

NAVAJO AREA

The Navajo Area Office has an internal teleradiology network designed by MEDTEL with four main sites at Shiprock, Gallup, Tuba City, and Chinle. Eight smaller sites are located at Winslow, Inscription House, Crownpoint, Tsalie, Kayenta, Fort Defiance, Tohatchi and Dzilh-Na-O-Dith-Hle.

The University of Arizona's private telemedicine network serves the Tuba City Indian Medical Center and the Navajo Nation Sage Memorial Hospital at Ganado. The Indian sites were among eight funded by the State of Arizona. The State gave each site \$160,000 in equipment and pays an annual reoccurring telecom connection cost of \$61,000 per year. The equipment is the same as provided the Whiteriver PHS Indian Hospital except that equipment prices dropped by \$70,000 between installations.

Since May 27, 1997, Tuba City has recorded 355 consults for the following clinical areas: cardiology (14), dermatology (216), endocrinology (1), gastroenterology (1), hematology/oncology (4), infectious diseases (1), neurology (2), nephrology (1), orthopedics (1), orthopedics surgery (2), pediatric dermatology (78), pediatric poison (2), psychiatry (15), radiology (1), surgery (2) and surgical oncology (4). Sage Memorial statistics are not available from the university as a non-IHS facility.

The Northern Navajo Medical Center has a partnership with NASA and the University of New Mexico for special services.

A mobile telemamagraphy program is planned with operation based at Tuba City.

1. Northern Navajo Medical Center

Area Office	Navajo Area
Indian Facility	Northern Navajo Medical Center
Primary Use	Telemedicine
Use Status	Sustainable
Contact	Lt. Tom Duran, CIO, Shiprock Service Unit, Navajo Indian Health Service, PO Box 160, Shiprock, NM 87420, Phone 505-368-6608, Fax 505-368-6260, <tduran@navsra.navajo.ihs.gov>
Grantee	NASA Partnership
Funding	Not Available
Grant Contact	Dr. Muriel Ross, NASA Ames Research Center

Summary

The Northern Navajo Medical Center has a partnership arrangement with NASA to use a highly sophisticated medical 3-D image resolution to assist in diagnoses.

In November 1998, the Medical Center showcased the Virtual Collaborative Clinic (VCC) application developed by NASA Ames Research Center for Bioinformatics under the direction of Dr. Muriel Ross. The technology combines highly sophisticated medical 3-D imaging resolution of 24-bit color stereo medical images with high-performance, high-speed networking. The final product is easy to use and runs on a common PC with a graphics card and a mouse to point and click for commands. The three components of the virtual collaborative clinic includes the VCC, the cyber-scalpel (virtual 3-D cutting tool), and the Mesher applications (3-D image generator from CT or MRI scans. The fourth component includes stereoscopic images derived from echocardiography ultrasound sources. NASA successfully tested Internet 2 data transfer at Shiprock at 32 MB per second, which is above the typical MPEG video stream or compressed video streams sent across the Internet of 1.5-2 MB per second.

2. Northern Navajo Medical Center

Area Office	Navajo Area
Indian Facility	Northern Navajo Medical Center
Primary Use	Telehealth
Use Status	Growing
Facility Contact	Lt. Tom Duran, CIO, Shiprock Service Unit, Navajo Indian Health Service, PO Box 160, Shiprock, NM 87420 Phone 505-368-6608, Fax 505-368-6260 E-mail <tduran@navsra.navajo.ihs.gov>
Grantee	University of New Mexico, Albuquerque High Performance Computing Center (Education and Research)
Funding	OAT - FY 00 - \$894,956
Grant Contact	Ernie Herrera, Associate Director, High Performance Computing Education and Research Center, University of New Mexico, 1601 Central Avenue NE, Albuquerque, NM 87131, Phone 505-277-8249, E-mail <eherrera@ahpcc.unm.edu>

Summary

The Northern Navajo Medical Center receives telehealth education through an advanced high performance computing center associated with the University of New Mexico

The Northern Navajo Medical Center is a member of the University of New Mexico School of Medicine Telemedicine Network. As a member, it also participates in a medical training program offered to the Medical School by the Albuquerque High Performance Computing Center (HPCC) which is co-located at the University. The training program called TOUCH — Telehealth Outreach for Unified Community Health — operates under an Office for the Advancement of Telehealth one-year grant of \$894,956. The Northern Navajo Medical Center will soon receive \$13,400 for installation of a mini Access Grid Studio to access the training.

The Albuquerque HPCC uses advanced Internet-based information systems and high performance computing to enhance education, training, patient care management and problem solving in collaboration with students and healthcare providers at dispersed locations. The project demonstrates the feasibility of employing advanced computing methods to enhance education in a problem-based learning (PBL) format currently being used in a medical school curriculum, applying a specific clinical case (i.e. brain-injury) as model and deploying to remote sites/workstations. Other TOUCH partners include the University of Hawaii School of Medicine and the Maui Community College. Additional funds are anticipated in FY 2001. The Albuquerque HCCP web site also includes a Native America Outreach Program that may be of interest to the IHS and tribal healthcare community. See: <<http://www.ahpcc.unm.edu/>>