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Global Applications Seen for Health Lab Electronic Link

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Description

The Secure Telecommunications Application Terminal Package (STATPack) allows remote hospital or diagnostic laboratories to send digital images of suspicious culture samples electronically to a state public health lab for identification.

Newswise — Health care professionals say a computerized emergency response system for public health laboratories developed in Nebraska is proving to be a valuable tool for other states and has the potential to impact public health systems worldwide.

The Secure Telecommunications Application Terminal Package (STATPack) allows remote hospital or diagnostic laboratories to send digital images of suspicious culture samples electronically to a state public health lab for identification. STATPack saves precious diagnostic time and eliminates the inherent risks of having the sample hand-delivered by courier to the state lab.

“We think STATPack is a great public health tool that has potential applications nationwide and globally,” says J. Rex Astles, PhD, senior health scientist in the Laboratory Systems Development Branch of the Centers for Disease Control and Prevention in Atlanta.

“In China, for example, not many people are trained in public health issues,” Astles says. “The country geographically is so big, STATPack would be a real boon for someone in a public health agency in Beijing to be able to look at a culture sample that’s under a microscope in a laboratory clear across the country. We think it might have a great application there, and we are very enthusiastic about the possibilities.”

STATPack incorporates secure, dedicated, Web-based technology with a camera attached to a microscope and a remote-controlled digital Web cam connected to a computer, all linked directly to a state public health laboratory. There, a lab technician can focus the camera in on a suspicious organism, download the image and respond to the lab where the organism is being studied. If the organism is deemed a public health threat, the STATPack system can be used to send an alert to every lab in the network.

“For some of these out-state laboratories, it is difficult if not impossible for them to describe to us what they see in a culture sample,” says Steven Hinrichs, M.D., director of the Nebraska Public Health Laboratory at the University of Nebraska Medical Center . “Prior to STATPack, their only option was to physically send us the sample, which could take several hours or even a full day to receive. STATPack allows us to actually see the sample immediately and assist with the diagnosis in a matter of minutes. In the rare cases when it’s needed, it’s a valuable system to have in place.”

Initially intended primarily as a diagnostic tool in an incident of bioterrorism, STATPack is a collaborative effort of the students and faculty at the University of Nebraska at Omaha College of Information Science and Technology at The Peter Kiewit Institute, under the direction of Ann Fruhling, PhD, assistant professor of information systems; and health care professionals at UNMC and the NPHL. It was funded by the Nebraska Research Initiative, the Health Resources and Services Administration, and the CDC, through the Association of Public Health Laboratories.

The NPHL has deployed 20 STATPack systems throughout Nebraska. The Oklahoma State Department of Health Laboratory is placing STATPacks throughout the state, and the Kansas Department of Health and Environment will begin deploying STATPack systems in 2007.

In Enid, Okla., the STATPack at St. Mary’s Regional Medical Center proved its value within the first week. St. Mary’s lab personnel saw a malaria parasite on a patient but were uncertain which of four malaria-causing organisms they were viewing, a critical factor in determining the proper treatment.

By utilizing the STATPack system, the St. Mary’s lab sent an image to the state health lab and received an answer in minutes, rather than the several hours it may have taken to hand-deliver the sample to the state facility.

Hinrichs says other uses for STATPack are being developed, such as delivering time-sensitive public health information or as a “virtual classroom” to transmit instructional sessions to out-state labs.

“Currently, we are only scratching the surface of the capability of STATPack and we’re very glad that’s the case,” he says. “We are now examining ways to use the system to fill in any gaps we have in dispensing public health information and awareness. In terms of building relations and communications among our health labs, STATPack can have a major impact.”

Fruhling says the STATPack system exemplifies the mission of the College of IS&T, a component of the University of Nebraska’s Peter Kiewit Institute, to provide innovative technology solutions, knowledge and community service to all of Nebraska, not just the metropolitan Omaha area.

“The project also gives our students an incredible opportunity to be on the forefront of technology, working with industry and health care professionals to improve the quality of life in Nebraska,” she says. “That’s important for everyone, but it’s especially important for our rural communities.”
