Medical Xpress

New project uses personal digital assistants to track TB data

February 11 2009

For patients who have drug-resistant forms of tuberculosis, it's critical to monitor the disease as closely as possible. That means monthly testing throughout a two-year course of powerful antibiotics, with injections six days a week for the first six months.

Keeping track of all those test results can be very time-consuming, especially in developing countries where health workers rely on paper copies. That's why MIT graduate student Joaquin Blaya decided to try out a new tracking method: personal digital assistants.

In a project launched in Lima, Peru, the researchers found that equipping health care workers with PDAs to record data dropped the average time for patients' test results to reach their doctors from 23 days to eight days.

"You can monitor patients in a more timely way. It also prevents results from getting lost," says Blaya, a PhD student in the Harvard-MIT Division of Health Sciences and Technology (HST).

Their work was reported in the online edition of the *International Journal of Infectious Diseases*.

Blaya started the project after taking a year off during his graduate studies to return to Chile, where he was born.

"I went back to Chile and realized … the key was to focus on the

population I wanted to help," he says. "Instead of saying, 'I'm a mechanical engineer, what kind of device can I build,' I should be saying 'Who are the people working in the settings I want to work in?'"

When Blaya returned to MIT, he took lecturer Amy Smith's D-Lab course and got connected with Partners in Health, a nonprofit whose mission is to promote health care in resource-poor areas.

Working with faculty members from HST and the Brigham and Women's Hospital, Blaya launched the PDA project in Lima. He also worked closely with the Peruvian sister organization of Partners in Health, Socios en Salud. "The way to solve healthcare problems is by involving the community," he says.

Under the old patient tracking system, a team of four healthcare workers would visit more than 100 health care centers and labs twice a week to record patient test results on paper sheets. A couple of times a week, they returned to their main office to transcribe those results onto two sets of forms per patient — one for the doctors and one for the health care administrators.

From start to finish, that process took an average of more than three weeks per patient. In some extreme cases, results were temporarily misplaced and could take up to three months to be recorded. There was also greater potential for error because information was copied by hand so many times.

With the new system, health care workers enter all of the lab data into their handheld devices, using medical software designed for this purpose. When the workers return to their office, they sync up the PDAs with their computers.

"The doctors get what they want, the administrators get what they want,

and the team only has to enter the data once," says Blaya.

The new system dramatically dropped the average time to record results to eight days, and eliminated the few cases where results went missing for several weeks or months. "You can really prevent patients from falling through the cracks," says Blaya.

Getting timely and accurate lab results "is essential to determine if a patient is responding to treatment and, if not, to alert physicians to the possible need for medication changes," the researchers wrote.

Peruvian health care workers enthusiastically embraced the program, which started in two of Lima's districts and has now been expanded to all five. In addition to saving time, the handheld devices are also more cost-effective than the paper-based system, the researchers reported recently in the *International Journal of Tuberculosis and Lung Disease*.

Source: Massachusetts Institute of Technology

Citation: New project uses personal digital assistants to track TB data (2009, February 11) retrieved 19 September 2024 from
https://medicalxpress.com/news/2009-02-personal-digital-track-tb.html