

February 13, 2017

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Technology allows Evans doctors to consult virtually

By Jeff Troth, MEDDAC PAO

Like other organizations, Army Medicine has finite resources. It has to stay within budget and has a limited number of personnel to provide health care services to military members, retirees and their families.

Army Medicine uses technology to virtually place providers, who are in low density specialties, at military treatment facilities around the world. Teleconsultations connect providers located at smaller facilities with the specialty expertise at the Army's larger medical centers.

"Evans Army Community Hospital began dermatology teleconsultations in 2004," said Wayne Arvizu, a nurse who is the chief of telemedicine at Evans. "We started this because of significant case-loads and limited staffing at the Dermatology Clinic."

When patients told their doctors about their skin issues, they would be referred to the hospital's Dermatology Clinic. A clinic staff member would use a point and shoot camera to photograph a skin lesion, then uploaded the image to a data base.

Doctors in residency at Brooke Army Medical Center, San Antonio, Texas, looked at each image and made a diagnosis. They then presented their findings diagnosis to their proctor, who further reviewed the image and confirmed the diagnosis. This was sent back to Evans within 72 hours with instructions on how to treat the patient.

The dermatologist teleconsultations between Evans and Brooke ended in 2011.

"We are reviving the program next month with a different structure to it," said Arvizu. "Instead of having the dermatology staff take the pictures, we now have cameras at a couple of our primary care clinics that are equipped with dermatology lenses to take close up photos of the skin."

"The pilot program will have the clinics taking the photos and uploading them," said Capt. (Dr.) Martin Harris, chief of the Evans Dermatology Clinic. "I will then look at the photos and give my diagnosis and treatment plan. Instead of taking three to four weeks to get an appointment, with a teleconsult I can sign off on the case in two or three days."

Harris said this would free up patient appointments at the dermatology clinic allowing him and the clinic's part-time, contracted dermatologist to take care of more severe inflammatory rashes and skin cancer.

Teleconsultations are not just for what can be seen on the skin, but for what is happening inside the body.

Before the opening of Evans' Cardiology Clinic in September 2014 technicians performed echocardiograms or ultrasounds of the patients' hearts and transmitted the results to Brooke where they were read. With the opening of the clinic Evans gained a cardiologist, Lt. Col. (Dr.) Daniel Carlson.

"When I arrived here I was able to read all the studies performed locally," Carlson said. "There are about 50 active duty cardiologists in the Army and I am the only military cardiologist in the area. So to help take care of all our local patients I started reading studies done by the U.S. Air Force Academy as well."

Carlson said that prior to his arrival the Academy cardiologist technicians would perform the tests, but instead of uploading them so that someone at another Air Force base could read them, the results were copied to a CD and sent downtown for a civilian cardiologist to read.

He now shares the reading of all TRICARE beneficiaries' cardiology tests with a contracted civilian cardiologist who was hired by the Colorado Springs Military Health System.

"The Air Force and the Army have decided to purchase an integrated cardiovascular image archive system," said Carlson. "So within three to six months I should be able to see an electrocardiogram done at Schriever [Air Force Base] in nearly real time, or be able to read ultrasounds done at the Air Force Academy without leaving my office."

While the Cardiology Clinic is looking forward to this new system, the radiology departments at the local military medical treatment facilities have been utilizing a joint archival system for a year. This DoD-wide system not only gives them access to images taken at nearby Peterson Air Force Base, but any U.S. military base.

"The radiology IMPAX is our image system and it is a little different than normal telemedicine that only requires a single image like in dermatology," said Lt. Col. (Dr.) Courtney Tripp, chief of Evans' Department of Radiology. "X-rays normally require three or four images, while cat scans and MRIs can be 800 to 1,000 images in series. This requires a unique system where you can view all that data in an efficient manner."

"I am able to fetch items from the Air Force Academy's archive in only a few minutes," said Tripp. "The Academy has its own radiology department and they read most of their images and we read ours, but we have that interoperability in case we need it. In the past there have been occasions where we were able to assist each other in reading images."

Tripp said that there are only about 150 radiologists in the Army, so some military clinics may only be authorized radiology technicians and not a radiologist. The archival system allows the technicians at these smaller clinics to take the x-rays, then radiologists assigned someplace else can read the images.

The Evans radiologists do this for the Occupational Health Clinic at Dugway Proving Ground, Utah, as well as the DiRaimondo Soldier Centered Medical Home clinics located across Fort Carson. Using the archival system keeps Soldiers from driving to have an x-ray taken.

"Teleconsultations are an incredibly effective tool for providing the high quality care our patients deserve," said Arvizu. "By employing this technology we can help more people."



Lahun Harjo practices with a new camera she will be using to take pictures of skin lesions for dermatology teleconsultations. (Photo by Jeff Troth)