



From Controversy to Coherence: Implementing a PhD/DNP Model to Improve Research and Evidence-Based Practice

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BACKGROUND

- Terminal degree programs in nursing can be separated into two categorical foci:
 - Research (PhD, DNS, DNSc)
 - Practice (DNP)



BACKGROUND

- According to the American Association of Colleges of Nursing, the Doctor of Nursing Practice (DNP) role was developed in part to partner with Doctor of Philosophy (PhD) nurse researchers to inform and implement new discoveries in nursing science.¹

¹American Association of Colleges of Nursing, 2004

BACKGROUND

- The advent of the DNP program was met with much public controversy, including questions surrounding how the role would be implemented in the hospital setting.¹



¹National Association of Clinical Nurse Specialists, 2005

BACKGROUND



- The concept has been very popular however, and has seen exponential growth with no concomitant development of models to guide implementation.

BACKGROUND

- As of 2009, there were 5,165 students enrolled in 120 DNP programs across the nation and there have been 660 DNP graduates.¹



¹American Association of the Colleges of Nursing, 2010.

BACKGROUND

- This is a large enough cohort to address published controversies and necessitate the acute dissemination of exemplar partnership models to guide implementation of the role in the hospital setting.



BACKGROUND

- Literature search using key terms and variations of “DNP; PhD; models; frameworks; collaboration” alone and in combination resulted in no published content describing models for such collaboration partnerships.

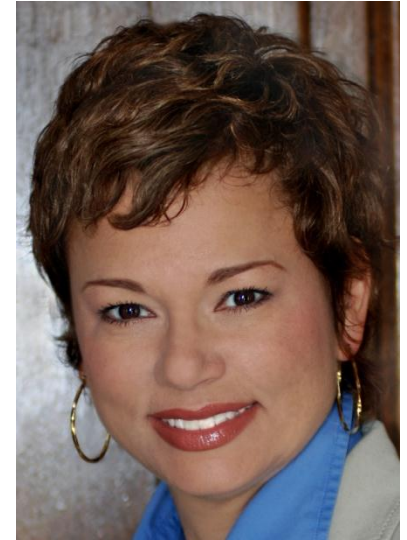


PURPOSE

- The purpose of this presentation is to
 - Describe elements of the PhD/DNP Partnership Model
 - Identify methods by which the PhD/DNP Partnership Model can facilitate research and evidence-based practice
 - Evaluate strengths, weaknesses, and challenges related to implementing the PhD/DNP Partnership Model

DESCRIPTION

- PhD partner is academic tenure-track faculty w/funded research in same clinical area
- DNP partner is program director for state-designated clinical program and responsible for implementing program-mandated research agenda



DESCRIPTION

- Began as clinical practice partnership centered on improving evidence-based practice and outcomes at a nationally designated clinical service center.
- Designating body mandates program of research in clinical service area



DESCRIPTION

- PhD faculty member and DNP program director began meeting informally in Fall 2009 to identify research needs and discuss potential aims, research designs, and feasibility.

