Regenstrief Study: Informatics Tools Underutilized in Prevention of Hospital-Acquired Infection

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Advances in electronic medical record systems and health information exchange are shifting efforts in public health toward greater use of information systems to automate disease surveillance, but a study from the Regenstrief Institute has found that these technologies' capabilities are underutilized by those on the front lines of preventing and reporting infections.

The new study measured the awareness, adoption and use of electronic medical record systems and health information exchange by hospital-based infection preventionists (formerly known as infection control professionals) to report and share information critical to public health. Infection preventionists are often responsible for reporting information on patients diagnosed with health-care-acquired infections like Methicillin-resistant Staphylococcus aureus, or MRSA, as well as sexually transmitted diseases such as chlamydia.

Prior research at Regenstrief and other academic institutions has shown that health information exchange can increase the completeness and timeliness of infection reporting to local and state health agencies. In this study, the researchers found that half of the infection preventionists surveyed were unaware of whether their hospital or health system participated in a health information exchange. Only 10 percent of infection preventionists indicated that their organizations were formally engaged in health information exchange activities.

While 70 percent of infection preventionists surveyed reported access to an electronic medical record system, less than 20 percent were involved in the design, selection or implementation of the system. Without such involvement, those surveyed indicated the information systems often did not include modules or components that supported infection control activities.

"There is a push from the Centers for Medicare & Medicaid Services to reduce hospital-acquired infections and increase the use of electronic health record systems," said lead author Brian Dixon, MPA, Ph.D., Regenstrief Institute investigator and assistant professor in the School of Informatics and Computing at Indiana University-Purdue University Indianapolis. "The Centers for Disease Control and Prevention are encouraging local and state health departments to use health information technologies to improve infectious disease reporting and prevention activities. We found that while hospital-based infection preventionists - the people on the front line - may have access to health information technology, they lack specially designed computer tools needed to sift through the massive amounts of data in electronic medical records.

"We learned that hospital infection preventionists are frustrated with inefficient lists of patients whose electronic medical charts they must examine individually," said Dr. Dixon, who is also a health research scientist with the Richard Roudebush Veterans Affairs Medical Center. "They say they want electronic alerts and reminders when the system detects something of potential importance. There needs to be concerted R&D to meet this gap in decision support."

In addition to Dr. Dixon, co-authors of the study are Josette Jones, Ph.D., of the School of Informatics and Computing; and Shaun Grannis, M.D., M.S., of the Regenstrief Institute and the IU School of Medicine. The Regenstrief Institute is the home of internationally recognized centers of excellence in biomedical and public health informatics, aging, and health services and health systems research.

"Infection Preventionists' Awareness of and Engagement in Health Information Exchange to Improve Public Health Surveillance" was published online on Feb. 18 in the American Journal of Infection Control. The study was funded by the Centers for Disease Control and Prevention.

"Well-designed and supported electronic medical records systems and health information exchange can provide tools that can help prevent and halt the spread of infection among hospitalized patients," Dr. Dixon said. "But to do so effectively, infection preventionists must be made part of the selection and implementation of health information technologies."

Source: [Indiana University](#)

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