



## BRIEF COMMUNICATION

# A Public Health Certificate for all Medical Students: Concepts and Strategies

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**A Public Health Certificate for all Medical Students: Concepts and Strategies**

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## ABSTRACT

**Introduction:** The goal of integrating a Public Health Certificate (PHC) into the medical school curriculum is meant to provide basic public health skills and knowledge to all future physicians, ultimately broadening the health workforce's capacity to address community health needs. The faculty at the University of New Mexico's (UNM) School of Medicine (SOM), in collaboration with multiple community stakeholders, created a PHC equivalent to 15 graduate level units. The PHC will be required of *all* medical students matriculating in 2010.

**Methods:** The authors, community leaders, university administrators, faculty, staff, and students met to address the many tasks required of such broad curricular and policy change. The tasks required piloting innovations in curriculum design and implementation, working within the bureaucratic structure, fostering collaboration, nurturing leadership skills, marketing the new ideas, and designing credible evaluation strategies.

**Results:** We have engaged the stakeholders; surveyed our resources; produced and implemented ongoing evaluation; examined implementation strategies; developed, implemented and pilot tested the PHC courses; and engaged faculty from the Department of Family & Community Medicine in faculty development seminars.

**Conclusion:** Introduction of a PHC for all students is feasible with planning tools such as the Logic Model.

**Keywords** Public health certificate, medical students, integration, public health, curriculum, faculty development, policies, workforce development



## Introduction

The health care system of the United States of America has performed poorly in terms of the nation's health. If the medical model employed by the expensive, fragmented curative system could incorporate a public health approach, the public might achieve a greater health benefit. There have been multiple attempts to enlist medical school educators in the cause of public health.

In the 1988, Institute of Medicine (Institute of Medicine, 1988) report, *The Future of Public Health*, the core functions of public health were identified. These were further delineated as the ten "Essential Public Health Services." (Public Health in America, 1995). The Center for Disease Control has provided performance criteria for each. These lend themselves to adaptation for education in public health competencies, augmenting the core competencies described by the Council on Linkages (Council on Linkages Between Academia and Public Health Practice, 2001), the Association of Schools of Public Health, (ASPH, 2005) and the Council on Education for Public Health (CEPH, 2005). While these have become cornerstones in the education of public health professions, many competency areas are relevant to the medical education of physicians and have been referenced in the Institute of Medicine (IOM, 2002) report, "Who Will Keep the Public Healthy?". These have been further organized into a curricular framework by the Association of Teachers of Preventive Medicine (ATPM) (Allan, et al. (2004).

Building on this series of reports and recommendations the University of New Mexico's School of Medicine (UNM SOM) is implementing curricular change that incorporates Public Health into the education of all medical students. It will be the first of its kind in the nation.

### **The Public Health Certificate**

While a physician receiving a Masters in Public Health (MPH) is not novel, equipping all medical students with the fundamental tools to become engaged in population health, regardless of their field of medicine, popularizes for all what has been the province of a few.

Since 2003, there has been a growing interest at UNM SOM in finding ways to integrate public health and medicine. The UNM SOM in collaboration with the state's New Mexico Department of Health (NM DOH) has developed and piloted a 15 credit Public Health Certificate (PHC) which will be required for all students matriculating in 2010. The courses required for the certificate include principles of public health, epidemiology, biostatistics, evidence-based medicine, health systems and health policy, a community research project, and a public health elective of the student's choice.

The authors describe the process of planning and implementing a (PHC) and the steps employed in creating institutional and policy change in the medical school and subsequent steps to enable the PHC we described.

## Methods

The stakeholders at the UNM SOM and at the NM DOH created a certificate using multiple strategies and partners. The PHC is being piloted with students, residents and faculty. These early pilots allow the PHC curriculum to undergo needed revisions and win needed converts. For example, the pilots let planners compare the merits of different approaches to delivering the curriculum. One approach entails integrating key public health principles and concepts into the established medical curriculum. Another has



been to teach the certificate courses as stand-alone offerings or by online courses geared toward the extremely busy schedules of the medical professionals and to students who may want more focused instruction.

