Informatics on the Org Chart:
An Enterprise-wide Organizational Focus for Informatics

This article is based, in part, on interviews with public health leaders Bill Brand (Minnesota), Roland Gamache (Indiana), and Lawrence Hanrahan (Wisconsin). All have been at the forefront of the evolution of public health informatics capacity within state health departments.

Public Health leaders are asking, "What changes are needed to ensure that information is managed strategically?" "What can we do to ensure information systems develop coherently and in concert with agency and community needs?" An organizational focus to managing informatics can be the answer to both of these questions, and a few more.

Informatics is emerging as an increasingly relevant and important tool for improving public health practice. In 2005, President Bush called for the widespread use of electronic health records by 2014. Since that time, states have responded with a record number of legislative initiatives related to health technology. A recent survey by the Foundation for eHealth Initiative (www.ehealthinitiative.org) identified the existence of 165 health exchanges in 2006. This increase is consistent with recent technological advances and this activity suggests the future changes that will be required for effective management of public health information and programs.

The evolution of health information technology is changing the way public health needs to "do business." In fact, technological advances are creating urgency for the public health sector to change its current operational model from that of an "information consumer" to an "information broker." A few decades ago, public health agencies struggled to determine ways to incorporate information systems into their operations. Today, the changing landscape challenges public health agencies to go a step further and ask: "What organizational changes are needed for public health agencies to meet effectively the information needs of its community partners? How do we keep pace with the growing demands to electronically exchange information with physicians, hospitals, and other public health agencies? And how do we, within the public health agency, ensure we are maximally collecting and utilizing data to provide our best community service?"

In answering these questions, several states have turned to establishing an enterprise-wide approach to informatics to meet their newly emerging needs. The Minnesota Department of Health, for example, established the Center for Health Informatics to signal its commitment to increasing informatics capacity within the agency. The Center's mission is "*to collaboratively foster the increasing use of sound informatics principles and methodologies in order to improve clinical and public health practice, and to improve the health of communities."*

The Center's Deputy Director, Bill Brand, explains the impetus to his Center's founding, saying: "We were motivated to move toward an organizational approach to informatics by the inefficiencies of our categorical systems and by the tremendous potential for improving population health through effective and collaborative uses of health information technology between the public and private sectors." He notes that a pilot test of an education module on informatics for senior public health leaders developed by the Institute was a critical turning point for agency executives.

According to Brand, at the time the Center began, there were dozens of public health information systems, many of which were either used by or received data from local health departments or private healthcare providers. These systems were all "constructed to fit the rigid structures of individual program needs, without consideration for how systems could share or link data to improve services and agency effectiveness." Explaining the motive, Brand noted, "We were facing information systems that had not evolved with time in terms of standards or interoperability. Meanwhile, the private sector was rapidly adopting electronic health records and moving toward electronic health information exchange; there was pressure for us to modernize."

Minnesota established a community focus for informatics through the Minnesota e-Health Initiative. The vision of the Initiative is to accelerate the adoption and use of Health Information Technology to improve health care quality, increase patient safety, reduce health care costs and enable individuals and the community to make the best possible health

Dr. Marty LaVenture is credited as the "thought leader" behind the creation of Minnesota's enterprise-wide informatics center. LaVenture serves as the Director for the Center for Health Informatics, bringing to the fore the value of experienced leadership in public health and knowledge about the potential for using informatics to strengthen the impact of public health programs. In interviews with other public health informatics staff, we found that successful health departments shared one thing in common: they each had their own "Dr. LaVenture" or "champion." The champions were often individuals with feet in both the world of technology and public health practice. They understood the management and leadership issues inherent in bringing about organizational change as well as the policy implications of such change. Most importantly, they gained buy in from their upstream constituencies and the public health workforce, by articulating the idea that "information grows more valuable with use."

Wisconsin's PHIN Executive Committee members include Bureau Directors, representatives from the Vital Registrars Office, the University of Wisconsin's Division of Information Technology and an informatics specialist from the state laboratory. The Deputy Division Administrator for the Division of Public Health serves as its Chair.

Other public health agencies have, alternatively, achieved an organization-wide focus for informatics by establishing a central coordinating body. In Wisconsin, for example, the Public Health Informatics Network Executive Committee (PHIN Executive Committee) provides strategic direction to all of the agency's informatics and information technology decisions. This model works for those agencies that have informatics responsibilities distributed throughout their public health agency. In this scenario, the PHIN Executive Committee coordinates applications and work teams associated with various projects. For example, in Wisconsin, multiple divisions perform the function of disease surveillance. Each work team is disease specific, with specific software needs. One objective for the division was to find a software system that met both individual program needs and the needs across

programs. The conflicting data standards and system requirements among the users made a singular effort unlikely. The PHIN Executive Committee resolved the impasse by creating a collaborative workgroup to write a joint RFP for the entire division.

Dr. Lawrence Hanrahan, Director of Public Health Informatics and Chief Epidemiologist at the Bureau of Health Information and Policy in Wisconsin, is a member of the PHIN Executive Committee. He describes the committee's role as "one that offers strategic direction and keep informatics as a top priority for the agency." He acknowledges that many leaders may not see the need for two distinct departments due to the tight relationship between *information technology* and *informatics practice.* In his experience, however, while the underlying discipline of computer science may be the same, the focus is different for each: "Informatics is much more about the information side of the equation: how information is collected, stored, and manipulated to create public value. Information technology services are certainly related to informatics, but the IT division focuses more on technological solutions. Our informatics division focuses on business processes, on the work of public health. Specifically, we focus on how we collect, analyze, and utilize data to impact public health practice".

Dr. Roland Gamache, the Director of the State Health Data Center in Indiana, also notes a distinction between the work of *information technology* and *informatics*. To explain, he refers to the comparable example of the difference between *statisticians* and *epidemiologists*; while they both use statistics, the epidemiologist ***uses statistics*** as a ***tool*** to ***do*** the work of epidemiology. In a similar way, *informaticians* ***use data*** to investigate and solve public health problems. Information technology and *technologists* are the support to make this work possible.

Indiana has proposed the establishment of the Indiana Health Informatics Commission, a private-nonprofit organization to encourage and facilitate the development of a statewide system for the electronic exchange of heath care information.

Dr. Gamache describes three primary benefits of an organizational informatics focus: (1) timeliness of information allows the agency to respond to policy questions quickly, (2) increases the agency's ability to identify and address quality issues readily, and (3) supports the improvement of clinical outcomes. Gamache notes that his agency has reduced the "cycle time" for the agency to respond to

complex policy issues. The timeframe for the analysis of these issues used to be four to six weeks; by incorporating informatics within the agency, they can respond to these requests within one to two hours. This improved timeliness of information also allows for improved clinical care in two important ways. First, timely information about health hazards or the tracking of infectious disease may reduce exposures, and thereby reduce adverse impacts on community health. Second, real time data exchange may help clinical care providers with patient encounter decisions. In fact, Gamache sees the ultimate benefit of technology-supported public health practice as having the potential to improve the health resiliency of the community.

A focus on informatics can also improve the assessment and monitoring functions of public health agencies. Reliable, timely, and accurate data helps leaders develop policies that generate improved health outcomes. Data exchange—with hospitals, laboratories, and private clinical care providers—provides the opportunity for meaningful population health assessments. Smarter and more targeted interventions can offer individual consumers more targeted health education, and improve the public health agency's ability to identify and communicate health risks in the community.