



Population Health across All Professions Expert Panel Report

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ASPPH ASSOCIATION OF
SCHOOLS & PROGRAMS
OF PUBLIC HEALTH

As part of its mission to create a broad vision for education in public health for the 21st century, the Framing the Future Task Force, established by the Association of Schools and Programs of Public Health (ASPPH), recognizes the significant value of interprofessional engagement to advance population health. With that aim in mind, the Task Force convened the Population Health across All Professions Expert Panel in February 2014. The Expert Panel's charge is to offer guidance for integrating population health concepts into the professional and interprofessional curricula of health and other professions such as law, business, architecture, urban planning, education, and engineering, including joint and dual degree programs.

In the context of this report, joint and dual degree programs are those that combine the Master of Public Health (MPH) with professional education in health and other fields. These programs provide students with numerous curricular opportunities to integrate perspectives and approaches from at least two fields, while also providing the student with a strong foundation in each field. The concept is substantive integration, not just parallel coursework, in order to foster innovation and transformative professional practice.

Through this paper, the Population Health across All Professions expert panel means to stimulate interprofessional conversations and suggest possibilities, rather than provide specific implementation guidelines. The panel encourages each discipline and professional program to consider opportunities that will enable their graduates to become effective leaders and partners in interprofessional collaborative practice to improve population health while meeting critical program-specific requirements and goals.

Vision

Cross-disciplinary collaboration is essential to improve population health outcomes and health equity. This goal is advanced by creating a spectrum of opportunities for cross-disciplinary training that integrates population health concepts and concerns into the training that students and trainees receive in other professions. Conversely, public health students and trainees should have opportunities for exposure to other professional perspectives. Opportunities for cross-disciplinary training and collaboration could range from single courses, internships, externships, and projects, to integrated, transdisciplinary graduate-level and professional curricula, both in public health and in other professions, that facilitates collaboration to improve population health outcomes and health equity.

Goal

To prepare professionals in health and other fields (e.g., law, business, architecture, urban planning, teaching, and engineering, including dual-degree students) to understand how their professional activities impact population health, and to work together across disciplines, organizations, and sectors on innovative strategies to improve population health.*

Context

The expert panel was charged with describing the elements of population health that all professionals would benefit from learning during their education. The commitment is to bidirectional learning, recognizing that effective interprofessional collaboration also depends on public health students acquiring the insights, tools, and vocabulary of other professions. The expert panel held vigorous discussions with consultants representing many sectors about curricular opportunities to stimulate creative thinking and problem solving across professions. For this report, the expert panel defined population health as: "the health outcomes of a group of individuals, including the distribution of such outcomes within the group" (Kindig and Stoddart, 2003). The concept generally includes:

- An explicit focus on producing and measuring population health outcomes, as well as promoting health equity among subgroups within the population.
- Understanding that health outcomes are the products of multiple and overlapping determinants of health, including biological, behavioral, social, and environmental determinants.
- Engaging a broad range of partnerships and coalitions among professionals, government agencies, public and private organizations, employers, and other community groups that share responsibility and accountability for population health outcomes.

Population health is important to – and affected by – all sectors of society. Whether a population is defined by geography, disease status, health care delivery organization catchment area, or demographic characteristic, myriad thorny problems with multifactorial causes can only be effectively addressed with broad collective action. Examples include patterns of obesity and physical inactivity; unsafe or unhealthy living conditions; exposure to environmental toxins; and the use of illicit drugs and harmful products, such as tobacco. Solutions require sustained efforts from professionals working together in new ways, across disciplines and in a variety of settings, to create practices, programs, policies, and systems that positively impact population health.

*See Appendix A for examples of how other professions have an impact on population health.

Key Considerations**

Which Professions to Engage, and How

- Education about population health can be integrated into the curricula of nearly all professions.
- Effective education in population health is bi-directional. Public health professionals are well positioned to offer core content in population health domains that other professions can consider. At the same time, they should recognize the critical need to incorporate perspectives and knowledge from other professions into the public health curriculum.

