



Who Will Keep the Public Healthy?



Educating Public Health Professionals for the 21st Century



Study Charge

- To develop a framework for how education, training, and research can be strengthened to meet the needs of future public health professionals to improve population health.



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Who is a public health professional?

- A public health professional is a person educated in public health or a related discipline who is employed to improve health through a population focus.

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21st Century Public Health Challenges Include:

- Globalization
- Advances in scientific and medical technologies
- Demographic transformations

Globalization

- “The process of increasing economic, political, and social interdependence and global integration that takes place as capital, traded goods, persons, concepts, images, and values diffuse across state boundaries.”
(Yack and Bettcher, 1998)



Effects of Globalization

- Increased travel, trade, economic growth, and diffusion of technology accompanied by negative social and environmental conditions, greater disparity between rich and poor, environmental degradation, and food security issues



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Effects of Globalization (cont.)

- Emerging and re-emerging diseases (e.g., HIV/AIDS, TB, hepatitis B, malaria, cholera, diphtheria, and Ebola)
- Distribution of products associated with major health risks (e.g., alcohol and tobacco)

Effects of Advances in Scientific and Medical Technologies

- Advances bring ethical, legal, and social questions, for example:
 - Increasing need for surveillance data raises issues of confidentiality
 - Increasing use of genomics brings need to ensure individuals with certain genetic traits and predispositions are not discriminated against in workplace or obtaining insurance

Science & Medical Technologies (cont.)

- Communication technology offers wider dissemination of health information but requires response to misleading or incorrect information spread through use of these technologies
- Biomedical research led to health improvements but need research on social and behavioral factors since about 50% of mortality due to these factors.

Effects of Demographic Transitions

- Aging of the Population
 - Brings increase in multiple chronic diseases, geriatric conditions, and mental health conditions
- Increasing diversity of the population
 - large racial and ethnic health disparities

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Addressing the Challenges: An Ecological Model of Health

- An Ecological Model:
 - multiple determinants of health
 - linkages and relationships among determinants are emphasized

Ecological View of Health

- A perspective that involves knowledge of the ecological model of determinants of health and an attempt to understand a specific problem or situation in terms of that model

Ecological Approach to Health

- An approach in which multiple strategies are developed to impact determinants of health relevant to the desired health outcomes

Recommendation

- Schools of public health should emphasize the importance and centrality of the ecological approach and have a primary role in influencing the incorporation of this ecological view, as well as a population focus, into all health professional education and practice.
- Doctoral research training in public health should include an understanding of the multiple determinants of health within the ecological model

Recommendation

- Graduate MPH programs in public health should emphasize the importance and centrality of the ecological approach.
- A significant proportion of medical school graduates should be fully trained in the ecological approach to public health at the MPH level

Recommendations (cont.)

- Undergraduate nursing schools should be encouraged to assure that curricula are designed to develop an understanding of the ecological model of health and core competencies in population-focused practice.
- Recommend integration of ecological view of health into primary, secondary, and post secondary education in the United States.

Recommendation

- The committee recommends the development of a *voluntary* certification of competence in the ecological approach to public health as a mechanism for encouraging the development of the skill level of new MPH graduates

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Education in Graduate Programs and Schools of Public Health

- Eight new content areas needed
 - Informatics
 - Genomics
 - Communication
 - Cultural competency
 - Community-based participatory research (CBPR)
 - Global health
 - Policy and law
 - Ethics

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These build on the existing core

- Biostatistics
- epidemiology
- social and behavioral sciences
- environmental sciences
- health services management



Public Health Informatics

- Public health informatics is the systematic application of information, computer science, and technology to public health practice and learning (Yasnoff, et al., 2000)



Genomics

- Public health education programs and schools must provide their students with a framework for understanding the importance of genomics to public health and with the ability to apply genomics to basic public health sciences

Communication

- Public health communication involves a translation process that begins with the basic science of what is known about a health topic. From the science, public health professionals derive messages about attitudes and behaviors the public should adopt, together with policies that organizations and government should enact to support population health.

Cultural Competence

- Cultural competence is a systematic process, the purpose of which is to increase public health practitioners' cultural awareness, knowledge of self and others, communication skills, attitudes, and behaviors.

