

Integrating clinical prevention and population health methods within the Doctor of Nursing Practice (DNP) curriculum:

The Winona State University Experience



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A team committed to advancing clinical prevention and population health through engaging within the community, building trusting relationships, and building community capacity for sustainability.



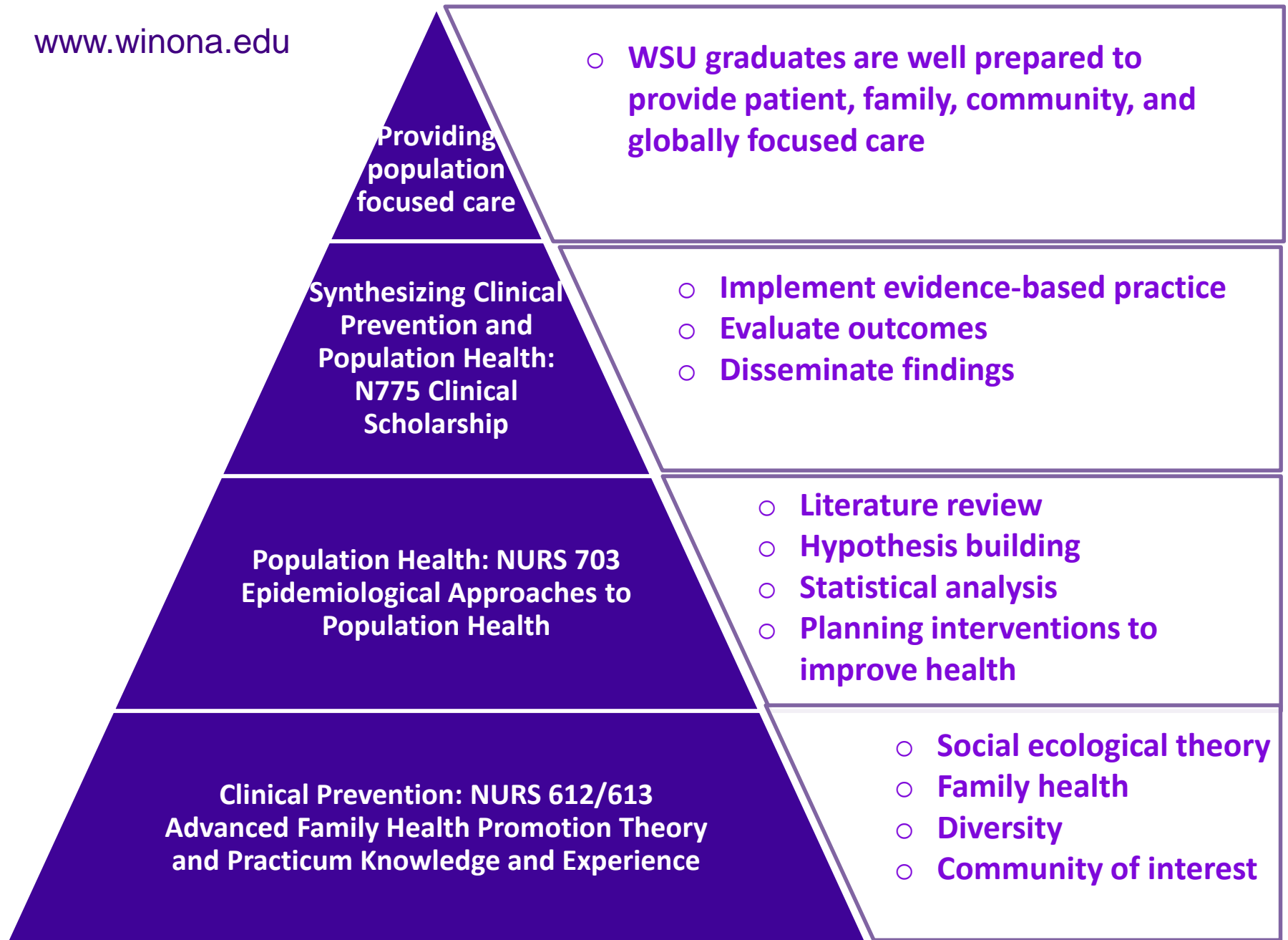
Graduate Nursing Faculty, Staff, and Administration



Learning Outcomes

At the completion of this presentation the learner will be able to:

1. Articulate at least two methods for implementing population health methods into a Doctor of Nursing Practice (DNP) curriculum.
2. List four specific program or faculty strategies for supporting integration of population health precepts into a DNP curriculum.



NURS 612/613

Advanced Health Promotion for Families Didactic and Practicum

Age-Specific Assessment and Intervention Proposal

- An individual anywhere across the lifespan

Family Health Assessment and Intervention Implementation

- A family managing a chronic illness anywhere across the lifespan

Community of Interest Assessment and Intervention Implementation

- A population group within contracted agencies/organizations within the community





**NURS 612/613
Advanced
Family
Health
Promotion
Didactic and
Practicum**



**Data Collection with
Rochester Healthy
Community
Partnership: Boys &
Girls Club of
Rochester**



Partial Listing of Communities of Interest

- Academic-community developed partnerships to support service learning initiatives:
 - Hawthorne Adult and Family Learning Center
 - Community Health Services
 - Boys & Girls Clubs of Rochester, MN; La Crosse, WI; St. Paul, MN; St. Cloud, MN
 - Cambodian Community of the Buddhist Support Society
 - Hosanna Lutheran Church Food Response Program
 - Juntos Club, Alliance for Chicanos, Hispanics, and Latin Americans, Rochester, MN
 - Dorothy Day Hospitality House, Rochester, MN
 - Masjed Abubakar Siddiq Mosque, Rochester, MN
 - Vision Church, Rochester, MN

NURS 612/613 Community of Interest Exemplar

- Students, working with a Cambodian community leader and interpreter, assessed the need for monitoring and teaching about hypertension among a group of 20 families in a local Cambodian Temple.
- Students learned the significance of engaging with an interpreter to understand cultural factors influencing dietary intake and physical activity that could influence hypertension.
- Students developed a sustainable, population-based intervention teaching Temple members to self-monitor their blood pressure, take lifestyle measures to prevent hypertension, and self-manage any existing hypertension along with their providers.

