

# Building Capacity in Transdisciplinary Research

AACN Doctoral Education Conference 2019

Presented by:

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Dean and Professor

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THE GEORGE WASHINGTON UNIVERSITY

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## Panelists

- Dr. Jeanne Geiger-Brown – Professor, Associate Dean for Research GWSON
- Dr. Tony Yang, Tenured Professor & Health Services and Policy Researcher
- Dr. Sherrie Wallington, Tenure-Track Assistant Professor & Health Disparities Researcher specializing in Oncology
- Dr. Kathleen Griffith, Assistant Dean of the PhD Program & Tenured Associate Professor (Oncology Researcher)

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## Objectives

- Describe the challenges of conducting transdisciplinary research among GW School of Nursing faculty
  - What transdisciplinary research requires of academics
  - Hiring/using tenure lines for non-nurse faculty hires
  - Maintaining the integrity of the teaching mission
  - Pairing DNP and PhD students to capitalize on each other's strengths
- Describe best methods for building transdisciplinary teams and infusing nursing's contribution into the team's concepts, models and methods

## Program Sequence

### **Part I – Dr. Jeanne Geiger-Brown**

- Transdisciplinary research – what is it?
- \*Q&A

### **Part II – Researchers (Drs Yang, Wallington, Griffith)**

- why transdisciplinary research
- Challenges and Opportunities
- Being in a SON
- \*Q&A

### **Part III – Dr. Pam Jeffries**

- Academic Leadership Considerations
- \*Q&A

## Definitions

**Multidisciplinary** - work in parallel or sequentially from disciplinary-specific base to address common problems. (The fruit bowl)

**Interdisciplinary** - work jointly but still from disciplinary-specific basis to address common problems (The fruit salad)

**Transdisciplinary** - work jointly using *shared conceptual framework* drawing together disciplinary-specific theories, concepts, and approaches to address common problems, moving to a *'middle space'* (The fruit smoothie)

Rosenfield, 1992

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## The Challenge Of Transdisciplinary Research

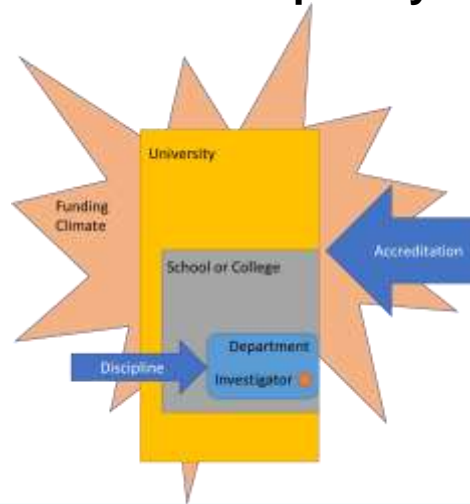
“The difficulty lies not in the new ideas, but in escaping the old ones.” - John Maynard Keynes (1936)



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## Challenge Of Transdisciplinary Research



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## What transdisciplinary research requires of the investigator

- Broad vision to suspend mental boundaries
- Personality and communication skills
- Willingness to trust
- Team science skills
- Security in disciplinary knowledge
- Rigorous scientist

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## What Transdisciplinary Research Requires Of The Academic Department

- Boundary-spanning research
- Workload allocation
- Mentorship of junior faculty
- “Water cooler” opportunities
- Leadership
- Culture
- Identify with the team

## What Transdisciplinary Research Requires Of The School Or College

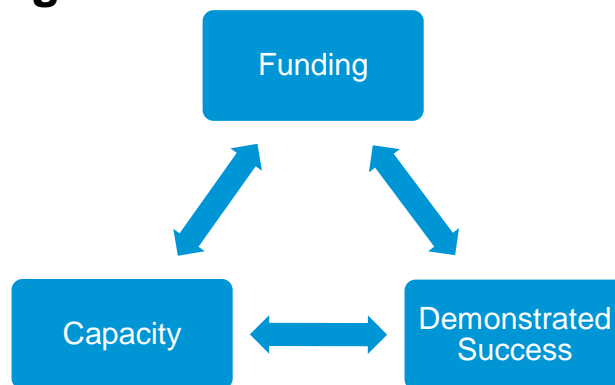
- APT standards
  - Identification of actual scientific contribution
  - Education of APT committee members
- Structure space to foster collaboration
- Center or institute funding
- Mix of junior and senior faculty

