



RECORDS MANAGEMENT FOR WORLD'S POOREST: With a little help from my friends

While the Australian health system searches for solutions to drive a national approach to health records forward, the state of health records in developing nations not only hinders our local progress, but also the health and well-being of citizens across the globe. One man, with a little help from a number of software developers, is seeking the answer.

In developing countries, it's not uncommon for sick children to visit medical clinics with no record of past visits, immunizations or past illnesses. To further complicate the situation, once with the doctor it's often common to find the doctor speaks a different language, and all communicated information in need of an interpreter.

"We tend to think of healthcare records as a matter of convenience. I know that I do, or did," says Rogers Hellman, founder of the GNOSIS Medical Services, currently working to establish better record-keeping capabilities and other services to developing areas. "If I go to a new doctor, I will simply fill out another form explaining my medical history. It's no big deal. I can do this easily because I am literate, I speak the same language as the providers and I don't have any major health issues."

But in developing nations, it's not just a matter of lacking the health records for improving the state of care, but also

significant obstacles such as wide spread illiteracy, unusual names, similar names, unofficial addresses, unknown dates and a lack of identification tools. "So we are forced to rely on biometrics (fingerprints) to accurately identify patients and we don't assume that people will have addresses or known dates of birth," says Hellman.

Improving the state of healthcare in developing nations is proving difficult without the backbone of a medical based records system. If the lives at risk within developing nations is not enough for the developed world to take notice, perhaps the globalised state of our planet is. In the interconnected world we live in it doesn't take long for a virus to mutate from a farm in China and migrate over east-coast of Australia. Without effective medical-based records solutions in place across all corners of the planet, it's difficult to track the progress of sickness and therefore identify appropriate action to prevent it.

Hellman is a man on a mission. Over the past three years, he's been working tirelessly to develop a low cost medical records system to assist in meeting the needs of clinics in developing countries. The idea originated in Guatemala when after realising a lack of infrastructure available to install donated 'telemedicine' equipment, he started thinking of ways to address if and how computers could address the health needs of third world countries.

Rogers tested his assumption on third-world healthcare needs by establishing temporary day clinics in various towns throughout Guatemala. From there, he visited each clinic to identify some of the problems holding services back. "Both groups had the same general issues – medical records, as well as the need for consultations and reference materials," he says. "We have now built a system that addresses the first two of these problems. We hope to someday tackle reference materials too."

Roger admits he's a big fan of open source solutions, many of which have assisted in developing different aspects of the GNOSIS project. An open source development group named Ecomby developed the prototype for the World Health Monitor, Arizona based open source solutions provider, Axis developed the clinic software while BitRock recently signed on to offer easy to deploy open source components to assist with the Four Corners Medical System, working to maintain medical records in remote locations. While Australian and New Zealand developers are not currently involved in the project, Hellman says there's still plenty of scope to get involved, especially with the opportunity to extend the work into South East Asia.

"I have worked on this full-time for three years, with no income, and spent a considerable sum on software development, acquiring computers and such for various clinics as well as legal fees and travel," says Hellman. "We know the system works, so we are no longer jousting at wind-mills. I am looking for help from everywhere to extend the testing, then replicate the system world wide – in a systematic and controlled way."



Above: Rogers Hellman works on the records system with medical staff in Guatemala. Left Hand Page: The GNOSIS system is currently used in a handful of clinics in Guatemala, with hopes to extend it out to developing countries across the globe.

Through the GNOSIS project, Hellman has also developed the prototype for a 'World Health Monitor.' Hellman is currently looking to migrate to prototype to ESRI technology and hook it to a real database yet admits that even then, it will still be a "functioning proof of concept. "Having a 'World Health Monitor' where you are doing measurements at a dozen clinics around Guatemala, is a bit like having a home security system with sensors on one window and one door," Hellman admits. "Perhaps helpful, but not terribly."

However with the right resources and commitment, Hellman believes the technology they've developed could soon change the face of healthcare in developing nations. "It has been like the movie 'Field of Dreams and the 'Build it and they will come,'" he says. "With proper resources, we could start expanding to other parts of the world in 2 or 3 years. Getting the clinic system to work was a huge milestone, but we need to ensure that all features of the consolidated database are working." IBM

– Angela Priestley

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