Strategies for implementing an institution-wide PHC include: building political support within the institution and within the community; identifying the stakeholders; establishing goals and objectives; identifying and assessing resources; and conducting evaluation to determine outcomes. The “logic model” is a concrete tool that provided the framework for planning, developing, implementing, and assessing the UNM SOM Public Health Certificate.

An example of how the logic model is being used to guide the planning of the PHC is shown in Figure 1. The model identifies the ultimate goal, short and long range consequences of action, stakeholders or individuals and groups affected by or instrumental in the change processes, strategies or outputs needed to move the process forward, and outcomes or final products of the PHC initiative.

The first column of Figure 1 encapsulates the ultimate goal of the project being that all future medical students will be required to receive a PHC. The “Consequences of Action” found in the second column is used as a barometer to determine the possible impact of the PHC over time. Column three identifies the stakeholders that must be considered in the process of mobilizing and institutionalizing the PHC. Exclusion of major stakeholders may prove detrimental to the project.

Resources that are necessary for the success of the PHC are listed in column four. These include personnel, equipment, supplies, space, and funds. Intangible resources include policies, marketing strategies, and cultural and ethical considerations. Column five delineates the projected strategies or outputs necessary to thrust the PHC into action. One sample strategy is to identify potential allies, proponents and opponents.

Identifying those individuals who will help develop and teach the PHC also lends itself to identifying which individuals may impede the process. The information gained from this early planning stage will help to determine roles for particular faculty and staff and subsequent strategies for action. The last column is a projection of how the intent of the PHC may produce possible future outcomes of the PHC on physicians, patients and communities served.

## Results

The Senior Associate Dean for Education won approval from top level administrators for the PHC to become a requirement for all medical students beginning with the class of 2010. To date, we have identified and engaged the stakeholders; explored the resources necessary for the project; submitted grants to increase our resource pool; produced and implemented ongoing formative and outcome evaluation; examined different strategies to implement the project; and developed, implemented and pilot tested the different courses for the PHC curriculum. We have engaged the current public health and medical faculty of the Department of Family & Community Medicine in faculty development seminars to train faculty to teach the PHC courses to the medical students in the coming years.



Goal	Consequences of Action	Stakeholders	Resources	Strategies/Outputs	Outcomes
Implement required Public Health Certificate in medical school curriculum	Immediate Direct	SOM/MPH Faculty MPH/MD Students & residents PH Program Directors Other Institutes of Higher Education (IHE) UNM Deans DOH	Funds Policies Faculty Space Curriculum MD/MPH mentors & faculty Library Classrooms Technology	Identify partners Assess Organizational Structure/Infrastructure Assess MD curriculum Assess MPH curriculum Assess # of MD/MPH faculty Assess institutional policy barriers Negotiate leverage New Policies	↑ MD PH skills & knowledge ↑ # of MD/PH ↑ PH awareness ↑ PH advocacy ↑ Interdisciplinary practice ↓ MD isolation ↑ IHE collaboration ↑ Resources & skills ↑ Cultural convergence ↑ Community collaboration
	Long range Direct	Policy makers: Regents, faculty & UNM senate Clients/patients Community	Funds Policies supporting PHC Community service-learning sites	Different teaching strategies Infusion of different language or terms (public health) in medical curriculum	Faculty Development Innovative curriculum ↑ Integration of PH with daily medical practice
	Long range Indirect	Policy makers (state and local) Government (state & local)	Funds Policies		↓ Disparities in health ↓ Duplication ↑ Economies of scale ↑ Productivity

(IHE) Institutes of Higher Education  
(MPH) Masters of Public Health  
(DOH) Department of Health  
(UNM) University of New Mexico  
(SOM) School of Medicine

**Figure 1: A logic model to navigate the process of creating a Public Health Certificate in an Institution of Higher Education.**



## Discussion

The goal of integrating a Public Health Certificate (PHC) into the medical school curriculum is meant to provide basic public health skills and knowledge to all future physicians, and thereby, broadens the workforces' capability to address community health needs. The effort requires consensus, leadership training, community engagement, shared management, resource development and dissemination among many stakeholders both within the academic health center and within the community.

## Conclusion

US medical schools will require radical changes to meet the needs of society's crumbling health care system. Equipping all medical students at UNM SOM with public health skills as a strategy for more effectively addressing our national health needs is feasible.

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