Pedagogical Principles

- Education in health and most other professional fields can engage students in “knowing, doing, and being”*** as they become population health-informed professionals. This approach is outlined as follows:
 1. **Knowing:** Integrating different domains of professional knowledge and perspectives.
 2. **Doing:** Cooperative learning in transdisciplinary teams to improve population health.
 3. **Being:** Instilling values, such as respect, equity, and stewardship.
- The perspectives of those served are of central importance in assuring that appropriate practices are implemented to improve population health. Accordingly, instruction should emphasize multicultural understanding, communication skills, professional ethics, and accountability.
- The practicum and culminating capstone components (if applicable) can provide powerful intellectual, skill-building, and professional experiences that prepare students to become effective leaders and partners in collaborative professional practice to improve population health. Joint and dual degree programs in particular can uniquely offer an experience that is fully integrated across disciplines. Such integration allows students to engage in critical thinking and practice that leads to innovative and integrated approaches.
 - The practicum provides students an important opportunity to apply, creatively adapt, and integrate cross-disciplinary lessons from coursework before undertaking the culminating learning experience.

** While the focus here is on graduate education, some of these statements also apply to undergraduate education

*** Numerous professions describe a similar, multi-faceted approach to education that engages students with the knowledge, skills, values, and experience of a particular profession, although varying terms are used to describe the different aspects of the education. (See, for example, the reports undertaken by the Carnegie Foundation’s *The Preparation for the Professions Program*, which studied five professions: law, engineering, Christian and Jewish clergy, medicine, and nursing, accessed at: <http://carnegiehighered.org/professional-education-books-and-articles/>)

- Students whose culminating experience focuses on a health topic or institution may reflect on how it intersects other professional sectors. Students whose culminating experience is not in the health field may demonstrate the bidirectional impact of population health perspectives on their work.

The Need for Collaboration

- Faculty in professional education aimed at improving population health can work together to create an environment that supports and rewards interprofessional education and collaboration.
- Effective dialogue and collaboration promotes recognition and understanding of the expertise of other professions with regard to improving population health.
- Faculty can model knowledge and respect for the values and perspectives of other disciplines and they should be developed, supported, and rewarded for collaborating with academic colleagues from other disciplines, schools, and universities.

Institutional Arrangements

- Established joint and dual degree programs may serve as a model for the full spectrum of interdisciplinary education, from interdisciplinary courses to an individual interdisciplinary thesis or practicum, illustrating ways to foster innovative and transformative practice designed to enhance population health.****

Content Domains

A population health curriculum aimed at professionals both within and outside health should provide an understanding of the following fundamental concepts and frameworks:

Systems Thinking

- Identification and engagement of systems that impact population health
- As part of the continuous system improvement and feedback process, active participation by target populations when their needs are the subject of teaching, research, or service activities
- Recognizing the different knowledge, tools, values, and potential contributions of each profession in identifying and solving population health problems
- Relationships and interactions among multiple professions and systems, as well as the dynamic flow of knowledge and communication among stakeholders
- A one-health, ecological perspective of the connections among human health, animal health, and ecosystem health

****See Appendix C for more information on joint and dual degree programs

Population Health Concepts and Measurements

- Concepts and measures of health and ill health at the individual and population level: health status, healthy life expectancy, health-related quality of life, health-adjusted life expectancy, health needs assessments, morbidity and mortality measures, etc.
- Assessment methods and measures that can be applied to public health laws and policies to evaluate their impacts on population health
- Course of disease measures: incidence, prevalence, prognosis, case-fatality
- Distribution of disease, injury, and risk across populations, and use of geographic information systems to illuminate population health issues

Determinants of Population Health

- Multiple and overlapping factors that impact human health and health disparities in a population. Among these are nutritious food; healthy, safe, and health-promoting environments; health care services; quality education for health beginning in pre-school; transportation; technology; safe workplaces and gainful employment, as well as discrimination and poverty
- Promoting health across the life span, based on the determinants-of-health framework, including preventing disease and injury and reducing risk
- Globalization, including global patterns of health and disease, and the impact of global economic, geopolitical, and cultural factors on the health of disparate populations