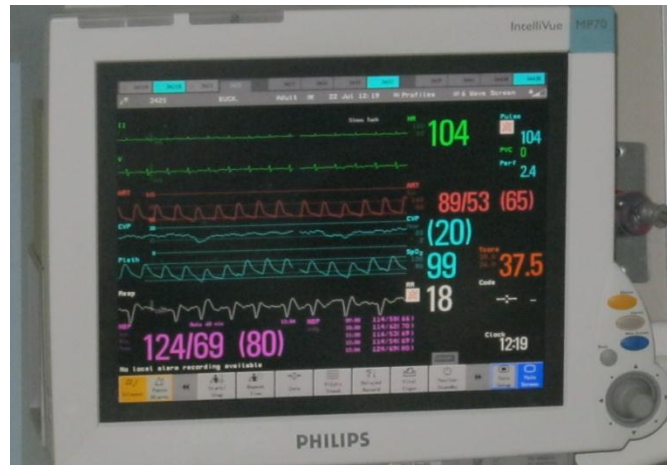


DESCRIPTION

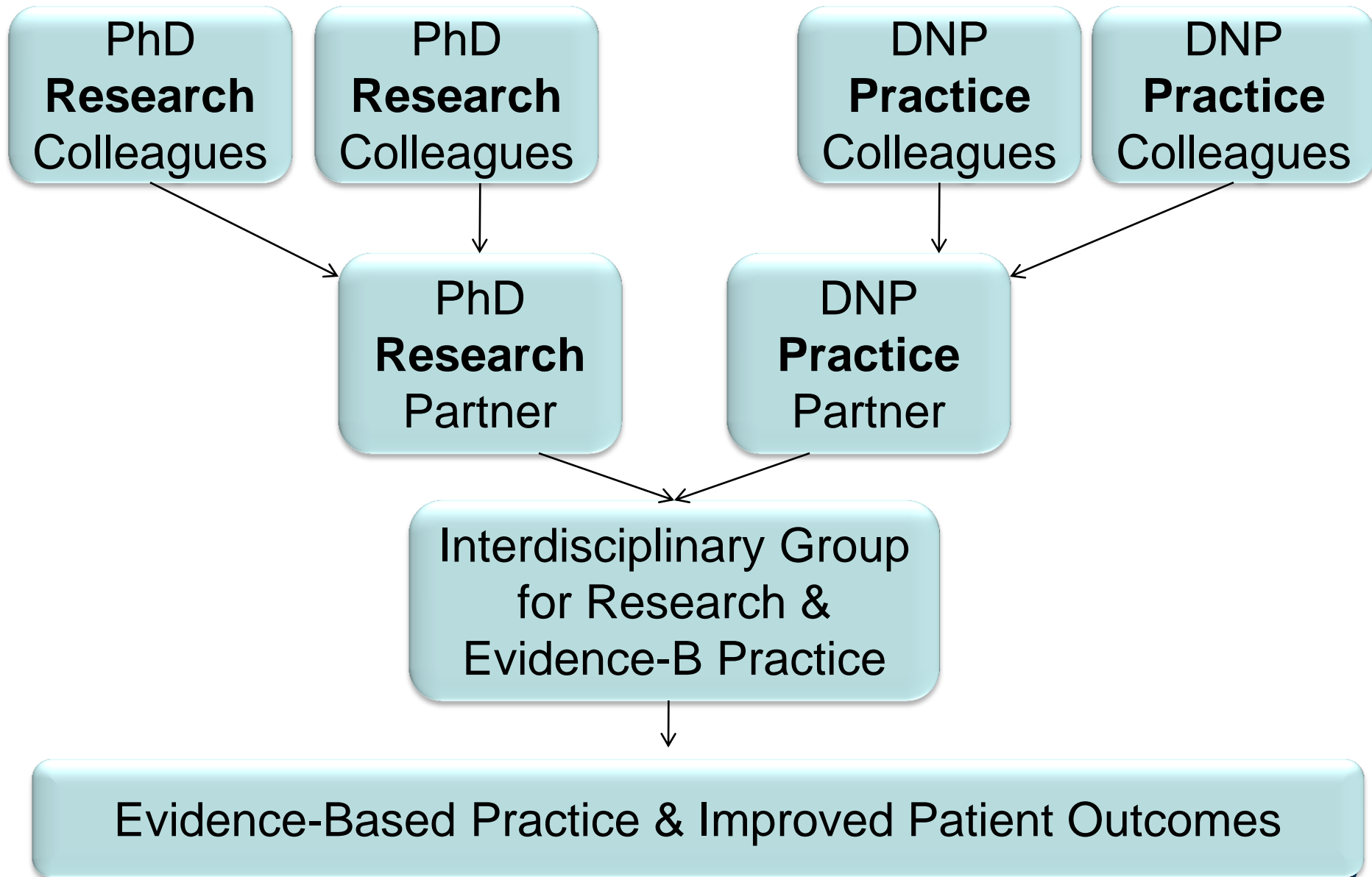
- Idea for formal partnership resulted
- Began assessing independent but related basic science and clinical research projects across the institution, including those led by PhD partner colleagues
- Planned ways in which our efforts and those of colleagues could be combined into a common theme/umbrella

DESCRIPTION

- PhD partner research colleagues became interested as a way to access clinical populations for their research
- DNP partner clinical colleagues became interested as way to further develop research and scholarship skills



