



Video Conferencing Brings Advanced Medicine to Rural Michigan

The Upper Peninsula of Michigan is predominantly forest, dotted with lakes and small towns. To provide an idea of its size, it takes six hours to travel from one end to the other. Although its population of 314,000 is on a par with a city like Pittsburgh, its inhabitants are scattered throughout the region at an average of 19 people per square mile. The population density in outlying areas is as low as six people per square mile.

The Upper Peninsula's largest city, Marquette (population 20,000), is home to the Marquette General Health System (MGHS), which works with other independent health care organizations under the name Upper Peninsula Health Care Network (UPHCN). The UPHCN leverages the power of interactive video communications to increase access to specialty care for the Peninsula's remote population. This includes offering patient consultations over video, providing continuing education to professionals, and using video to facilitate tighter coordination of its staff located throughout the region.

Remote Specialist Consultations

Video conferencing has had a major impact on patient services. When a rural patient needs to consult a specialist, remote video conferencing consultations are conducted through MGHS's Specialty Clinic.

"The ability to actually see a patient is far more valuable than anything we can do over the phone," said Dr. Joe Brzezinski of Pediatric Specialists in the Upper Peninsula Medical Center, and a staff doctor at Marquette General Hospital.

Not limited to the resources of its own staff, MGHS frequently connects over video to specialists around the nation. Dr. Kevin C. Chung, a nationally recognized pediatric plastic surgeon who oversees the University of Michigan Hand Center, for example, was consulted using MGHS's telehealth equipment.

"This technology is truly amazing, it saves time for everyone involved and allows for accurate diagnoses," Dr. Chung said about MGHS's video conferencing technology, after giving a consultation that saved two patients a sixteen-hour round-trip to the University of Michigan in Ann Arbor.

Coordination and Administration of Staff

"Video conferencing has enabled the hospitals in the Upper Peninsula Health Care Network to continue to raise the bar in terms of the quality and efficiency of healthcare across our rural geography," said Sally Davis, Marquette General Health System program director, Telehealth and Management Development. "Video conferencing has helped the Upper Peninsula improve the healthcare it provides, enabling practitioners to meet more frequently without the time and risk of travel."

Video conferencing has increased the speed of coordination between the members of the network, while decreasing the expense of those meetings significantly. **"Meetings would have cost many hours of travel each way," says Davis. "Now we have more meetings with video, and we make more progress in achieving our mission."**

Video Conferencing Technology

Using ISDN, the telehealth network expanded rapidly from seven sites initially to 27 sites with more than 45 Polycom video systems today. In addition, the telehealth network is currently implementing Polycom's ViaVideo™ desktop video communications appliances at the physician's desktop to increase the convenience of telemedicine and encourage expanded use of the technology.

The network also uses auxiliary cameras, document cameras, and electronic stethoscopes for telemedicine applications. Further, teleradiology equipment is used at 11 sites and in the homes of Marquette radiologists and neurosurgeons.

Saving Lives

Video conferencing technology benefits both the residents and healthcare organizations of the Upper Peninsula by providing them with the quality of health care normally associated with large municipalities.

"Communities of 2000 people are using video conferencing at their hospitals to address healthcare and business needs," said Davis. "Video conferencing inspires confidence among the patients as they have easy access to specialists in distant areas and the technology keeps their local hospital up-to-date so it can provide top-quality care based on best-available medical information. **There is no doubt that this technology, in many ways, is helping us save lives."**