



Kevin Croke, PhD, and Edward Mensah, PhD, review progress in implementation of the MPH Program in Public Health Informatics.

EDUCATION WITHOUT BORDERS: THE ONLINE PUBLIC HEALTH INFORMATICS PROGRAM

Improved information management and utilization are recognized as the keys to confronting the major public health challenges of the 21st century.

Concerns about bioterrorism and emerging infectious diseases have fueled an increase in the demand for surveillance systems supported by state and local health information infrastructures. At the same time, health care reform and the rise of managed care with its focus on disease prevention, health promotion, and cost savings, have contributed to the need for population-based health information systems. The forces of globalization have added to the demand for information systems capable of detecting and tracking new and re-emerging communicable diseases. The effectiveness of public health responses to these challenges depends on the availability of reliable, timely, accurate, and comparable health information.

The major constraint to the realization of the full potential of health information technology in advancing the practice of public health lies in the development and diffusion of informatics knowledge to public health professionals. Currently, the nation lacks enough professionals who possess the required skills in

both public health and information management and are capable of integrating public health practice with health information technology. The new field of public health informatics applies information science and technology to public health practice, teaching, and research.

A grant from the Health Resources and Services Administration's Bureau of Health Professions, coordinated by Annette Valenta, DrPH, associate professor and interim director, Biomedical and Health Information Sciences in UIC's College of Applied Health Sciences, partly funded the development of five informatics courses at the college. These courses formed the foundation for all health informatics programs at UIC.

In 1998, Edward Mensah, PhD, associate professor, Health Policy and Administration Division, took a sabbatical to study the economics of online education and to develop the conceptual framework for the MPH degree with a specialization in public health informatics. This structure was later developed, in collaboration with Kevin Croke, PhD, a professor in health policy and administration, and Valenta, into the School of Public Health's formal MPH Program in Public Health Informatics. Mensah serves as program director. Much of the success of this effort is owed to the strong support and collaboration of the faculty and staff of both the School of Public Health and the College of Applied Health Sciences and to the leadership from the colleges' respective Dean's Offices. Another pivotal factor in the program's success was the prior development, evaluation, and refinement of online versions of the School of Public Health's required core public health courses.

At present, only three schools of public health offer Master of Public Health programs with

specializations in public health informatics. These are Emory University in Atlanta, the University of Washington in Seattle, and the University of Illinois at Chicago (UIC). Of these, UIC offers the first fully online informatics degree program in public health in the nation.

Program Competencies

The program competencies include:

- knowledge of the basic principles of public health;
- the ability to specify the requirements for the development of public health-related information systems;
- familiarity with health data definitions and standards;
- a knowledge of health information privacy and confidentiality practices;
- the ability to plan, specify, and manage the implementation of public health information systems projects;
- a working knowledge of the existence, structure, and uses of public health and health databases and networks;
- an understanding of the basic functions and operations of information technologies that have significant application in public health practice;
- skill in information technology planning, procurement, and change management.

Curriculum and Students' Backgrounds

The master's program in public health informatics consists of fifteen online courses (forty-eight credit hours) designed to meet all of the requirements for a traditional Master of Public Health degree. The curriculum includes six public health core courses, eight informatics courses, and a practicum/capstone experience. Together these components assure students' achievement of the basic competencies delineated above. The degree is intended for completion in a minimum of three years, although in special cases students can complete the program in two and a half years. Additionally, a shorter certificate program has been derived from the overall MPH program. Both programs can be accessed at <http://www.uic.edu/sph/phi/>.

The MPH degree program in public health informatics started in fall 2002 with sixteen students located in six states (Illinois, Arkansas, Arizona, Montana, Pennsylvania, and Georgia) and one in England. They are all full-time health professionals working as physicians, nurses, public health administrators, managed care officials, medical school professors, military officers, and dentists. All sixteen

students re-enrolled for courses in the spring 2003 semester, providing a remarkable zero percent drop-out rate.

Enrollment in the certificate program started in the spring 2003 semester with nine students, eight from the U.S. and one from Ghana, West Africa.

Future Directions

In future, we plan to implement enhanced technological and organizational infrastructures in order to improve interactivity among students, faculty, and public health practitioners. Our initial effort is the development of an online journal of public health informatics. The first edition focuses on *Informatics and Organizational Infrastructure for Monitoring Bioterrorism*. The journal will encourage online communication and exchange on public health informatics issues as well serving as a focal point for informatics news and technology reports. A draft of the structure for the journal can be accessed at

<http://www.uic.edu/sph/phi/ojphi/>.

In addition to the two foreign students from Great Britain and Ghana already enrolled in the program, the fall 2003 class will include students from South Africa, Ghana, Kenya, Pakistan, Zambia, Yemen, and ten states in the U.S.

The online delivery model allows the University of Illinois at Chicago to assist in the development of informatics capacity and infrastructure in an increasingly information-intensive health care environment. The program appeals to busy health professionals who are constrained by time and/or locations far from Chicago. Health professionals from developing countries can now achieve informatics expertise while working in their own countries.

The online delivery model promotes the sharing of education without borders and will contribute in part to solving the brain drain problem confronting areas of the developing world.

By Edward Mensah, PhD, Kevin Croke, PhD, and Annette Valenta, DrPH

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