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Examine | Telerad: Radiology Without Borders

Stepping beyond the commodity and into Haiti

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Teleradiology has been part of my professional life for more than 10 years. As a board certified radiologist since 1993, and owner and operator of my own teleradiology practice and an imaging facility, I have been using teleradiology in my practice since 1998. Over the years, I have also designed and developed ways to improve teleradiology from software and operational perspectives.

In January when the disastrous earthquake in Haiti struck, I felt it was a good opportunity to apply my

teleradiology experience. I couldn't leave my radiology practice and go to Haiti, so I started searching for another way help.

After unsuccessful attempts to discuss my teleradiology ideas for Haiti with Doctors Without Borders and the U.S. State Department, I began writing to reporters in the trenches. I found an article in an online radiology newsletter about St. Damien's Children's Hospital, located on the outskirts of Port-au-Prince. Their digital X-ray suite had survived the quake and was handling major volume because of the injuries.

The suite's survival was pure serendipity. When the suite was being built, designer Barbara Tomasini RT(R) (CV), RCIS, decided to use thick concrete walls instead of the more expensive lead shielding that's typically used for X-ray rooms. These thick concrete walls were good for attenuating X-rays, and they proved able to withstand earthquakes as well.

Eventually, I connected with Tomasini and Patrick Reache, the IT person at the hospital. Through a poor connection and after several calls, I told Reache of my idea and found out more information about the hospital's equipment.

Reache gave me administrative access to the hospital's system and after logging on, I almost fell off my chair. On the screen appeared a familiar sight – the log on screen and patient list from Viztek's Opal-RAD PACS server.

I maintain several types and brands of PACS servers at my facility and Opal-RAD is one of them. I poked around the administrative area and did some configuration. After some help from Viztek's Michael Shevack, a sales specialist, and David Wille, a senior software engineer, we remotely configured St. Damien's server to forward the X-ray examinations performed at the hospital to our server. Our radiologists could read the images on our own PACS infrastructure.

Overcoming Technical Difficulties

After working on their server with Wille for a few hours, we encountered several issues. The St. Damien's PACS server was actually a small PC that also served as a conduit for hospital personnel to check e-mail. This issue came to light after we were thrown off our remote connection by hospital workers checking e-mail.

The painfully slow Internet connection was the second item that quickly became apparent. However, this poor speed was understandable; I was actually impressed there was a connection at all.

We circumvented these issues by using Opal-RAD's high-compression, lossless, encrypted transmission. This step was possible because we were transmitting from one Opal-RAD server – from our data center in Long Island – to another.

With Viztek's help, we solved the hospital's Internet traffic issues by donating a massive PACS server. Reache was able to use this server to separate computer traffic at the hospital from PACS activity.

Since all X-ray studies were being forwarded to my practice until the new PACS infrastructure was up and running in the X-ray unit, I was worried about keeping up. I asked for volunteers from the 18 radiologists

associated with our group. Five stepped up to the challenge and volunteered their time and interpretations: Vikram Hatti, MD; David Ludwig, MD; Gurmeet Dhillon, MD; Justin Pham, MD; and Mustafa Gomberawalla, MD. With six of us, I was confident we could handle the work without problems.

Help and support didn't end there. Jodi Castellon, our lead medical transcriptionist and head of AuBri Transcription Services in Fullerton, Calif., volunteered her staff to donate the typing for St. Damien's reports. One of our PACS vendors, Greenville, S.C.-based eRAD, stepped up to offer software services to help us read cases.

Recently, we developed a system for direct automatic SMS messaging for doctors' cell phones at St. Damien's in the event of an urgent finding. This step was necessary due to the unstable Internet connection and the lack of a fax machine at the hospital. It was gratifying to see so many people and organizations each doing their part in order to help us do ours, including the Walsh Messenger Service shipping company, and [ipipi.com](http://www.ipipi.com/) (<http://www.ipipi.com/>), the wireless company, that both donated services.

And So It Goes

St. Damien's had many specialists and sub-specialists during those first weeks after the quake. Our services became more important as time went on, since other outside volunteer specialists who were helping onsite during the acute stages of the disaster eventually returned to their homes and practices, leaving local pediatricians to manage ongoing recovery efforts.

Our objective was to impact patient care and help as much as we could during the acute stage of the Haitian disaster. But more importantly, we wanted to maintain our presence at the hospital and keep helping throughout the recovery period.

Our facility continues to read approximately 20 to 40 cases every day for St. Damien's. The injuries we have seen are truly horrific. The first case I opened was of an 18-year-old girl with six separate comminuted pelvic fractures, followed by a pneumothorax in a premature infant and a subtle Salter-Harris fracture of the tibia.

I did not expect that helping out in Haiti would help me as well. In some ways, practicing radiology is more difficult than ever and can be discouraging. I've seen the field go from being one of the jewels of medical specialties to being a commodity, where the lowest bidder wins the contract without regard to quality. In addition, I battle issues like declining reimbursements every day.

Volunteering my skills to assist St. Damien's and help the immediate medical needs of many unfortunate people, mainly children who suffer in one of the world's poorest countries, allows me to stop thinking about the difficulties that have befallen my specialty. In those moments, I can focus on being a doctor and radiologist.

We will remain in Haiti indefinitely to help local physicians at St. Damien's Hospital for as long as they need us. On a personal level, my motivations in donating my services are actually very simple. Despite my sadness and frustration at the current state of my specialty, I have been tremendously fortunate in my life in many ways. It's time to give something back. Call it karmic obligation; call it Tikkun Olam. It really doesn't matter what you call it – it's simply the right thing to do.

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