Kazakhstan's Telemedicine Program

How a Developing Country Made Telemedicine Work

Kazakhstan is a former Soviet country located in central Asia. It is the size of Western Europe with a population of 15 million — 46% of whom reside in rural areas. With an overall population density of 2.5 people per kilometer, Kazakhstan experiences an ongoing demand for healthcare in remote areas. Because of this continuing need for quality healthcare, Kazakhstan has reaped many benefits from its telemedicine program.

Prior to implementing telemedicine, medical care in Kazakhstan was limited and well below North American and West European standards. Telemedicine proved to be an expeditious and effective response to the country's healthcare needs. Developing nations like Kazakhstan can benefit tremendously from telemedicine.

The implementation of telemedicine in rural communities throughout Kazakhstan allowed for rapid deployment of healthcare to this nation’s developing population through relatively low cost clinics. Rather than build and staff large numbers of sophisticated facilities, Kazakhstan’s telemedicine program allowed basic clinics to share the expertise of clinicians and clinical specialists who may be located centrally or decentralized. Expertise is delivered where it is needed and when it is needed. This type of telemedicine implementation substantially changes the healthcare delivery strategy of the developing country of Kazakhstan. It accelerates deployment and costs a fraction of a traditional "bricks and mortar" strategy.

Telemedicine may in fact have a more profound impact on developing countries than on developed ones, as was the case with the country of Kazakhstan.

Beginning in 2003, Kazakhstan's telemedicine initiative was developed and implemented by the Kazakhstan Academy of Preventive Medicine, a multidisciplinary nongovernmental organization (NGO) of public health professionals, physicians, and researchers.
The Kazakhstan Academy of Preventive Medicine purchased AMD equipment. As part of an effort to bring telemedicine services to 128 rural districts in Kazakhstan, AMD's telemedicine equipment, including stethoscopes and diagnostic scopes, were installed in approximately 50 medical clinics throughout Kazakhstan.

According to Dr. Dana Sharman, the director in Kazakhstan of APM-Medlink (a medical support and liaison organization between the Academy and the West) from 2003-2005, "Rural health in Kazakhstan presented a number of unique challenges, such as inadequate infrastructure, climatic difficulties, isolated, under-trained and overworked health staff, unreliable and expensive transportation, little or no access to health education, great distances from advanced care, limited access to adequate primary healthcare facilities, and inadequate follow-up healthcare."

"The Academy, implementing the telemedicine initiative on behalf of the Kazakh government... has installed telemedicine devices in over 75 rural sites to assist physicians and nurses with teleconsults for remote patient care," says Dr. Sharman. "The program enables the more efficient use of equipment, physicians, nurses, trained non-professionals, and facilities at reduced conventional costs. It entails a paradigm shift from the transportation of patients to specialists to the transportation of information from experts to local provider or patient; i.e., to the point of need."

AMD's telemedicine equipment -- stethoscopes, ophthalmoscopes and electrocardiograms connected to the Internet -- enables Kazakh physicians in central locations to treat patients in remote areas of the country.

"Its vast territory and low density population made the need for telemedicine in Kazakhstan essential," said Steve Normandin, AMD Global Telemedicine's president. “Today, Kazakhstan has emerged as a leader in telemedicine in Central Asia.”

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