IMPLEMENTATION



IMPLEMENTATION

- Interdisciplinary and translational research interest grew
- Need developed to invite others with additional research expertise and diverse clinical backgrounds (respiratory, rehab, nutrition, etc)
- Efforts began to pool resources and make clinically-related scholarly projects more efficient

IMPLEMENTATION

- Formal mechanism for interdisciplinary clinical and translational research project development needed.
- Out of informal PhD/DNP Partnership, came:



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IMPLEMENTATION

- PhD and DNP partners are co-chairs
- Developed mission, vision, and goals
- Outcome-focused



FACILITATION

- **Mission**

- To facilitate interdisciplinary

(basic & clinical science) research projects aimed at improving trauma outcomes. This mission is consistent with the:

- Level 1 Trauma Center designation
- Georgia Health Sciences University mission
- National Institutes of Health research road map



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FACILITATION

- **Vision**

- To create an international presence for the scientific work that TIGR members initiate and participate in through collaborative scholarship, from idea to publication.



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FACILITATION

- **Process**

- Quarterly meetings
& networking sessions

- Agendas include

- Review of current projects
- Specific opportunities for collaboration
- Ideas for development of new collaborative projects with a focus on interdisciplinary input and participation.



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FACILITATION

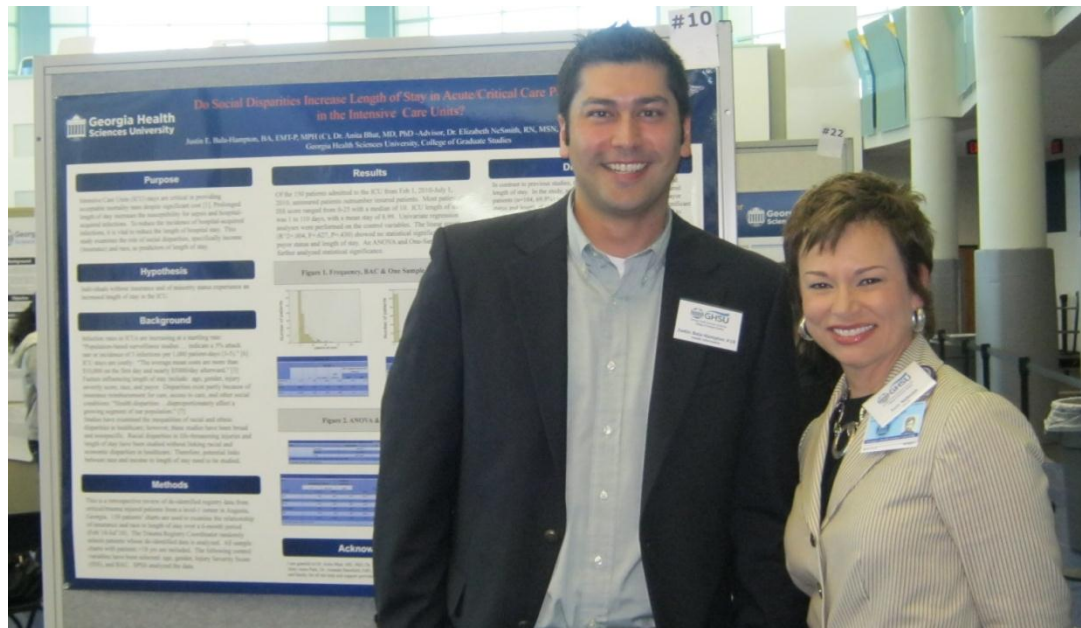
- **Goals & Outcomes**

- Short-term goal is to facilitate interdisciplinary research relationships and collaboration.



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FACILITATION

- **Goals & Outcomes**



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- Long-term goals are to
 - Initiate, implement, and disseminate interdisciplinary research projects focused on improving trauma patient outcomes and care
 - Increase research membership to include participation from national and international collaborators.

FACILITATION

- **Goals & Outcomes (cont.)**
 - Outcomes are focused on measureable collaborative and interdisciplinary achievement to include, but not limited to:
 - Group research projects
 - Manuscripts
 - Abstracts



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INFLUENCE OF ACCELERATED BIOLOGIC AGING, CHRONIC STRESS, AND INFLAMMATORY RESPONSE ON OUTCOMES FOLLOWING TRAUMA

BACKGROUND

Trauma defined as acute, life-threatening injuries
#1 cause of death ages 15-44
\$7.8 billion cost to Americans
45 million cases of long-term disability
More years of potential life lost than both heart disease and cancer

Inflammatory response following trauma is one of the most significant factors in the development of other long-term outcomes, including sepsis and organ failure.

