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The current issue of OJPHI contains eight refereed articles and a working paper. While these articles came from independent sources, they represent a common theme—the use of information science and communication technologies to advance the fields of public health practice and healthcare in general. They cover articles that use XForms standards to demonstrate bi-directional communication between provider and public health systems, explore the migration of hand-held health records from paper-based systems to electronic formats to track health risks in developing countries, utilize agent based models to study the spread of infectious diseases within communities, explore crowdinforming as a process control strategy to balance patient loads among emergency departments, analyze the use of food safety informatics as a technological tool to protect consumers in real time against foodborne illnesses, demonstrate the efficacy of the use of telemedicine to remotely supervise newly graduated general dentists in rural India, identify the factors that facilitate the adoption web-based health portals for health statistics dissemination in Indonesia, and explore patient-centric modifications to the electronic medical records architecture.

Early detection of risks to the community such as outbreaks of infectious or foodborne diseases depend on the timely reporting of notifiable conditions to public health agencies by health care providers, laboratories, and others mandated to carry our such notifications. Notifiable condition reporting and alerting are two important public health functions. The recent HITECH Act of 2009 emphasizes interoperability between provider systems and public health systems. In a paper entitled "Applying the XForms Standard to Public Health Case Reporting and Alerting," Rebecca A Hills et al. used XForms standards and nationally recognized technical profiles to demonstrate bi-directional communication in a health information exchange environment. The authors suggest that health departments explore the use of XForms or similar technologies to use XML documents for notifiable condition reporting and patient-specific public health alerting.

Patient-held health records have been used over the years to track health risks, vaccinations and other preventative health measures performed. There is evidence that mothers who have timely access to their health records and the records of their children have greater ability to track their own health and engage in prevention activities. Their families tend to have better healthcare outcomes. In many developing countries, patient-held maternal and/or child health records are mostly paper-based. There is the urge in most countries to transfer these paper-based records into electronic formats. However, not enough is known about the health information seeking and utilization behavior in developing countries. In a paper entitled "Patient-Held Maternal and/or Child Health Records: Meeting the Information Needs of Patients and Healthcare Providers in Developing Countries?" Kathleen E. Turner et al. explore, among other issues, maternal information needs regarding pregnancy, post-natal and infant healthcare. The study shows that that pregnant women and mothers from all different societies prefer to receive health information from a person, whether a healthcare provider, a friend, or family member. The authors recommend that, before investing significant resources in migrating current paper-based records into digital formats in developing countries, it is necessary study the information seeking behaviors of mothers and pregnant women.

In modelling the spread of diseases within communities or populations, researchers are increasingly using agent based models (ABM) due to their potential to capture complex emergent behaviours that arise from non-linearities of human contacts during the course of an epidemic. In a paper entitled "Improving Agent Based Models and Validation through Data Fusion" Marek Laskowski et al. integrate data from emerging sources within discrete time and space disease spread ABMs, with application to respiratory infections that are primarily contracted through direct or proximal contact. The data sources include anonymized cell phone use records that help to estimate a person's trajectory and a Smartphone application using Bluetooth enabled devices as proxies for people. *A* major advantage of using ABMs is that they lend themselves to inclusion of real data which is becoming increasingly available to researchers. This work demonstrates that incorporating data from disparate sources within an ABM of the spread of infectious diseases has the potential to improve the credibility and validity of the model.

Overcrowding in emergency departments and longer waiting times are important problems facing healthcare administrators, especially in urban clinics. In a paper entitled "Load Balancing at Emergency Departments using 'Crowdinforming'," Friesen et al. utilize simulation models to explore crowdinforming as a process control strategy to balance patient loads among emergency departments in an urban setup. Results suggest that emergency department performance could benefit from load balancing efforts. This model can be incorporated into disaster preparedness strategies aimed at optimizing the performance of urban clinics during major public health emergencies.

While the outbreak of foodborne diseases has become a major public health problem very little research has been carried out on the implementation of food safety informatics as a technological tool to protect consumers in real time against foodborne illnesses. Government inspectors, working through local health departments, depend primarily on paper-based documentation provided by businesses to verify that the foods we consume are free of contamination. Recurring violations are handled through re-inspections or, in some cases, fines, suspension of permits, or closures of food facilities. To usher food safety surveillance into the information age Cynthia Tucker et al, in a paper entitled "Food Safety Informatics: A Public Health Imperative," developed and piloted a wireless food safety informatics tool in a University student foodservice setting. The results of the study demonstrate the use of information technology in the detection of food safety abnormalities in real-time. It is not difficult at all to forecast the use of cloud computing to scale up the adoption of food safety informatics technologies by small businesses that cannot afford their own in-house technical personnel.

Loss of teeth is a major oral health problem in developing countries, resulting in nutritional deficiencies that affect the quality of life. This problem is more acute in the rural areas since dental specialists prefer to locate in urban areas where they can enjoy modern amenities. In a paper entitled "Effectiveness of Tele-guided Interceptive Prosthodontic Treatment in Rural India," Arun Keeppanasserril et.al demonstrate that remotely supervised newly graduated general dentist can use telemedicine to provide over-dentures of sufficient quality to rural populations. This strategy has the potential to improve access to care and elevate the level of dentistry available to rural populations in developing countries. The results of the study indicate that dental public health policy makers in developing countries could leverage information and communication technology infrastructure to enhance access to dental care in rural areas.

Governments in developing and emerging economies have realized that the timely provision of accurate and updated health information is a pre-requisite for the achievement of a healthy society. Most developing countries, however, are yet to transition to web-based health portals. In a paper entitled "Internet-based Public Health Information and Statistics Dissemination Efforts for Indonesia," Febiana Hanani et al. describe health statistics dissemination efforts in Indonesia, identify the factors that will facilitate the adoption web-based health portals, and develop a website for health statistics dissemination for Indonesia. Usability tests demonstrated promising results compared to the status quo.

A major emphasis of the Health Information Technology for Economic and Clinical Health (HITECH) Act is the transition to Accountable Care Organizations that use Electronic Medical Records (EMR). The goal of EMR development must be to facilitate a patient-centered clinical encounter. Neil Nusbaum, in an article entitled "The electronic medical record and patient-centered care," employs qualitative analysis to suggest that**,** patient-centric modifications to the EMR architecture may also facilitate quality improvement and research activities.

The working paper by WonGyu Lewis Kim et al. describes development and implementation of a surveillance network system for emerging infectious diseases across three islands: Martinique, St. Lucia and Dominica. The major objective of the "network of networks" surveillance system is to improve the responsiveness and representativeness of existing health systems through automated data collection, processing, and transmission of information from various sources.

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