Community-Based Participatory Research

- Community-based participatory research is “a partnership approach to research that equitably involves community members, organizational representatives, and researchers in all aspects of the research process” (Israel, et al. 2001)

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Global Health Issues

- awareness of cultural and traditional beliefs among immigrant populations in the US
- poverty-associated conditions,
- variance in environmental and occupational health and safety standards,
- global environmental changes leading to such things as depletion of freshwater supplies and loss of arable lands
- re-emerging infections



Policy and Law

- “Policy development involves serving the public interest in the development of comprehensive public health outcomes by promoting the use of the scientific knowledge base in decision making and by leading in developing public health policy.”
(Turnock,2001)



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Ethics: Seven Areas for Education

- Values and beliefs inherent in a public health perspective
- Ethical principles that follow from the values and beliefs
- Public health mandates and powers
- Ethical tensions within public health
- Historical ethical failures

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Ethics: Seven Areas for Education (cont.)

- History and purposes of research ethics
- Application of ethics to specific topics such as informatics and genomics (Thomas, IOM commissioned paper)

Recommendation

- For each of the eight emerging content areas, the committee recommends that:
 - competencies be identified
 - each area be included in graduate level public health education
 - continuing development and creation of new knowledge be pursued
 - opportunity for specialization be offered.

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Schools of Public Health

Six Major Responsibilities

- Educate the educators, practitioners, and researchers as well as to prepare public health leaders and managers
 - Serve as a focal point for multi-school transdisciplinary research as well as traditional public health research to improve the health of the public
 - Contribute to policy that advances the health of the public
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Responsibilities (cont.)

- Work collaboratively with other professional schools to assure quality public health content in their programs
- Assure access to life-long learning for the public health workforce
- Engage actively with various communities to improve the public's health.

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Schools of Public Health Recommendation for Education

- Schools should embrace as a primary educational mission the preparation of individuals for positions of senior responsibility in public health practice, research and training.

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Schools of Public Health

Recommendation for Education

- There should be a significant expansion of *supervised* practice opportunities and sites (e.g., community-based public health programs, delivery systems, and health agencies). Such field work must be organized and supervised by faculty who have appropriate practical experience.

Research in Schools of Public Health

- Striking change will be move from research dominated by single disciplines or a small number of disciplines to *transdisciplinary* research

Research in Schools of Public Health

- *Transdisciplinary* research involves broadly constituted teams of researchers that work across disciplines in the development of the research questions to be addressed.
- *Transdisciplinary* research implies the conception of research questions that transcend the individual departments or specialized knowledge bases typically because they are intended to solve applied public health research questions that are, by definition, beyond the purview of the individual disciplines.

Schools of Public Health

Recommendation for Research

- Schools of public health should reevaluate their research portfolios as plans are developed for curricular and faculty reform. To foster the envisioned transdisciplinary research, schools may need to establish new relationships with other health science schools, community organizations, health agencies, and groups within their region.

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Schools of Public Health Recommendation for Policy

- The committee recommends that schools:
 - enhance faculty involvement in policy development and implementation for relevant issues
 - provide increased academic recognition and reward for policy-related activities
 - play a leadership role in public policy discussions about the future of the US health care system, including its relation to population health

Schools of Public Health Recommendation for Policy

- Schools of public health should
 - enhance dissemination of scientific findings and knowledge to broad audiences, including encouraging the translation of these findings into policy recommendations and implementation
 - actively engage with other parts of the academic enterprise that participate in policy activities

Schools of Public Health

Recommendation for Academic Collaboration

- Schools should embrace the large number of programs in public-health-related fields that have developed within medical schools and schools of nursing and initiate and foster scientific and educational collaborations

Schools of Public Health

Recommendation for Academic Collaboration

- Schools should actively seek opportunities for collaboration in education, research, and faculty development with other academic schools and departments, to increase the number of graduates in health and related disciplines who have had an introduction to public health content and interdisciplinary practice, and to foster research across disciplines.

Schools of Public Health

Recommendation for Access to Life-Long Learning

- Schools of public health should fulfill their responsibility for assuring access to life long learning opportunities for several disparate groups including:
 - public health professionals
 - other members of the public health workforce
 - other health professionals who participate in public health activities.

