

# Training Nurses in Population Health Science: What, Why, How?

---

CHRISTINE BACHRACH, PhD

YONETTE THOMAS, PhD

# What is Population Health?

---

- An approach to understanding and improving health that recognizes health as a product of more than biology and clinical care. It is also a product of:
  - social, economic, cultural, and environmental conditions that operate at group, community, and higher levels
  - behavioral and cognitive processes shaped by these conditions
- This approach is integrated into Healthy People 2020:  
<https://www.healthypeople.gov/sites/default/files/HP2020Framework.pdf>



**Medical Care**

**Occupational Hazards**

**Environmental Toxins**

**Racism**

**Substance Abuse**

**Hopelessness**

**Social Supports**

**Access to Care**

**Education**

**Stress**

**Exercise**

**Poverty**

**Family Instability**

**Violence**

**Safety Nets**

**Food Environment**

**Injury Prevention**

Population Health:  
Medical care is the  
tip of the iceberg

# A tangle of meanings?

- ❑ **Health care and health policy:**
  - reduce cost in patient populations
  - Often called *population health management* or *population medicine*
  - Focus on what can be done to improve the context of care at the *patient* level, *one patient at a time*
- ❑ **Broader meaning** (Foundations, government, scientists)...

Population Health ?  
Population Health ?  
Population Health ?

# Population Health: A Broader Meaning

---

Population health refers to the health outcomes of a group of individuals, including the distribution of such outcomes within the group *(Kindig and Stoddart, 2003)*.

- Group = geographic or politically defined populations, or
- Key racial, ethnic, socioeconomic subgroups and disparities across groups a key focus

Focusing on community or larger populations permits strategies that target change at the macro level or upstream:

- Change policies, working conditions, law enforcement practices, and built environments to make environments more favorable to health

# Both Perspectives are Important

---

- Population health and population medicine (population health management) are complementary
  - Patient-centered approaches are key to improving quality of care, adherence to care, and controlling costs per patient
  - Can involve prevention, behavioral change, and addressing barriers to care at patient level
  - Macro-level approaches key to reducing the need for care and overall costs of care at the population level
- Each is supported by science:
  - Health services research
  - Population health science



# The Science of Population Health

---

**Population Health Science** provides the evidence base for population health policy and practice.

- Conceptualizes health as the product of multiple contextual, behavioral, and biological causes and their interactions;
- Focuses on the health of entire populations of people and the distribution of health across population groups; and,
- Identifies mechanisms through which overall levels of health and health disparities are produced.

# The Science of Population Health

---

- **Interdisciplinary:** integrates **knowledge, theory, and tools** from **multiple disciplines**.
- **Extends traditional scholarship and training in public health** to better incorporate the full range of disciplines that contribute to population health knowledge – especially basic social sciences.



# Why Train Nurses in Population Health?

---

- ❑ Patient needs, adherence to care and care outcomes are inexorably bound with social and environmental issues related to health and health behavior
- ❑ Nurses play a vital role at the interface of health care and people's lives and can:
  - ❑ Identify current issues that affect patients health and care;
  - ❑ Problem-solve and help link to needed social, preventive services;
  - ❑ Identify patterns across patients and be part of process that takes issues to community leaders and local governments; and
  - ❑ Contribute to the development of multi-sectoral interventions.

# Training should be driven by clear vision for nurses' role in population health

---

## □ What are the many roles nurses can play?

- Across rural and urban areas, in different populations, in different practice settings?
- As public health nurses vs. nurses in clinical care?
- As bridges among community members, public health officials, and health care providers
- What else?

# Training in Population Health Science: How?

---

- ❑ Recommendations from National Academy of Medicine (NAM) Roundtable on Population Health Improvement meeting and report
- ❑ Examples of undergraduate courses in public health and sociology
- ❑ Example of a course designed for nurses at the undergraduate level



**INSTITUTE OF MEDICINE**  
OF THE NATIONAL ACADEMIES

**Training in Interdisciplinary Population Health  
Science: A Vision for the Future**

June 1-2, 2015

*Hosted by the IOM Roundtable on Population Health Improvement and supported by the NIH OBSSR, NIMHD, the Roundtable, and RWJF Health & Society Scholars*

**Training in Interdisciplinary Health Science:**

**Current Successes and Future Needs**

A paper commissioned by the Institute of Medicine  
Roundtable on Population Health Improvement



# Key Points from the Report

---

## □ Teach Basic competencies

- knowledge acquisition
- interdisciplinary collaboration skills (teamwork)
- knowledge translation and exchange