## What Transdisciplinary Research Requires Of The University

- Research priorities-team science approach
- Technology to support collaboration
- De-siloed schools
- Incubators - “deep knowledge integration”
- Financial support
- Consultative support - team science issues

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## Funding



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# Team science is valued at GW

Three New Valuable Resources for Team Science Research and Training

Better Collaboration via Better Tools

Interested in collaborating remotely? How about collaborating across disciplines or institutions? We have what you need to assist in your research goals!

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# Health Services Research is Transdisciplinary

- Objective
- Many dimensions
- Multiple perspectives
- Audience



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## Examples

### **Malpractice risk and the decline in vaginal birth after cesarean delivery: serendipitous association?**

Exploring whether a defensive response to malpractice pressure exists in obstetrics and, if so, its magnitude.

### **Does liability pressure improve obstetric outcomes?**

Assessing whether the soaring cost of malpractice premiums and ongoing tort reforms have any statistically significant impacts on infant and maternal health outcomes.

### **Does liability pressure keep the obstetrician-gynecologist away?**

Examining whether fewer OB/GYNS practice in states with relatively high malpractice pressure and, if so, the size of its effect.



## Transdisciplinary Research Approach/Process

- Bringing together the right people
  - health services researcher, lawyer, physician, nurse, economist, statistician, geographer...
- Collaborating in a transdisciplinary setting
- Generating useful evidence-based guidance for decision makers





## Challenges/Barriers Experienced

- Institutional and administrative constraints
- Disciplinary boundaries of professional journals and societies
- Disciplinary preferences of funding agencies
- Disciplinary career paths

### Transdisciplinary Challenges



## Opportunities Ahead

- Institutional and administrative bridges
- Journals and professional societies acknowledging transdisciplinary research
- Funding for transdisciplinary research
- Advancing transdisciplinary research careers



# Why GW Nursing?

- Leadership
- Center
- Clinicians
- Affiliations

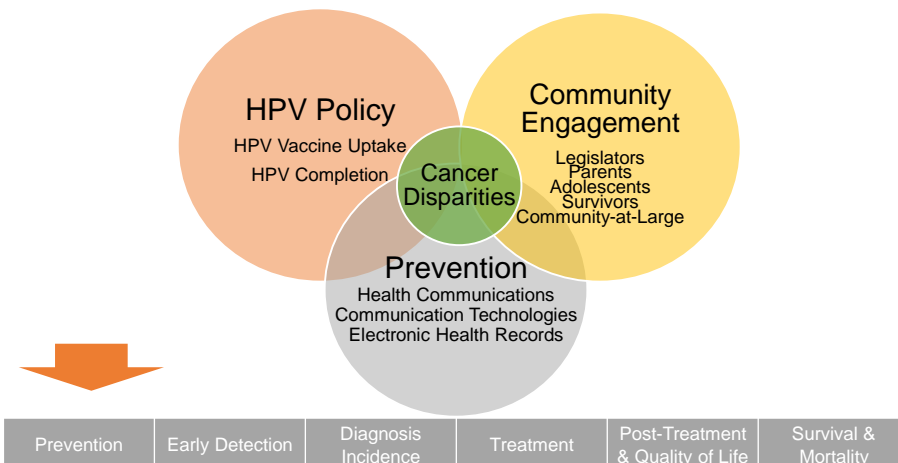
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# Dr. Sherrie Wallington's Research Program



Freeman & Chu, 2005; Mary A. Gerend, and Manacy Pai Cancer Epidemiol Biomarkers Prev 2008;17:2913-2923



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### The Definition of Health Disparities and Health Equity

**Health Disparity**  
"A disproportionate difference in health between groups of people." By itself *disparity* does not address the chain of events that produces it.

