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
  o Scientific Underpinnings for Practice
  o Organizational and Systems Leadership for Quality Improvement and Systems Thinking
  o Clinical Scholarship and Analytical Methods for Evidence-Based Practice
  o Information Systems/Technology and Patient Care Technology for the Improvement and Transformation of Health Care
  o Health Care Policy for Advocacy in Health Care
  o Interprofessional Collaboration for Improving Patient and Population Health Outcomes
  o Clinical Prevention and Population Health for Improving the Nation’s Health
  o 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

Both are full scholars, emphasis is different

Knowledge Application

Research Scholar

Knowledge Generation

Appraisal
Research Synthesis
Translation
Implementation
Evaluation
Integration

EBP Enrichment Cycle

Independent Research of Phenomena:
Description
Explanation
Prediction
Control

DNP
PhD

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:
  o length of stay (LOS),
  o prolonged intubation,
  o delayed mobility due to invasive lines,
  o patient education,
  o patient readmissions or “bounce backs” from the floor to the CTICU,
  o 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:
  o Reduced time on ventilator for post-pathway group (by 12-18 hours),
  o Early patient mobilization out of bed (OOB) in post pathway group
  o Post pathway group mobilized OOB with invasive lines faster (58%),
  o Reduced ICU LOS (by average 2 days) in post pathway group,
  o 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
  o Trailblazers - examples to help define roles and be role models

• Research performed by inexperienced individuals
  o 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!).
References

- American Association of Colleges of Nursing. (2010). The research-focused doctoral program in nursing-Pathways to excellence.