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Digital Imaging Delivers Modern Medicine to the Developing World

By: [Cristen C. Bolan, Editor of Imaging Technology News](#)

February 23, 2010 - Before opening the doors of a new medical clinic in a remote region of Honduras, Dr. Jeffrey E. Heck, founder of the sponsoring NGO Shoulder to Shoulder said, “It’s important to offer the same services here as if it were a clinic in the United States.”



The Board of Shoulder to Shoulder and guests gathered to celebrate the opening of the clinic in Honduras.

Dr. Heck’s vision became a reality when he installed a suite of digital radiology and telemedicine equipment in a new clinic, *The Roy & Melanie Sanders Frontera Medical Center*, designed to serve a resource-poor community of 30,000 plus inhabitants in the town of Concepcion in Intibuca, Honduras.

To drive home the message that Web-based medicine could revolutionize a healthcare system like the one in Honduras, which allocates just \$12 per person annually, where patients walk several hours to receive medical treatment, and where digital imaging is virtually non-existent, Dr. Heck arranged a live demonstration. This was set to take place at the inauguration of the clinic on February 20, and the guest of honor would be Honduran Minister of Health Arturo Bendaña.

Once the Minister’s helicopter landed and Bendaña set foot in the new clinic, Honduras took its first step toward delivering modern medical care to its predominantly rural population. The crowd of locals cheered on the Minister who was escorted into the clinic to tour the room labeled Rayos-X/Ultrasonido.

From there, Dr. Juan Vasquez, who had been trained in less than 24 hours on the technology, took a digital X-ray of a patient on MinXray’s portable system. He transferred it to iCRco’s computed radiography (CR) unit, uploaded it to MedWeb’s VirtualPACS (picture archiving and communication system), and sent it to radiologist Dr. Phillip Silberberg, located in Bloomington, Ind., in just under five minutes. Dr. Silberberg, a pediatric radiologist, medical director of radiology and telemedicine for Shoulder to Shoulder, and a member of the [Imaging Technology News](#) Editorial Advisory Board, then interpreted the case live via video teleconference. The

Minister of Health, a trained physician, sat down at the CR system to test its viewing capabilities for himself, panning and zooming in on the image.

Dr. Vasquez then acquired an ultrasound of a patient's thyroid gland using a laptop and Global Media's portable probe, which he also sent to the PACS for a radiologist's review.

Finally, clinicians in Arizona tuned in over videoconference to show how Global Media's high-definition telemedicine camera captures close up images of eyes, ears, nose and throat.

While the demonstration lasted less than 15 minutes, the impression on the on-looking physicians and the Minister of Health was enduring.

The advantages of CR and PACS accelerating imaging workflow and enabling local doctors to consult with physicians remotely was made imminently clear to the audience. The long-term, cost-saving benefits of transitioning from film to digital X-ray was also highlighted. But the take home message that this was a sustainable solution for the Honduran government and its people was essential.

According to Dr. Heck, the comprehensive set of imaging tools on display established an important model for providing high-tech care.

"With the addition of this technology," said Dr. Heck, "poor people have access to the same set of services that any well equipped health center has access to."

For more information:

[Shoulder to Shoulder](#) is a private, non-profit, non-governmental organization formed in Cincinnati, Ohio in 1996. It began providing health care services in western Intibuca, Honduras in 1990, six years prior to its official incorporation. In the spirit of local empowerment, Shoulder to Shoulder worked with local community leaders in Santa Lucia to form Hombro a Hombro, a grassroots community-based, non-profit NGO registered in Honduras. Shoulder to Shoulder and its partner Hombro a Hombro work in tandem to achieve a single mission: to develop educational, nutrition and health programs to help poor rural communities in Honduras achieve sustainable development and improve the overall health and well being of its residents. Recognizing the success, other centers joined the effort. Now there are 13 academic health center/community partnerships. We seek to address the health, education, nutrition, and social needs of isolated communities in the Western Intibuca region, the poorest region of Honduras. Shoulder to Shoulder receives financial assistance from private donors, foundations and the constituent academic health centers. Over the past 16 years, local grass roots community organizations have improved the health and well being of all in their communities through their established health centers, nutrition programs, school based empowerment groups and health prevention and public health initiatives.

[GlobalMedia Group LLC](#) provides the The TotalExam examination camera is the first high-definition capable, digital exam camera to combine dual-focus, freeze frame capture, and electronic image polarization in one medical device. This multipurpose digital camera has wide

applications in primary care, emergency medicine/trauma care, dermatology, ophthalmology, wound care and is an excellent device to document abuse. In addition to the exam room, this very portable, light-weight camera, can be used for imaging requirements associated with educational life science applications and even autopsies. Using the TotalExam camera in conjunction with GlobalMedia's newest CapSure "Store-and-Forward" software solution, care providers can manage client medical images within the most popular EMR (Electronic Medical Record) system or the pan-Canadian iEHR (Interoperable Electronic Health Record) system.

[Medweb](#) specializes in distributed RIS/PACS and telemedicine with over 1,000 installations worldwide. The company recently introduced the VirtualPACS gateway module that electronically shares patient information between clinicians, radiology groups and imaging facilities for true enterprise PACS connectivity. The software-only DICOM archive and router is downloaded via a Web browser and auto configured to any Windows-based PC, so it does not require involvement of an IT specialist, making it the ideal teleradiology solution for Shoulder to Shoulder's new Honduras clinic. Virtual PACS will communicate with the Medweb PACS server installed at the University of Cincinnati Medical Center, where radiologists will provide remote diagnosis and consultation. Scanned documents, patient demographics and DICOM studies are sent to the local Virtual PACS module via DICOM, stored in the Virtual PACS short-term archive and then routed to the radiology group. The gateway also serves as a local server for clinicians in Honduras, who can then retrieve copies of their patients' studies, reports and scanned documents.

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