Sepsis and Organ Failure are the leading causes of in-hospital mortality following trauma.

Chronic Stress has been associated with Accelerated Biologic Aging, as well as changes in immune response and baseline inflammatory biomarkers.

We have previously identified demographic and lifestyle factors, including race and socioeconomic status (SES), which affect the systemic inflammatory response to trauma and predict intensive care unit (ICU) length of stay.

RACE & SES can contribute to chronic stress. Studies show that among trauma patients:

- 80% insurance <\$3,000/yr
- 24% insurance <\$2,000/yr
- 40% no health insurance
- Fewer years of education

Only 2% of trauma patients discuss address rate of SES as potential factors which impact trauma outcomes.

SPECIFIC AIMS

For this research in progress, we will:

- Specific Aim 1: Test the hypothesis that accelerated biologic aging is a significant long-term factor contributing to susceptibility to sepsis and organ dysfunction following trauma.
- Specific Aim 2: Test the hypothesis that chronic stress is a significant predisposing factor leading to baseline inflammation and magnitude of the inflammatory response to trauma.

RESEARCH FRAMEWORK

Adapted from the National Population Comorbidity Prevalence (Prevalence & Wellness, 2002)

ANTICIPATED RESULTS

For specific aim 1, Accelerated biologic aging, measured by the number of leukocytes with changed morphology and magnitude of the inflammatory response to trauma, measured by 11 levels of cytokines and 11 gene expression signatures (ICU admission and ICU length of stay).

For specific aim 2, Chronic stress, measured by a high number of adverse life events, measured by 11 levels of cytokines and 11 gene expression signatures (ICU admission and ICU length of stay).

Statistical models will provide preliminary evidence to support the hypothesis that accelerated biologic aging from chronic stress is an independent risk factor for susceptibility to sepsis and organ dysfunction following trauma. These findings will be used to develop future prevention and treatment strategies.

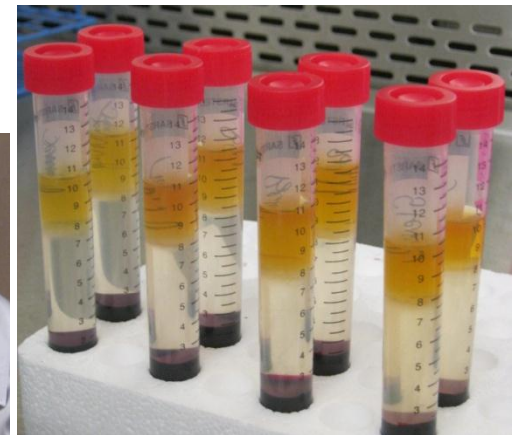
...to improve health and reduce the burden of illness in society

FACILITATION

- Outcomes to date:
 - **1K01NR011471-01 NIH/NINR:** NeSmith, E.G., Catravas, J, Marsland, A., Alexander, S., Cannon, J., Dong, Y., Hawkins, M. “Accelerated biologic aging and risk for sepsis and organ failure following trauma.”
 - **MCG Cardiovascular Discovery Institute:** NeSmith, E., Catravas, J., Hawkins, M., Ferdinand, C., Atteberry, L., Medeiros, R., Park, M."The effect of hsp90 inhibitors on LPS-induced inflammation following trauma."