Evidence-Based Strategies in Population Health

- Methods and standards for rigorous, evidence-based strategies, including the roles of quantitative and qualitative studies in establishing cause and effect, etiology, and efficacy
- Data-based approaches to contributing professional expertise that facilitate collaborative problem identification, critical thinking, and informed decision making
- System-wide application of information technologies to increase and integrate the use of data from across professions to improve population health
- Use of peer-reviewed literature to identify, replicate, and adapt interventions of proven effectiveness in changing health behavior, improving community health, and promoting and protecting health in both natural and built environments
- Role of informatics in basic research, applied research, and practice
- Evaluation methods, such as health impact assessments, that use a mix of quantitative, qualitative, and participatory techniques to measure the outcomes and effectiveness of population health interventions

A System that Cares for Health

- Roles and services of clinical and other professions and health care delivery systems that provide services that impact health and health care
- Organization and financing of the health care system, including governmental agencies, that impact health
- Impact and limitations of health care on health and health outcomes, including issues of quality and access
- Effective management and operation of health care organizations to maximize benefit and minimize cost, including planning, quality improvement, and budgeting
- Recognition that the overall health system extends beyond the delivery of clinical services

Health-Across-All Policies

- Incorporating and assessing health considerations in decision-making and evaluating policies and laws across sectors, from health care, energy, economic, agricultural, environmental, and education policies to food safety, occupational safety, transportation, and zoning
- The political process, including the accountability and influence of various government agencies and public and private organizations that impact population health
- The role and influence of laws and regulations on health and health outcomes
- Debating the tradeoffs between societal and individual rights and responsibilities
- Economic measures, such as cost-effectiveness and cost-benefit analyses, that are embedded in and across health systems and population health interventions
- Health equity and other ethical issues that arise in population health. These include analysis of and deliberation on the appropriate balance among producing population health benefit, maximizing utility, and respecting individual interests, especially among those most affected

Design Features for Interprofessional Skills and Collaborative Practice

Preparing professionals across many fields to play a role in advancing population health requires not only content changes to the core curriculum, but also revisions that foster an appreciation for the value of interprofessional engagement, and the skill set to do it. Curricula should therefore feature:

Professional Communication

- Respectful communication among professionals and stakeholders about population health
- Two-way dialogue about health information and research results among professionals and with the public
- Knowledge and respect for the values and perspectives of fellow professionals

Community Engagement

- Appreciation for the cultural and historical dimensions of population health among partner professions, specific communities, and various stakeholders
- Interaction with representatives of different cultures and other subpopulations when developing and implementing population health strategies
- Emphasis on collaboration with the population served
- Building trust based on a shared commitment to the public good and the health and welfare of populations in society

Ethical Practice

- Recognition of a professional's core responsibility to serve the public good
- Appreciation for the different values embedded in various professional approaches to population health, safety, and welfare
- Respectful approaches to address ethical issues that arise in professional population health practice

Collaborative Teamwork

- Problem-solving through interprofessional teams
- Team-building exercises and assessing collaborative professional behavior

Appendix A

Examples of how other professions have an impact on population health. *We invite expert panel members to provide examples.*

- **Health and productivity.** Prevention and health promotion interventions in the workplace have the potential to improve not only health but also morale, productivity, and the bottom line. Such interventions are not limited to the private sector. [HealthLead](#), for example, has developed standards of wellness for college and university campuses. In the defense sector, addressing obesity, tobacco use, and depression are priorities because of their effects on [force preparedness and national security](#).
- **Law and policy advancing population health.** The Robert Wood Johnson Foundation has funded Public Health Law Research (PHLR) to promote law and policy that advances public health, through research shared with policy-makers and the public. (<http://publichealthlawresearch.org/>) The CDC's Public Health Law Program provides technical legal assistance to public health practitioners as well as policy-makers. (<http://www.cdc.gov/phlp/>)
- **Agriculture, schools, and nutrition.** The [Healthy, Hunger-Free Kids Act](#) authorizes the U.S. Department of Agriculture to use federal money to ensure that children have healthy food and healthy environments in school.
- **Schools and adolescent health.** In the Oakland Unified School District in California, Medicaid funds and school bonds were used together to build [adolescent health clinics in schools](#) and increase access to preventive and behavioral health care in low-income communities. The presence of clinics in schools may contribute to [decreased high school drop-out rates](#).
- **Urban planning, land use, transportation, and urban economic development.** Urban infrastructure improvements, such as the [Atlanta Beltline](#), can affect physical activity patterns, social capital, and property values, with a resulting positive impact on health and well-being. Such approaches can be designed to benefit low-income residents, as was explored in [a health impact assessment](#) of light rail development policy in St. Paul, Minnesota.

