

Informatics on the Move

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Efforts in Nebraska have been underway for some time to establish the mechanism to electronically collect reports of notifiable diseases by the State Epidemiologist, Dr. Tom Safranek. The program to achieve this goal was originally developed by the CDC under the name National Electronic Disease Surveillance System or NEDSS. Great effort was made to design a system whereby the electronic results could flow into a medical chart like system that would facilitate follow up and disease tracking. Such a process is known as Electronic Laboratory Reporting or ELR.

The Nebraska Public Health Laboratory (NPHL) was an early partner with the state in this effort. It was a rewarding activity and led us to create the nation's first internet based test ordering and reporting system for public health laboratories. The original system was called the Public Health Laboratory Information Program (PHLIP) and it was recently replaced by a new system known as the Electronic Laboratory Information Reporting Technology or ELIRT (for more information on ELIRT go to our web site at www.nphl.org/phlip.html). One of the challenges we encountered for dealing with ELR was that the process for identifying laboratory reports for reportable diseases was not uniform in the clinical laboratory. Within our own facility there was a wide range of approaches, for example, some areas of the laboratory had one technologist assigned to the activity, while others had designated one person to handle all the work including trying to find the address of the patient. But an even greater challenge was working with the electronic messaging system software to send the electronic data out of the laboratory.

To address this need the NPHL developed two new software products. The first product is called Public Health Integration & Exchange of Lab Data (PHIELD) and its job is to electronically sift through all the laboratory reports in a Laboratory Information System (LIS) and find those cases that are required by the state to report such as Chlamydia and tuberculosis. Subsequently, the software packages the information and adds standard coding for transmission. These codes facilitate electronic reporting and are known as LOINC and SNOMED. A follow up article this summer will provide more detail about these codes. The second software product is called the PHIELD messaging system. Its job is to create an electronic handshake between the computer at the clinical laboratory and the state computer designated to receive the report. A great deal of work takes place behind the scenes to make sure that security of the data is maintained.

The goal is to eventually replace the need for staff to always be on the alert for reportable cases as they appear on the bench. Automated searching or surveillance has already been shown to significantly increase the number of cases reported to the state (or in other words, we already know that many reportable diseases go by unreported). The automated process is also expected to reduce the burden imposed on the lab by the reporting requirement and convert a manual process of writing down the cases on a piece of paper to a process handled by the computer that already exists in most clinical laboratories.

All of these activities parallel activities taking place on a national basis and will prepare Nebraska to be a meaningful participant in the future of ELR.

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