FACILITY BACKGROUND

Northern Arizona Healthcare (NAH), based in Flagstaff, Arizona, serves about 700,000 people scattered over 50,000 square miles. Six Indian reservations are located in this rugged area of mesas, mountains and plains. NAH includes two hospitals, Flagstaff Medical Center (FMC) and Verde Valley Medical Center (VVMC), Sedona Medical Campus (a freestanding ED and outpatient facility) as well as primary-care and specialty clinics and ambulatory surgery centers. More than 3,000 doctors, nurses and other healthcare professionals work hard to keep the population healthy, but their efforts are hampered because there are relatively few medical specialists in the area.

To increase patients’ access to care, NAH in 2010 launched a telemedicine program that has grown steadily since then. Uniquely, Flagstaff Medical Center functions as both a hub and a spoke of the telemedicine outreach. Specialists at the hospital conduct virtual visits with patients in other NAH facilities as well as virtual clinics set up at a few Indian Health facilities/clinics. But in cases where the necessary specialists are not on staff at FMC, patients come to the hospital or a local clinic and use the telemedicine service to connect with those specialists in the Phoenix metropolitan area.

NAH established its telemedicine program not to generate additional revenue but to provide a vital service to the community, says Nicole Bullard, RN, clinical site coordinator, telehealth, for the healthcare system. “It’s about doing the right thing and giving back to the community,” she says.
The key challenge for patients living in the immense rural territory served by NAH is the distance they have to travel to obtain essential care.

Just getting to Flagstaff from the Native American reservations requires up to a three-hour drive each way. Visiting academic medical centers and specialty clinics in the Phoenix area means a 500-mile round trip from the Native American reservation. It can take four or five hours to drive from Flagstaff to Phoenix and back. Extreme weather—always a possibility in this region—can make driving times much longer.

In addition, parents have to take time off from work, and kids must forego school to visit specialists located in these faraway centers. If a person has special needs, is suffering from a movement disorder, or is on a ventilator, it may be very difficult or impossible to travel so far.

A recent study of the use of telemedicine in treating Parkinson’s disease notes that the most significant barriers to care are distance and disability. An estimated 40 percent of people who have Parkinson’s disease do not see a neurologist soon after their diagnosis. This places them at significantly greater risk of falls and hip fractures. The study of a nationwide program that linked neurologists electronically with Parkinson’s patients at home via videoconferencing found that telemedicine can deliver care that is equal in quality to in-person care. The virtual house calls saved patients an average of 169 minutes and nearly 100 miles of travel per visit.

Patients with Parkinson’s disease are among those who have benefited from NAH’s telemedicine program. Other beneficiaries have included people with cardiac conditions, strokes, burns, and children with complex chronic conditions.

In 2011, NAH rolled out GlobalMed’s telemedicine platform in its Native American Cardiology Program.

A cardiologist based out of Flagstaff began using videoconferencing to do follow-up visits with patients in Peach Springs, Havasupai and Pinon. With the help of Bluetooth-enabled stethoscopes and onsite medical assistants, the physician remotely examines patients who need pre-surgical clearances, initial cardiology consults or post-surgical follow-ups.
The GlobalMed technology used by NAH powers the world’s largest, most advanced telehealth programs including the White House, the Department of Veterans Affairs (VA) and the Defense Health Agency (DHA). GlobalMed has an Authority to Operate on Department of Defense (DoD) networks. With a focus on security and simplicity, GlobalMed designs, builds, manufactures and deploys fully integrated, evidence-based hardware and software telehealth solutions that enable medical groups, healthcare enterprises and government entities to improve patient outcomes while lowering cost. More than 4,000 organizations have trusted GlobalMed to enable over 15 million remote consults, improving access to care in 55 countries.

In 2013, NAH obtained a $124,000 grant from the U.S. Department of Agriculture (USDA) to expand its telemedicine program. In 2014 it received another $129,000 USDA grant and Flagstaff Medical Center used the funds to purchase new GlobalMed telemedicine carts, called Clinical Access Stations. The innovative modular design of the carts delivers a telemedicine station that is configurable to accommodate a wide array of examination capabilities. The carts integrate video conferencing software and up to 40 connected medical devices, including exam cameras, stethoscopes, otoscopes, EKGs, ultrasound probes or spirometers. NAH delivered the carts to the Indian Health Service (IHS) and to tribally-governed healthcare clinics in Tuba City, Peach Springs, Pinon and Havasupai, on the floor of the Grand Canyon. Additionally, the hospital installed carts at health centers in Winslow, Hopi, Kayenta, Inscription House, Chinle and Verde Valley.

NAH made its next telemedicine leap in 2016, when it arranged for pediatric specialists at Phoenix Children’s Hospital to conduct telemedicine visits with patients at Flagstaff Medical Center. These are children who need specialized care for developmental disorders or gastroenterological, neurological or endocrine conditions. Three providers from Phoenix Children’s Hospital see about 10 patients a week remotely, using GlobalMed’s technology.