**Health Inequity**  
"Differences in population health status and mortality rates that are systematic, patterned, unfair, unjust, and actionable, as opposed to random or caused by those who become ill."

**Health Equity**  
"A fair, just *distribution* of the social resources and social opportunities needed to achieve well-being."

#### Health Disparities

##### Chronic Disease Rates by Race and Ethnicity

Race/Ethnicity	Diabetes	Heart Disease	Cancer
White	~20	~250	~180
Black/African American	~40	~320	~240
Hispanic	~30	~180	~130
American Indian	~30	~170	~150
Asian/Pacific Islander	~20	~130	~120

#### Social Determinants of Health

Economic Stability

↓

Neighborhood & Physical Environment, Education, Food

↓

Community & Social Context

↓

Health Care Systems

Centers for Disease Control (2011). The Burden of Chronic Diseases and Their Risk Factors. Whitehead M, Dahlgren G, Evans T (2001). Equity and health sector reforms: can low-income countries escape the medical poverty trap? Lancet, 358(9284):833–836. Artiga, S., Hinton, E. (2018). Beyond Health Care: The Role of Social Determinants in Promoting Health and Health Equity. <https://www.kff.org/disparities-policy/issue-brief/disparities-in-health-and-health-care-five-key-questions-and-answers/>

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## Shifting Paradigms through Transdisciplinary and Translational Approaches: “Bench to Bedside to Community”

Translational research is the process of turning observations in the laboratory, clinic and community into interventions that improve the health of individuals and the public— from diagnostics and therapeutics to medical procedures and behavioral changes.

– National Center for Advancing Translational Research

### T0 to T4 Translational Research Continuum

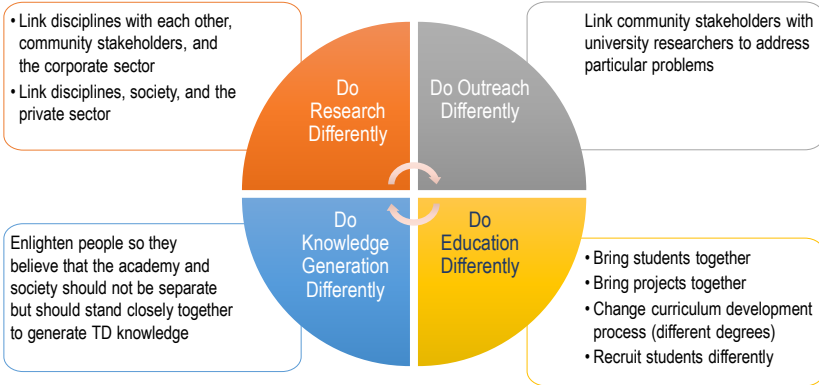
ACADEMICIANS				
<b>T1TR</b>		<b>T2TR</b>		
Basic Research	Pre-Clinical Studies	Clinical Efficacy	Clinical Effectiveness	Dissemination Implementation Impact
<b>T0</b>	<b>T1</b>	<b>T2</b>	<b>T3</b>	<b>T4</b>
Basic Research	Translation to Humans	Translation to Patients	Translational to Practice	Translation to Communities

National Center for Advancing Translational Science  
University of Wisconsin: <https://ictr.wisc.edu/what-are-the-t0-to-t4-research-classifications/>

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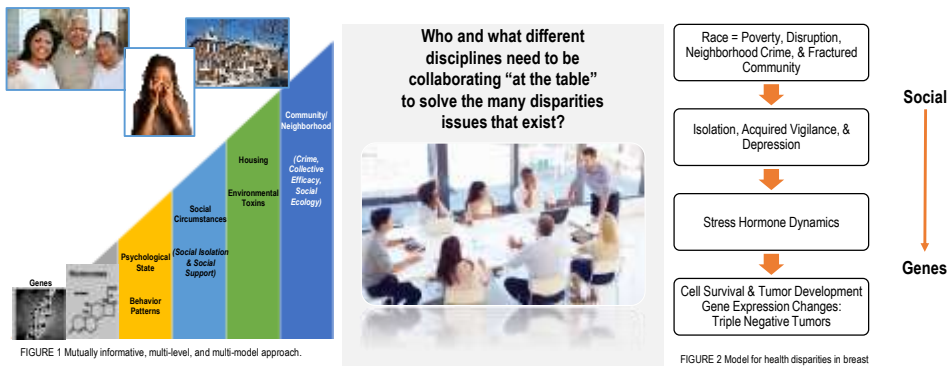
# Shifting Paradigms Through Transdisciplinary And Translational Approaches: “Bench To Bedside To Community”