## □ Training practices

- integrated coursework; interdisciplinary reach, team teaching
- experience-based learning in interdisciplinary, cross-sectoral teams

# Undergraduate Courses

---

## □ Content

- Help students understand the biological underpinnings of health, illness and disability, as well as their social, political, legal and economic dimensions – introduce translation, evaluation, and communication
- Coverage of health determinants at the biological, behavioral, and social levels
- Introduce the conceptual and scientific frameworks of population health, emphasizing public and global health

## □ An explosion of models in sociology and public health

- Details in report

# Some Examples of Undergrad Models

## Bringing Population Health to Undergraduates – Models for Majors

### Population Health/Public Health Stand-Alone Major

University of Pennsylvania, Department of History and Sociology of Science, Health and Societies Major

<https://hss.sas.upenn.edu/hsoc>

### Population Health Joint Major (not stand-alone)

New York University Program in Global Public Health

<http://publichealth.nyu.edu/academic-programs/undergraduate/majors.html>

### Interdepartmental/Interdisciplinary Majors in Population Health

Brandeis University, Health: Science, Society and Policy (HSSP) Program

<http://www.brandeis.edu/programs/hssp/index.html>

### Population Health + Social Justice/Service Learning

Santa Clara University, Public Health Science Major

<https://www.scu.edu/cas/public-health/>





Syllabi for  
undergraduate  
population health  
courses to be posted  
to website

<https://ia4phs.org>



# A Nursing Course in Population Health for Undergrads

---

Professor: Joyce K. Edmonds, PhD, MPH, RN, APHN-BC, CPH, Boston College, William F. Connell School of Nursing, [joyce.edmonds@bc.edu](mailto:joyce.edmonds@bc.edu)

- Introduces the conceptual and scientific frameworks of population health, emphasizing public health nursing roles.
- Examines health disparities, vulnerability, and other emerging public health issues through an ecological lens.
- Integrates health promotion, risk reduction, and disease prevention across the lifespan in a range of local and global settings.
- Uses case examples that nurses will encounter.
- Introduces community assessment and epidemiological methods.
- Teaches students about bridging population health and clinical care in order to meet the prevention health needs of individuals, families, and populations.

# Training Nurses in Population Health Science – Recommendations

---

## For the Nursing Community

- ❑ Develop a detailed and multi-faceted vision for the nursing role in population health and design curricula around this.
- ❑ Take advantage of existing courses in public health and social sciences
  - Engaging nursing students in these courses provides experience with working across disciplines, sectors
  - Leveraging these courses is ideal for integration of social science
  - Don't reinvent the wheel!

## For the U.S. Department of Health and Human Services and Congress

- ❑ Greatly expand investment in population health science to create the evidence base for effective interventions within clinical, community, and regional/national levels.
- ❑ Invest in training in population health science across the pipeline from undergraduate to postdoctoral.

# Appendix: A Nursing Course in Population Health

---

## Course Objectives:

- Compare and contrast individual-focused versus population-focused nursing practice and illness-based versus preventive-based nursing practice.
- Integrate knowledge from nursing, social/behavioral and public health science to understand the impact of the multiple determinants (i.e., socio-cultural, economic, political and environmental) that shape the health of individuals, families and communities and examine how they function to create health disparities and vulnerability.
- Synthesize conceptual and scientific frameworks applied to public health nursing to assess, plan, implement, and evaluate age-appropriate, culturally relevant, evidence-based nursing interventions designed to meet the needs of individuals, families and communities, using strategies such as health education, case management, program development, coalition building, and advocacy.
- Analyze models, concepts and methods that underlie the delivery of community/public health services.
- Examine the historical development, structure and interaction between public health and primary health systems.

# Appendix: A Nursing Course in Population Health (cont'd)

---

## Course objectives—

- Identify U.S. public health policies, laws, and regulations relevant to public health nursing practice and the impact on individual, family, community, and population health.
- Analyze population health principles that guide delivery of care across levels of prevention and the continuum of healthcare environments.
- Evaluate epidemiologic data sources and use basic epidemiologic methods to assess the health needs and priorities of communities and populations.
- Discuss ethical principles that guide the provision of public health nursing services.

# Appendix: A Nursing Course in Population Health (cont'd)

---

Professional Nursing Standards Incorporated:

- American Academy of Colleges of Nurses (AACN)
- Baccalaureate Essentials, Quality and Safety Education for Nurses (QSEN) competencies
- The Quad Council Public Health Nursing competencies
- American Nurses Association (ANA) Public Health Nursing Scope and Standards of Practice