaluate the patient outcomes before and after the clinical pathway project using a retrospective secondary data analysis research study approach. DNP and MSN collected all data.

Specific aims:

1. Determine the effects of the Coronary Artery Bypass Graft (CABG) and Valvular Surgery Clinical Pathway (clinical improvement project) on post-operative mortality rates, complication rates, and extubation times when compared to pre-implementation rates.
2. Evaluate the effects of the clinical pathway on hospital length of stay (LOS), other post-operative complication rates (pneumonia/infection, etc.) and healthcare costs.

Research Sample (DNP/PhD Discussions)

- Total of 887 patients who underwent CABG or valvular surgery during pre and post pathway review period.
- Of these, 85 did not meet Inclusion and Exclusion criteria. Remaining 802 patients divided into Pre (441 patients) & Post Pathway (361 patients) cohorts and first 50 patients in each group were included in the retrospective chart review.
- Subjects predominantly male Veteran patients, with approximately 1% female Veteran patients.
- Significant differences between pre-and post groups were noted but were such that post-pathway group was actually the “sicker” population, with more severe disease and comorbid conditions.

Analysis and Results (PhD Led Analysis)

- All categorical data analyzed using Chi-Square or Fischer's exact tests. Ordinal data analyzed using Wilcoxon rank sums tests. Level of significance was set at 0.05. SAS version 9.4 (Cary, N.C.) was used for all analysis.
- Statistically significant ($p < 0.01$) differences between the Pre and Post-Implementation groups included:
 - Reduced time on ventilator for post-pathway group (by 12-18 hours),
 - Early patient mobilization out of bed (OOB) in post pathway group
 - Post pathway group mobilized OOB with invasive lines faster (58%),
 - Reduced ICU LOS (by average 2 days) in post pathway group,
 - Reduced total hospital LOS (up to 15 days) in post pathway group.

DNP/PhD Conclusions and Dissemination

- The post CABG Pathway group outcome results (even though they were clinically “sicker” prior to the CABG or Valve surgery), demonstrated lower post-operative mortality rates, complication rates, and 3rd lowest in the nation for extubation times when care was delivered utilizing a Clinical Pathway tool.
- Overall, these results demonstrate a significant improvement in patient outcomes without a difference in patient disposition from pre to post-pathway $p=1.000$; reflecting a \$500,000 savings in the first six months.
- Impact: Clinical Pathway still in place as a standard of care in CTSICU unit. Other surgery service at facility used same process to develop a different clinical pathway for colectomy patients.
- Posters and articles with DNP, PhD, and other multi-professional team members as co-authors.

Lessons Learned: Challenges and Opportunities

Challenge:

- Fighting for top dog?

Opportunities:

- Focus on strengths and collaborations that advance the mission of the organization/VA
- Focus on global view/big picture
- Develop great teams



Challenges & Opportunities

Challenges:

- **Role confusion**
 - Trailblazers - examples to help define roles and be role models
- **Research performed by inexperienced individuals**
 - Partner with qualified/experienced individuals



Challenges & Opportunities

- Quality Improvement / clinical demonstration projects performed by inexperienced individuals or utilizing unnecessary research methodology
 - Partner with QI experts, using operational and not research methods



Looking Ahead

- Choose common topic(s) of interest/clinical problem through a group brainstorming sessions that align with facility goals, are translatable to clinical practice, solve existing problems, demonstrate sustainability, and advance the science of nursing.
- Communicate frequently, revise plans as appropriate, and acknowledge member strengths and differences.
- Build additional relationships with other disciplines – appreciate each other and recognize each other's strengths. Lunch appointments!!
- Agree on the roles, responsibilities, and time line for joint projects.
- Provide a supportive co-learning environment based on mutual respect, trust, and credibility.
- Encourage motivated colleagues to pursue advanced degrees early and lay a foundation for mentoring and retaining doctoral students (both DNPs and PhDs!).

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