Adapted from McGregor, S.L., Voickmann, R. (2011). Synopsis of Integral Leadership Review's Series on Transdisciplinary in Higher Education.



# The Transdisciplinary And Translational Health Breast Cancer Disparities Example



Sarah Gehlert PhD , Ann Murray , Dana Sohmer , Martha McClintock, Suzanne Conzen & Olufunmilayo Olopade (2010) The Importance of Transdisciplinary Collaborations for Understanding and Resolving Health Disparities, Social Work in Public Health, 25:3-4, 408-422, DOI: 10.1080/19371910903241124.



## Challenges

- Academic silos – inability to relinquish researcher control
- Unclear discipline-specific concepts, approaches and methods
- Perceived hierarchical research importance
- Lack of understanding of how transdisciplinary research will impact promotion and tenure
- Lack of appropriate theories and models
- Sustainability of transdisciplinary and translational research endeavors

## Why GW Nursing?

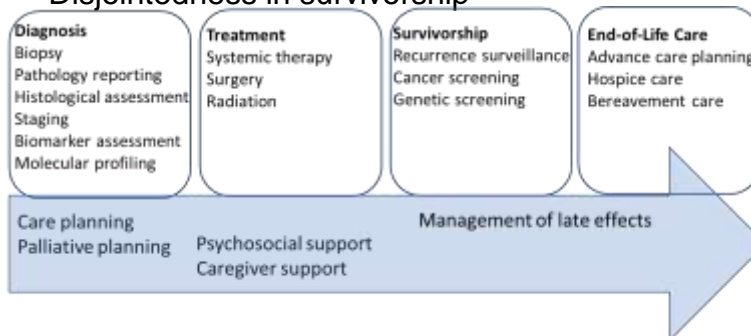


- Appreciation for my “Authentic Research Self”
- Able to apply my core competencies within and outside the discipline of Nursing
- Established culture where I feel free to contribute to ideas and help develop and shift new paradigms in teaching, theory expansion and research
- Diversity of disciplines, people, ideas and research that drives innovation
- Strong GW Nursing transformational leadership

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## Cancer Care: Traditional Approach

- Focus on disease management
- Specialty isolation
- Disjointedness in survivorship



Adapted from National Academy of Sciences, 2013

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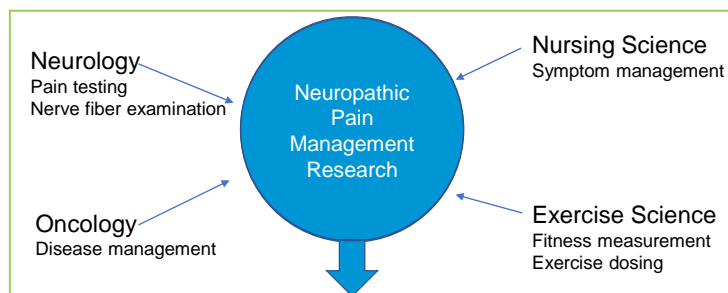
## Gaps Across Disciplines: Cancer Rehabilitation

- Extent of disability after cancer
- Prevalence of exercise after cancer
- Optimum dose of exercise to address particular symptoms
- Best clinical measurements of function in cancer populations



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## Transdisciplinary Approach: Rehabilitation For Pain



Cancer Pain Rehabilitation



Griffith/Ryan NICHD R21HD091696  
Ryan/Griffith Dept. Veterans Affairs

Photo used with permission

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## Transdisciplinary Research Training: PhD Program

- Modeling collaborative leadership
- Providing early exposure Research practica query
- Encouraging post-doctoral training



Gray B et al. (2016) *Am J Prev Med*



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## GW Nursing – Who We Are

### Mission

Prepare leaders and providers to improve the health of *all people* by leveraging our presence in the nation's capital.

