Public Health: a Special Case for Data Standards

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by Gina Rollins

The need for thorough, rapid, and reliable public health data reporting was brought home starkly in the fall of 2006 when nearly 200 people were sickened and at least three died after eating packaged spinach that had been contaminated with *E. coli* bacteria. Yet despite its importance, public health data collection is still largely a paper-based process with healthcare providers submitting a variety of data to different agencies in different formats at different times and with little integration of data among public health bodies.

This situation has not only resulted in a reporting burden for providers but also complicated public health efforts to identify and respond rapidly to epidemics, disasters, and the like. However, as more institutions adopt electronic health records (EHRs) and as data exchange initiatives like regional health information organizations (RHIOs) take root, the public health community is actively working to move to an electronic data collection and exchange environment.

Nationwide data content standards will be key to achieving this goal. “Data standards will allow us to build connectivity between clinical practitioners and public health programs, eliminate paper-based data exchange, and decrease the reporting burden on providers while increasing the amount of data sent. And one day it will allow bidirectional data exchange between providers and public health agencies,” explains Anna Orlova, PhD, executive director of the Public Health Data Standards Consortium (PHDSC) in Baltimore, MD. PHDSC represents an amalgam of public and private organizations working together as a common voice for the public health community in data standardization efforts.

There are many reasons why data collection for public health is complicated, not the least of which is that public health agencies and clinical care providers have been largely independent of each other since the early 1900s. More significantly, consider the range of data sources required by a mélange of local, state, and federal public health agencies: administrative, financial, facility, encounter, registry, screening, clinical, laboratory, and surveillance data; vital records, census records, and population health surveys all flow into the public health system.

Complicating matters, there are often numerous constraints on access and use of this wealth of data. Public health data repositories are independent of one another, making it difficult to link information, and data collection requirements are inconsistent. In most cases, public health agencies are exempt from HIPAA privacy standards but may be covered by other state and federal regulations.

Adoption of data content standards is at the heart of solving many of these challenges. Fortunately, a number of standards development and implementation initiatives that affect public health reporting are under way. One example is the Health Care Service: Data Reporting Guide, which PHDSC developed for public health entities that voluntarily adopt HIPAA standards for electronic transactions related to healthcare encounters and claims administration. The entities do so by using the ANSI ASC X12 message format standards for electronic data interchange.

Perhaps the most significant initiative is the Public Health Information Network (PHIN). This effort, led by the Centers for Disease Control and Prevention to advance fully capable and interoperable information systems in the many organizations that participate in public health, will use existing systems for early detection, surveillance, secure communication, and analysis and interpretation. PHIN received its first funding in 2004 and has developed a certification process to document whether participating public health agencies can meet specific high-level functionalities and detailed key performance measures.

Complementary to the PHIN initiative, the PHDSC data standards committee is developing a standards-based vocabulary for public health agencies and information systems and a payer typology to allow for consistent reporting of payer data to public health agencies for use in healthcare services and research. Finally, in 2005, Orlova and colleagues outlined a prototype to demonstrate the feasibility of electronic data transfer from healthcare providers to multiple customized public health systems.[1] The prototype used a RHIO exchange model to create a virtual EHR.

Collectively, these efforts are moving the public health community toward full participation in the national health information network. “These actions make me feel we’re on the right track,” says Orlova. “It’s very doable.”

Note

1. Orlova A.O., et. al. “An Electronic Health Record-Public Health System Prototype for Interoperability in 21st Century Healthcare Systems.” Panel presentation, American Medical Informatics Association Fall Symposium, Washington, DC, 2005.

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