In January 2017, the Banner Sun Health Research Institute in Sun City, just outside Phoenix, agreed to let its movement disorders director, David Shprecher, DO, conduct telemedicine follow-up visits with patients who have Parkinson’s disease and other movement disorders. At Flagstaff Medical Center or another NAH site, a physical therapy assistant helps the movement disorder specialist assess the patient’s condition.
HEALTH OUTCOMES

From July 1, 2016 to December 31, 2017, the Children’s Health Center at Phoenix Children’s Hospital saw 430 patients, or about 24 a month, via videoconferencing. If the patients’ parents had had to drive them from Flagstaff to Phoenix, it would have taken an average of 4.5 hours round-trip, plus an hour waiting to be seen at the hospital. Each patient’s family saved almost six hours per visit.

Meanwhile, 63 patients were seen in the Native American Cardiology Program during a 16-month period. And the movement disorder specialist saw 36 patients in 2017, or three per month. Dr. Shprecher recently stepped up his schedule to two or three telemedicine clinics per month, seeing six to 10 patients each time.

The savings in travel time and gasoline costs are not the only benefits of NAH’s telemedicine program. As a result of not having to miss work, people have more income, and their children don’t have to miss school. In addition, patients are more likely to be seen for follow-up care.
Kristy Ingebo, MD, is a pediatric gastroenterologist at Phoenix Children’s Hospital. For nine months of the year, she does remote consults with patients at Flagstaff Medical Center, using GlobalMed. The other three months she sees patients physically in Flagstaff.

Dr. Ingebo, who practiced in Flagstaff for 20 years before she did telemedicine, knows the community well. Ashley Peak, a nurse onsite in Flagstaff, helps her examine patients remotely. Ashley greets the patients, rooms them, does physical exams and focuses the camera so that Dr. Ingebo can assess their nutritional status and observe the rectal exam. Ashley listens to the patient’s heart and lungs and reports her findings to the doctor.

“The kids are fine, they like it, and the teenagers are all used to Skyping so they don’t care,” Dr. Ingebo says.

Dr. Ingebo says she recommends telemedicine to other physicians. “I say, ‘It’s easy, you’re sitting in your own office, the kids aren’t climbing all over you, and you can watch how they interact with their family from a more observational standpoint. You’re able to relax and focus on providing the best care without distraction.”’

As with all video technology, there are still occasional quality issues mostly due to bandwidth and other limitations at the provider site and patient locations especially in rural areas. New satellite systems promise to improve speed, capacity and latency. Many operators have recently deployed or plan to deploy systems that will help connect another 1.5 billion people around the world. The increase in broadband capacity spurred by High-Throughput Satellites (HTS) and Non-Geostationary Orbit Satellites (NGSO) are enabling new capabilities, and driving down costs for end users in rural and urban areas. (Source: The State of Broadband 2017)
Dr. Shprecher, who does virtual visits with Parkinson’s patients in both Flagstaff and Cottonwood, has also gotten comfortable with telemedicine. Without GlobalMed, the movement disorder specialist says, patients who live far away might not follow up in person as frequently as he’d recommend to monitor them for treatment response and side effects of medications. “Telemedicine really improves the compliance with the plan and allows us to see whether they’re doing well with the medication,” he said.

Studies show that the most significant barriers to appropriate care for Parkinson’s patients are distance and disability. Like Dr. Shprecher, most movement disorder specialists are located in academic medical centers in large urban areas, while most patients live in suburban and rural areas, have impaired mobility and driving ability, and are faced with the challenge of making frequent trips to the doctor’s office — a task that becomes more difficult as the disease progresses.

Dr. Shprecher often recommends telemedicine to his colleagues. At a recent meeting organized by a local nonprofit that advocates for Parkinson’s patients, he recalls, he discussed the topic with three other neurologists in private practice. Everyone agreed they could provide follow-up care to patients via telemedicine that is comparable to in-person care.

“One question that always comes up from other providers who think about offering telemedicine is ‘what platform do you use?’” adds Dr. Shprecher. “I tell them I use GlobalMed. A key benefit with this technology that you might not have with others is the ability to adjust the position of the camera and zoom in and out. This improves the quality of the remote clinical exam, which in turn makes telemedicine and in-person visits nearly the same.”

About GlobalMed®

GlobalMed powers the largest telehealth programs in the world, facilitating more than 15 million consults to date. We have helped 4,000+ organizations improve healthcare access in 55 countries and are honored to be the telehealth provider for the White House. With a focus on security and simplicity, GlobalMed designs, builds, manufactures and deploys fully integrated, evidence-based hardware and software telehealth solutions that enable medical groups, healthcare enterprises and government entities to improve patient outcomes while lowering cost.

Founded in 2002 by a Marine Corps Reserve Veteran still serving as CEO, GlobalMed is proud to be a Veteran Owned Small Business (VOSB).