FACILITATION

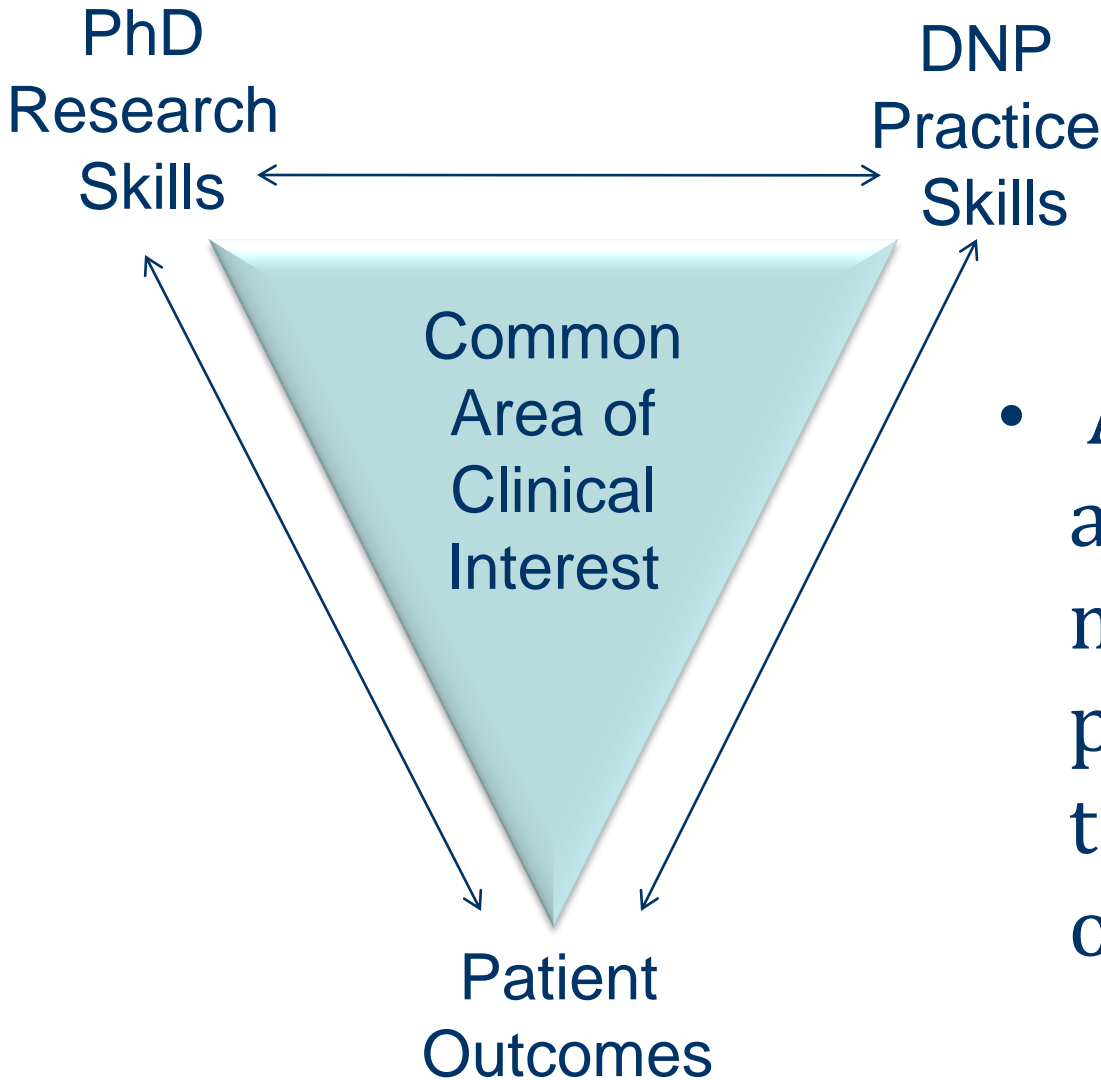
- Outcomes to date:
 - Dong, Y., Zhu, H., NeSmith, E., Ferdinand, C., Hamrick, M., Isales, C., Chutkan, N. Medeiros, R. “The effect of Vitamin D supplementation on bone healing following traumatic injury”
 - Medeiros, R., Bias, R., NeSmith, E, et. al. “Regional Trauma Advisory Group: Performance Improvement Model for trauma system outcomes.



FACILITATION

- Outcomes to date:
 - NeSmith, EG, Weinrich, SP, Andrews, JA, Medeiros, RS, Hawkins, ML, Weinrich, MC, (In Press).
Demographic differences in Systemic Inflammatory Response Syndrome Score following trauma.
 - Medeiros, RS, NeSmith, EG, Heath, J, Hawkins, ML, Hawkins, D, Bias, R. (2011). Mid-level Health Providers Impact on ICU Length of Stay, Patient Satisfaction, Mortality and Resource Utilization. *Journal of Trauma Nursing*, 18(3), 149-152.