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Schools of Public Health Recommendation for Community Collaboration

- Schools of public health should
 - position themselves as active participants in community-based research, learning, and service
 - collaborate with other academic units to provide transdisciplinary approaches to active community involvement to improve population health
 - provide students with didactic and practical training in community-based public health activities, including policy development and implementation

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Schools of Public Health Recommendation for Community Collaboration

- Community-based organizations should have enhanced presence in schools' advisory, planning, and teaching activities

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Schools of Public Health Recommendation for Faculty

- There should be major changes in criteria used to hire and promote school of public health faculty. Criteria should reward experiential excellence in the classroom and the practical training of practitioners.

Graduate Programs in Public Health--Recommendation

- Graduate programs should institute curricular changes that:
 - address the eight critical areas of informatics, genomics, communication, cultural competency, community-based participatory research, global health, policy and law, and ethics.

Medical Schools-- Recommendation

- The committee strongly recommends that
 - all medical students receive *basic* public health training in the population-based prevention approaches to health
 - serious efforts be undertaken by academic health centers to provide joint classes and clinical training in public health and medicine

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Medical Schools-- Recommendation

- When a school of public health is not available to collaborate in teaching the ecological approach to medical students, medical schools should partner with accredited programs in public health for public health education.

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Schools of Nursing Recommendation

- The public health community should offer assistance in identifying the appropriate level and type of position for nursing graduates

Schools of Nursing Recommendation

- The public health community should be attentive to the need for student clinical experience, should collaborate in making appropriate sites available, and should consider ways to assure that nursing education does not occur in a vacuum apart from the full range of professionals practicing in public health.

Schools of Nursing Recommendation

- Schools of nursing that offer master's degree programs in public health nursing should be encouraged to partner with schools of public health to assure that current thinking about public health is integrated into the nursing curricula content, and to facilitate development of interdisciplinary skills and capacities.

Other Schools

- Creating the conditions in which Americans can be healthy requires the informed collaboration of planners, executives, and lawyers, to name just a few. The committee believes that public health is an essential part of training citizens, and that it is immediately pertinent to a number of professions.

Other Schools Recommendation

- All undergraduates should have access to education in public health.

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Local, State, and Federal Public Health Agencies--Recommendation

- Should
 - actively assess the public health workforce development needs, including needs of both those who work in official public health agencies and those who engage in public health activities in other organizations

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Local, State, and Federal Public Health Agencies--Recommendation

- Should
 - Develop plans, in partnership with schools of public health and accredited public health programs for assuring that public health education and training needs are addressed
 - develop incentives to encourage continuing education and degree program learning
 - engage in faculty and staff exchanges and collaborations with schools of public health and accredited public health education programs

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Local, State, and Federal Public Health Agencies--Recommendation

- Should
 - assure that those in public health leadership and management positions within federal, state, and local public health agencies are public health professionals with MPH level education or experience in the ecological approach to public health.

Federal Public Health Agencies Recommendation

- Should provide increased funding to
 - develop competencies and curriculum in emerging areas of practice
 - fund degree-oriented public health fellowship programs
 - provide incentives for developing academic/practice partnerships

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Federal Public Health Agencies Recommendation

- support increased participation of public health professionals in the education and training activities of schools and programs of public health; especially, but not solely, practitioners from local and state public health agencies
- improve practice experiences for public health students through support for increased numbers and types of agencies and organizations that would serve as sites for practice rotations

Funding Recommendations

- There should be a significant increase in public health research support (i.e., population health, primary prevention, community-based and public health systems research) with emphasis on transdisciplinary efforts.

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Funding Recommendations

- AHRQ should spearhead a new effort in public health systems research
- NIH should launch a new series of faculty development awards (“K” awards) for population health and related areas

Funding Recommendations

- CDC should redirect current extramural research to increase peer reviewed investigator-initiated awards in population health, prevention, community-based and public policy research.
- CDC should reallocate a significant portion of current categorical public health research funding to competitive extramural grants in population health, prevention, community-based, and public health policy research.



Conclusion

- We need well educated public health professionals to effectively shape the programs and policies that will improve population health. If we lose sight of who will keep the public healthy, we will have lost an opportunity to improve the public's health during the 21st century.

