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

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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
Population Health: Medical care is the tip of the iceberg
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)...

A tangle of meanings?
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
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

<table>
<thead>
<tr>
<th>Model</th>
<th>Institution</th>
<th>Website</th>
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<tbody>
<tr>
<td>Population Health/Public Health Stand-Alone Major</td>
<td>University of Pennsylvania, Department of History and Sociology of Science, Health and Societies Major</td>
<td><a href="https://hss.sas.upenn.edu/hsoc">https://hss.sas.upenn.edu/hsoc</a></td>
</tr>
<tr>
<td>Population Health + Social Justice/Service Learning</td>
<td>Santa Clara University, Public Health Science Major</td>
<td><a href="https://www.scu.edu/cas/public-health/">https://www.scu.edu/cas/public-health/</a></td>
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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

- 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