MODEL



- A stimulus from any corner of the model sets the process in motion to solve a problem of clinical interest.

STRENGTHS

- Professional history and shared clinical interest between PhD/DNP partners
- Shared mission, vision, goals between PhD/DNP partners, even before formal statements were developed
- Interest in and support for scholarly products from nursing and physician administrators

SHOCK TRAUMA ICU

STRENGTHS

- Interest in clinical-basic science collaboration from all involved scholars
- Formal clinical research services department to provide research and IRB support
 - Director of this department was a nurse who had professional history with PhD/DNP partners

WEAKNESSES/CHALLENGES

- Only common link between collaborators was the PhD/DNP partnership
- Professional culture differences between basic & clinical scientists, and clinicians
 - Unfamiliarity with respective professional languages, routines, conferences, literature
 - Different skill sets and career priorities
 - Changing understanding of “MD-As-PI” when thinking of traditional clinical research roles to include “Anyone-As-PI”

CHALLENGES

- Overcoming these by:
 - Scheduling networking meetings for members to get to know each other
 - Cultivating environment of mutual professional respect
 - Chairs take special care during meetings to “translate” and validate member ideas to other members from different professional cultures
 - Focusing on meaningful professional outcomes (abstracts, manuscripts, grants)

SUMMARY

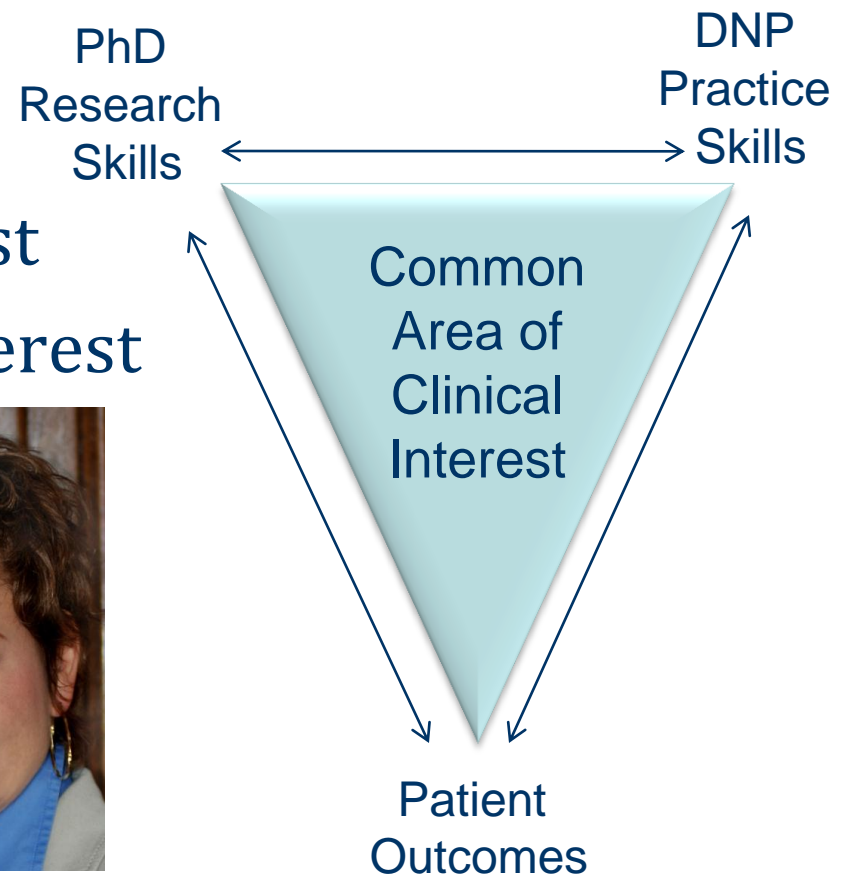
- DNP is moving from controversy to coherence
- Models for role implementation are needed



SUMMARY

- Elements of our model include:

- PhD Research Partner
- DNP Practice Partner
- Common clinical interest
- Patient outcomes of interest



SUMMARY

- Facilitation strategies include
 - Formal research and practice group (TIGR)
 - Diverse interdisciplinary members
 - Mutual professional respect
 - Clear mission, vision, and goals
 - Focused pathway for meaningful outcomes



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THANK YOU & QUESTIONS

