



Highlights From ACADEMIC MEDICINE

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Incorporating Population Medicine into Curriculum Revision

In 2004, Case Western Reserve University School of Medicine began a fundamental curricular revision, with the goals of creating an opportunity for all students to engage in meaningful research through a required thesis, and ensuring that the curriculum was based on three key areas: mastery of clinical skills, leadership, and civic professionalism. Daniel B. Ornt, MD, and colleagues provide an overview of the curriculum, focusing on its population medicine aspect.

Key elements of public health education were woven into the curriculum as it was undergoing its change. Faculty leading the curricular change focused on two approaches for students to learn these elements: a multiweek experience involving an introduction to public health, and providing ongoing exposure to public health by including aspects in the entire four-year curriculum. The former, a block called *Becoming a Doctor*, is designed to set the stage for learning throughout the rest of the preclerkship curriculum by providing and emphasizing the importance of medicine to society as well as to individual patients.

Curricular design changes followed three basic principles:

- ❖ Learner-centered, small-group, case-based learning should provide the mechanism for exposing students to at least 50% of the learning objectives.
- ❖ Normal structure and physiology should be taught simultaneously with abnormal structure and physiology.
- ❖ The classic basic sciences should be presented in six blocks, in which organ systems are learned in an integrated approach.

The six blocks last for a total of about 18 months. The first block is designed to be a broad introduction to the profession of medicine and to connect the patient to all other aspects of the curriculum; as such, it is an optimal venue to introduce students to the relationship between care of individual patients and the public health ramifications of disease.

One of the main goals of the revised curriculum is to train physicians to be problem solvers at many levels. The focus is going beyond the basic science years with a target of achieving clinical mastery during the clinical experiences. The challenge of the future will be to continue to engage students in public health-related concerns in multiple contexts of the curriculum.

Ornt DB, Aron DC, King NB, et al. *Population medicine in a curricular revision at Case Western Reserve*. *Acad Med* 2008;83(4):327–331.

Integration of Collaborative Population Health Projects into Curriculum

The Stanford University School of Medicine now requires that all first-year medical students complete “hands-on” small group projects to address population health issues. Lisa J. Chamberlain, MD, and associates describe the early stages of the school’s effort to integrate experiential population health projects into the required medical curriculum.

The Stanford medical curriculum was revised in 2003. At this time, lectures on population health topics, which had already been a part of the curriculum, were placed into a curricular block called *The Practice of Medicine (POM)*, which integrated the topics of ethics, health policy, behavioral health, epidemiology, patient-physician communication, and physical examination skills. In 2006, a population health curriculum was designed for inclusion in the POM course. The new lectures covered social and economic determinants of health, health

disparities, Healthy People 2010 objectives, physician advocacy, and environmental health. All first-year students engage in the core population health curriculum, but elective options allow some students to explore population health in greater depth. A goal of the population health program is to ensure that population health themes are embedded and reinforced across the four years of training and beyond.

Topics for students’ population health projects generally fell into three major topic areas: disease prevention and health promotion, health care access issues, and improving health services. The most common project topic was obesity prevention, followed by health care access for the uninsured and underinsured.

The creation of the population health curriculum helped to formalize partnerships between Stanford’s medical school and community partners. When the population health faculty incorporated the population health projects into the comprehensive population health curriculum, classroom sessions reinforced community and policy-based learning and created the academic context to complement experiential learning. Meaningful projects can provide students with an experiential counterpart of population health principles taught in the classroom.

Chamberlain LJ, Wang NE, Ho ET, Banchoff AW, Braddock CH III, Gesundheit N. *Integrating collaborative population health projects into a medical student curriculum at Stanford*. *Acad Med* 2008;83(4):338–344.

A One-Year MPH Program Between the Third and Fourth Years of Medical School

It is now necessary for physicians to have greater levels of competency in the social and behavioral sciences, to be better positioned to treat and advise their patients on the roles that behavioral and social factors play in health and disease. They must also be able to address medical practice from the public health perspective. One way to enable physicians to attain these goals is to develop educational programs for integrating formal public health training with formal medical training. Jeanne Mager Stellman, PhD, and colleagues describe an

accelerated one-year MPH program at Columbia University's Mailman School of Public Health (MSPH) for New York City medical students who have completed their third year of medical school.

