

Editorial: Volume 2, Number 1 (2010)

Welcome to the first issue of the 2nd volume of the Online Journal of Public Health Informatics, the first journal dedicated to the dissemination of information about the best public health informatics practices among practitioners, researchers, and educators. By all accounts, interest in the journal has been overwhelming, as evidenced by the growth in submission of original articles.

This issue contains five original articles and one review article. Topics covered in the original articles range from the construction of a flexible query interface for web-based disease surveillance systems to the use of cloud computing to provide on-demand resources for epidemic analysis.

In the first article, titled *Advanced Querying Features for Disease Surveillance Systems*, the authors build a flexible interface for web-based surveillance disease systems. The interface allows users from different health departments and jurisdictions to build, save, and share queries, thereby improving the efficiency of operations and, under certain circumstances, eliminate the need for application developers and database administrators to make modifications to the surveillance systems.

The second article presents a method for integrating aberration detection models into disease surveillance systems in order to identify deviations from expected patterns. It is quite possible that different aberration algorithms will generate different results when applied to the same datasets. This will present problems to public health experts responsible for making resource allocating decisions for controlling disease outbreaks. The methodology developed in this paper accounts for the relationships between multiple algorithms and enables public health professionals to interpret aberration detection results with some degree of confidence.

Successful intervention and containment of an epidemic depends on the early detection and timely response to outbreaks by epidemiologists and other health professionals. The analytical processes involved in accurately identifying outbreaks of epidemics can be very resource-intensive and are usually beyond the human and financial resources available in an average State Health Department. The third article, titled *On-Demand Large Scale Spatial Analysis of Epidemics*, uses cloud computing to provide on-demand resources for epidemic analysis by using SaTScan, a software application for identification of disease clusters at the initial stages of an outbreak. An advantage of Cloud computing is that it provides the required computational resources within the budgetary constraints of the typical health department.

The healthcare system's ability to rapidly detect and respond to emerging threats is compromised by the lack of integration and interoperability between the disparate surveillance systems in the nation. This creates inefficiencies in analysis and communication, resulting in increased morbidity, mortality, and costs. The fourth article, titled *Using Secure Web Services to Visualize Poison Center Data for Nationwide Biosurveillance*, demonstrates the use of a federated data exchange model and secures web services to enhance existing biosurveillance capacity.

Colorectal cancer is a major cause of mortality among American men and women. In the fifth article the authors used geographic information systems and asset mapping technologies to explore the availability and accessibility of colorectal cancer screening resources in medically underserved communities. The paper yielded asset maps that helped in the development of targeted strategies for addressing the barriers to colorectal cancer screening.

Experts in the field of disaster management have long recognized that an up-to-date continuity of operations plan (COOP) is a core component of any disaster preparedness and response strategy. Recent experiences in disaster management, involving SARS, Hurricane Katrina, and the H1N1 influenza threat, demonstrate that public health departments lack access to decision support technologies for COOP planning. In the final article, titled Use of Technology to Support Information Needs for Continuity of Operations Planning, the authors review published studies of information systems and technology projects that are applicable to public health continuity of operations planning. The findings from this review article will assist public health informaticians in the development of information systems to support public health operational continuity.

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