Sources: Leigh Carroll, Bridget Kelly, Paul Jarris, Derek Yach, and William Rosenzweig, *Health Affairs* Blog. "An Evolving Approach to Collaborations among Health and Other Sectors"; PHLR, Public Health Law Research, at <http://publichealthlawresearch.org/> (Accessed 12/13/14); Center for Disease Control and Prevention (CDC), Public Health Law Program, at <http://www.cdc.gov/phlp/about.html> (Accessed 12/13/14).

Appendix B: Key Consultants and Perspectives

(This appendix will include succinct quotes from several key consultants.)

Appendix C: Case Studies on Population Health

We invite expert panel members, now and in the future, to provide case studies. This appendix will be updated.

Joint and dual degree programs can provide interdisciplinary education through class modules that incorporate analysis of, as well as case studies and data presentations focused on health or other disciplines. Guest lectures by public health faculty, for example, can highlight the ways in which topics intersect across fields -- an epidemiology lecture focused on a transportation injury study would be relevant to a class in transportation planning; an economic development lecture on the spatial mismatch between jobs and residential locations could be presented in a health behavior class; and a presentation on case-finding and contact tracing would provide a real-world anchor in a class on public health law and communicable disease.

Examples

- Animal Health System and Public Health Case Study. Provided by Joann Lindenmayer, DVM, MPH, Chair, One Health Commission; Senior Manager of Disaster Operations and Haiti Program Director, Humane Society International
- Motor Vehicle Injuries Case Study. Provided by Richard Riegelman, MD, MPH, PhD, Professor, Milken Institute School of Public Health, George Washington University
- Asthma Case Study. Provided by Yumi Shitama Jarris, MD, Professor of Family Medicine, Director, Medical Student Education, Georgetown University School of Medicine

Appendix D: Perspectives on Curriculum Development from Other Professions

We invite expert panel members, consultants, and colleagues in other professions to offer suggestions and additions.

Examples

Architecture, Urban Planning, and Population Health:

- Design and Health: Opportunities for Synergy. PowerPoint presentation provided by Andrew Dannenberg, MD, MPH, Public Director, Association of Collegiate Schools of Architecture; Affiliate Professor, University of Washington (see attached)
- [Public Health and Community Design: Opportunities for Workforce Development](#). Provided by Nisha Botchwey. Nisha D. Botchwey, PhD, MCRP, MPH, Associate Professor, Georgia Institute of Technology

Business and Population Health:

- Association to Advance Collegiate Schools of Business (AACSB) report [Business Schools on an Innovation Mission](#)

Health Professions and Population Health:

- [Clinical Prevention and Population Health Curriculum Framework, 2014 version](#). Provided by David Garr, MD, Associate Dean for Community Medicine and Professor, Medical University of South Carolina on behalf of the Healthy People Curriculum Task Force (see attached)
- [Redesigning Health Professions Education and Practice to Prepare the Interprofessional Team to Care for Populations](#), 2013 HRSA report. Prepared by the Advisory Committee on Interdisciplinary, Community-Based Linkages

The following grid and questions provide a guide for educators who wish to collaborate, exchange ideas, and integrate bidirectional learning about population health across health and other professional curriculum.

Content Domains of Population Health	Degree of Relevance to Your Profession	Extent of Current Coverage in Your Curriculum	Plan for Future Coverage in Your Curriculum
Systems Thinking			
Population Health Concepts and Measurements			
Determinants of Health			
Evidence-Based Strategies in Population Health			
A System that Cares for Health			
Health-Across-All Policies			

- What best practices within your profession are shown to improve the health of the population?
- What best practices within your profession impact the physical environment or ecosystem?
- Do you discuss with your students/trainees the contributions that other professionals make to improve the health of the population? Do you discuss how to collaborate with other professionals?
- What best practices within your profession specifically help disadvantaged groups lead healthier lives?
- In your profession, is success ever measured by the positive impact your work makes on the health of the population? If so, how?
- What strategies do members of your profession routinely utilize to prevent or mitigate illness or injury to improve the health of the population?
- What else can others learn from your profession to improve the health of the population?