Under this program, between 1999 and 2007, medical students were given the opportunity to complete the requirements for the MPH degree in one academic year, rather than the usual 16 to 22 months. Students in the program followed the same curricula as other MSPH students, but the course load was greater owing to the reduced period of study. By 2007, 85 students from eight medical schools in New York had successfully completed the program.

Feedback indicated a great overlap between students' initial interests and the reports of skills that were enhanced by obtaining the MPH degree. Despite the heavy course load, most students rated the program "moderately demanding," the average grade-point average was high, and all students indicated that they were satisfied with the program. Almost all students said they were using the skills gained with their work, and 90% felt that their public health training enhanced their ability to meet the needs of their patients. About three-quarters of the students stated that their public health education helped them meet their personal professional goals.

The authors assert that the program fulfilled an otherwise unmet desire for public health training among a substantial number of medical students, and recommend its continued support.

Stellman JM, Cohen S, Rosenfield A. Evaluation of a one-year masters of public health program for medical students between their third and fourth years. Acad Med 2008;83(4):365–370.

Enhancement Strategy for Integrating Population Health into the Curriculum

The Brody School of Medicine at East Carolina University (ECU) was established to increase the supply of primary care physicians to serve the state, to improve access to health care for citizens in eastern North Carolina, and to enhance the access of minority and disadvantaged students to

medical education. Kathryn Waldrop Kerkering, MD, MPH, and Lloyd F. Novick, MD, MPH, describe a strategy for the successful integration of population health content and preventive health screening into the medical school curriculum at ECU, including the development and evaluation of the 2006 Regional Medicine–Public Health Education Center (RMPHEC) specific to the school.

The approach used to integrate population health into the curriculum at Brody included employment of the Clinical Prevention and Population Health Curriculum Framework, a product of the Healthy People Curriculum Task Force. The Framework provides a uniform structure for organizing and monitoring clinical prevention and population health curricula, and is applicable to various disciplines. Its strengths include its broad overview, recommendations specific to content areas, intent to promote opportunities for interprofessional education and collaboration, and emphasis on longitudinal incorporation of content.

The Framework consists of four components: Evidence Base of Practice, Clinical Prevention Services–Health Promotion, Health Systems and Health Policy, and Community Aspects of Practice; these are in turn divided into 19 domains, each with specific subitems. Gap analysis was used to determine the relative deficits in the Brody curriculum when compared with the standard set forth in the Framework. Students indicated deficiencies in three of the four domains, and requests were made to the RMPHEC to integrate prevention and population health into the curriculum.

The authors believe that through implementing the RMPHEC at Brody, population health topics were successfully integrated into existing curricula. The primary factors contributing to successful integration include a receptive primary care medical school, use of the Framework and gap analysis, enhancing the existing curriculum, employment of nondidactic case-based instruction, and integrating population health into a variety of classroom and community learning experiences.

Kerkering KW, Novick LF. An enhancement strategy for integration of population

health into medical school education: employing the framework developed by the Healthy People Curriculum Task Force. Acad Med 2008;83(4): 345–351.

A Look at the CDC's Participation in Medical Education

The mission of the Centers for Disease Control and Prevention (CDC) is to protect and promote public health. To ensure its effectiveness, the CDC must partner with all segments of society, particularly the physicians who provide clinical care, conduct research, and/or train future health care providers. Denise Koo, MD, MPH, and Stephen B. Thacker, MD, MSc, contend that integrating a population health perspective into medical education will prepare trainees for the dual roles of contributing to public health and meeting current and future challenges.

The CDC understands the need to ensure that population health knowledge and skills are developed and enhanced throughout medical training, residency, and fellowship. To this end, the center has developed a wide range of programs and resources for students and physicians of all ages and levels of training.

For elementary and secondary school students, the CDC has developed such tools as Excellence in Curriculum Integration through Teaching Epidemiology (EXCITE), a Web-based resource providing educational and reference materials and giving examples of career paths in public health. Science internships are available to college students. Programs for medical students include fellowships and electives, and higher-level programs are available for physicians who are in their residency programs or have finished them. The CDC also sponsors or cosponsors educational programs for practicing clinicians.

Future directions include investing in faculty development through short courses or sabbaticals in public health and through faculty development grants, including those that support curriculum development and the training of teachers of public health.

Koo D, Thacker SB. The education of physicians: a CDC perspective. Acad Med 2008;83(4):399–407.