NURS 703 Epidemiological Approaches to Population Health

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- Introduction to and application of epidemiologic principles
- Content discussion examples
 - Health disparities and societal determinants of health
 - Analysis of real world, real time epidemics such as Ebola and Zika
 - Analysis of ongoing societal challenges such as pre-term births, incidence of smoking, substance abuse, cardiovascular risk, cancer risk, and distribution of obesity
 - Identify how national and international groups, such as the Centers for Disease Control, World Health Organization and non-governmental organizations deal with epidemics

NURS 703 Major Paper

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- Use an existing, publically available summary of live births in North Carolina (University of North Carolina, The Odum Institute)
<http://www.irss.unc.edu/odum/home2.jsp>
- Apply advanced statistics; interpret statistical findings; and develop a project to address the findings of the analysis
 - Literature review of social determinants of health (e.g. factors related to premature birth)
 - Hypothesis building (e.g. smoking increases risk of premature birth)
 - Statistical analysis based on a publically available data set (e.g. multiple logistic regression & odds ratio)
 - Planning interventions to improve health in a population identifying stakeholders, finances, and a detailed description of how to implement project (e.g. developing a program to improve birth outcomes in rural counties in North Carolina)

Preterm Birth	LBW	SGA
Chlamydia	HIV	HIV
Trichomoniasis	Smoking	H1N1 infection
Bacterial Vaginosis	Cocaine Use	Alcohol > 3 drinks/day
Herpes (untreated)	Severe Gestational HTN	
Cocaine Use	Poverty	
H1N1 infection	Stress	
Severe Gestational HTN	Alcohol > 3 drinks/day	
Diabetes	Psychiatric disorder	
Race: African Americans/Latina		
Poverty		
Stress		
Low education levels		
Alcohol > 3 drinks/day		
Methamphetamines		
Obesity		
Maternal Education		

Hypothesis

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The modifiable risk factors of:

- maternal smoking before or during pregnancy,
- maternal obesity or overweight,
- adequacy of perinatal care, and
- presence of maternal infections during pregnancy

increase the risk for low birth weight infants and preterm birth.

Statistical Analysis

After stepwise selection:

Initial model covariates:

Kotelchuck score
Smoking before pregnancy
Smoking during pregnancy
Gonorrhea
Syphilis
Chlamydia
Hepatitis B
Hepatitis C
No prenatal care
Overweight
Obese

<i>Preterm Birth Model</i>	<i>Low Birth Weight Model</i>
No prenatal care	No prenatal care
Kotelchuck Index Score	Kotelchuck Index Score
Smoking during pregnancy	Smoking during pregnancy
Hepatitis C	Overweight (protective factor)
Obesity	--

NURS 775 Clinical Scholarship

- Demonstrate evidence-based practice strategies in a clinical setting.
- Integrate nursing theory, research, ethics and related sciences into the delivery of culturally competent advanced nursing care for diverse populations and health care systems.
- Apply knowledge and skills to enhance the quality and safety of health care in a variety of settings and for a variety of populations
- Informed by American Association of Colleges of Nursing (2006). *The Essentials of Doctoral Education for Advanced Nursing Practice.*

DNP Project Exemplars

Implementation of a diabetes screening program in the Hawthorne Education Center

Implemented educational intervention to reduce inappropriate antibiotic use

Implemented ambulatory blood pressure measurement in Hispanic population

Implemented education intervention to reduce risky sexual behavior in at-risk teenagers

Assisted in development and utilization of nurse practitioners in Tanzania

Implemented a clinical practice guideline to address neonatal abstinence syndrome in rural MN

Population Health Focused

Strategies to Support Integration of Population Health into the DNP Curriculum

- Community-engaged faculty; dedicated to service-learning
- Faculty workload dedicated to practicum; university legal contracts negotiator
- Coffee/tea connection between faculty and community members year around
- Faculty involvement in community-based participatory research group ongoing
- Community-members engaged in education as active liaisons
- Institutionally-supported professional development for faculty in population health
- Interdisciplinary and team teaching
- Population health as a way of thinking and being

DNP Graduates well prepared to provide patient, family, community, and globally focused care



2016 Recipient of a Centers of Disease Control and Prevention/American Association of Colleges of Nursing Innovations in Graduate Population Health Curriculum Award



References

American Association of Colleges of Nursing (2006). *The Essentials of Doctoral Education for Advanced Nursing Practice*. Retrieved from <http://www.aacn.nche.edu/dnp/Essentials.pdf>

Rochester Healthy Community Partnership (2016). Accessed January 4, 2016 at <http://rochesterhealthy.org/website/>

University of North Carolina, The Odum Institute Advancing Social Science Teaching and Research (2016). Accessed January 4, 2016 at <http://www.irss.unc.edu/odum/home2.jsp>

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