### Highlights

- 10<sup>th</sup> year as a School of Nursing, 4<sup>th</sup> year led by Dean Jeffries
- Previously, interdisciplinary and multidisciplinary collaborations with other GW faculty were necessary due to **small faculty size** and **lack experience** in research.
- Over the last four years, GW Nursing has been **strategically recruiting** transdisciplinary researchers who align with its research foci and building infrastructure to support their work.
- New **PhD in Nursing program** will launches in fall 2019.



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## GW Nursing Research Foci



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## Advantages For The School Of Nursing

- ✓ Increase funding opportunities
- ✓ Expand the faculty recruitment pipeline
- ✓ Introduce the science of nursing research to new audiences and stakeholders
- ✓ Diversify research core
- ✓ Offer new opportunities for mentorship and collaboration to students
- ✓ Attract new student populations
- ✓ “Gain a seat at the table”

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## Faculty Recruitment: Expanding The Pipeline

- Nurse faculty shortage reported as far back as 1998 (20 years)
- 74% of schools report difficulty recruiting and hiring new faculty members in AY16-17
- Faculty Homogeneity:
  - 81% of FT nurse educators were White Non-Hispanic
  - 93% of FT nurse educators were female
  - Across all ranks, the majority of nurse faculty were between the ages of 46 to 60 years old

## Faculty Recruitment: Expanding The Pipeline

Currently, at GW Nursing we have 80 faculty members, 8 of whom are not nurses:

- Teaching is required of all faculty
- Research skills are important, but quality teaching is also valued in candidates

When hiring transdisciplinary researchers, GW Nursing:

- Set aside tenure track lines
- Conducted a focus group with faculty to determine our research foci
- From 2015 to present, tailored searches for nurse faculty and non-nurse faculty who would be able to conduct transdisciplinary research
- Strategic recruiting resulted in increased diversity (gender and racial/ethnic) as candidate pools were larger and much more competitive than normal nursing faculty pools

## Faculty Recruitment: Expanding The Pipeline

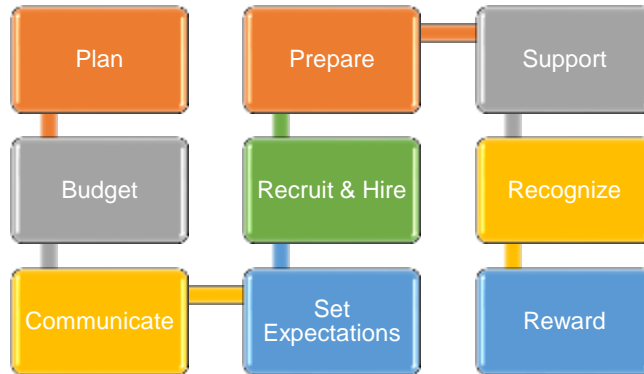
- Intrapersonal factors either motivate or threaten the potential for successful collaboration (Lotrecchiano, Mallinson, Leblanc-Beaudoin, Schwartz, Lazar, Falk-Kresinski, 2016)
- “Teamwork is not magic, and simply ‘getting along’ or communicating information to one another does not constitute collaboration” (Hinojosa et al., 2001, p. 210)

## Challenges

- **Incentivizing faculty to participate**
  - Breaking down silos
  - Fear of the unknown
  - Territorialism
- **Limited Resources**
  - Physical space constraints
  - Budget
- **Time and Effort**
  - Workload - the ‘third rail’ of academic administration
  - The “bucket system”- our model for scholarship/research, teaching, service balance
- **Managing conflict**
  - TD, though collaborative, requires someone to be the leader
  - Addressing perceived power differentials among nurse faculty and faculty hired from different disciplines



## Building Capacity: One Step At A Time



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## Questions



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