

Solving a Global Healthcare Crisis

Medical Missions for Children

Medical Missions for Children transforms the lives of children in medically underserved countries with Polycom video communications

The statistics on the plight of children in medically underserved countries are staggering. In poor nations, children under five years of age bear 30 percent of the total burden of disease. Of the 11 million children under five years of age who die each year, more than 85 percent are from medically underserved countries. This translates to 40,000 children dying each day. And, according to the World Health Organization, in most hospitals in underserved communities the pediatric death rate ranges between 20 to 50 percent, compared to just 2 to 4 percent in the United States.

In response to this global health care crisis, Frank Brady founded Medical Mission for Children (MMC) in 1999. Through the use of an expansive telemedicine network based on Polycom video collaboration systems, MMC dramatically improves the level of pediatric care available to children with severe medical conditions living in medically underserved areas.

"I've seen first-hand the devastating effects the lack of adequate medical care has on children," says Brady. "Having traveled frequently to rural and poor countries, I've seen countless seriously ill and deformed children abandoned because there is no hope for improving their medical condition. I knew there must be a way to use technology to improve health care for these children, and through our partnership with Polycom, we're doing just that. We're able to help children remotely by enhancing their physician's ability to treat them, potentially saving their lives."

Global Network

The MMC Global Telemedicine Teaching Network allows participating hospitals in developing countries to contact hospitals and medical specialists in the United States for assistance in diagnosing and treating children with severe medical conditions. The U.S. doctors, using video communications with data-sharing technology, see the patient, the test results and medical records in real-time and are able to consult face-to-face with the attending doctor, even though they may be several thousand miles away.

The results of MMC's Global Telemedicine and Teaching Network have been tremendous, providing aid to 23,500 seriously ill children since the program's inception. And the benefits of the network don't stop there, MMC leverages the technology to provide indirect help to thousands of additional children.

"Our organization's goal is to help one million children through the Global Telemedicine Teaching Network by speeding the dissemination of medical knowledge all over the world," says Brady. "The doctors we work with in medically needy countries receive new information about everything from symptoms to diseases to treatment with each consultation. This information will then be applied to future patients, thereby progressively improving the overall level of care in the region."

MMC also holds educational symposiums over video to disseminate information more efficiently to physicians in these countries about new procedures and medicines. In addition, MMC leverages the network to train staff on the use of new equipment, and to direct repairs of critical medical equipment, increasing the availability of life-saving hospital resources.

Making a Difference to Children Near and Far

A recent example of the power of the MMC network to change the lives of children living in even the most remote locations is a video conference that connected doctors in Kazakhstan with New Jersey's St. Joseph's Children's Hospital. The St. Joseph's physicians were able to examine two young Kazakhstani girls suffering from juvenile rheumatoid arthritis and cystic fibrosis. The video connection was so clear

Challenge

Improve pediatric care for children with severe medical conditions living in medically underserved areas

Solution

Polycom VSX™ 7000 group video conferencing systems; Polycom MGC™-50 multipoint control unit; Polycom SoundStation2W™ wireless conference phones

Result

Medical aid to 23,500 seriously ill children since 1999; improved dissemination of medical knowledge around the world

"The ability to educate physicians regarding new medicines and procedures and to assist in effectively diagnosing and treating patients over great distances through face-to-face interaction and real-time data exchange is creating a new paradigm for international pediatric medicine."

Frank Brady
Founder

Medical Missions for Children



that the U.S. doctors were able to see the girls' hands, which had been affected by the arthritis, in minute detail and confidently consult on the best course of treatment.

The MMC network is also making a difference for children in the United States, most recently through the opening of its children's theatre at St. Joseph's. The Giggles Theater, a 70-seat theater that can accommodate children in wheelchairs and beds, brings local and regional performing artists directly to pediatric patients through weekly performances and hands-on activities. Music, drama, puppetry, dance, storytellers, and live, interactive "video field trips" to places like the Cincinnati Zoo and NASA Johnson Space Center help reduce the monotony for hospitalized children.

"At MMC, we subscribe to a holistic approach to healing, one that treats the body and the mind," says Brady. "Studies have shown that the arts can play a significant role in a child's recovery by addressing the patient's emotional needs. That's why we felt so strongly that we had to make the children's theatre a reality."

The theatre is based on Polycom's ClassStation™ education solutions, which seamlessly integrate audio, video and instructional multimedia tools to provide a comprehensive video communications-enabled classroom in one system.

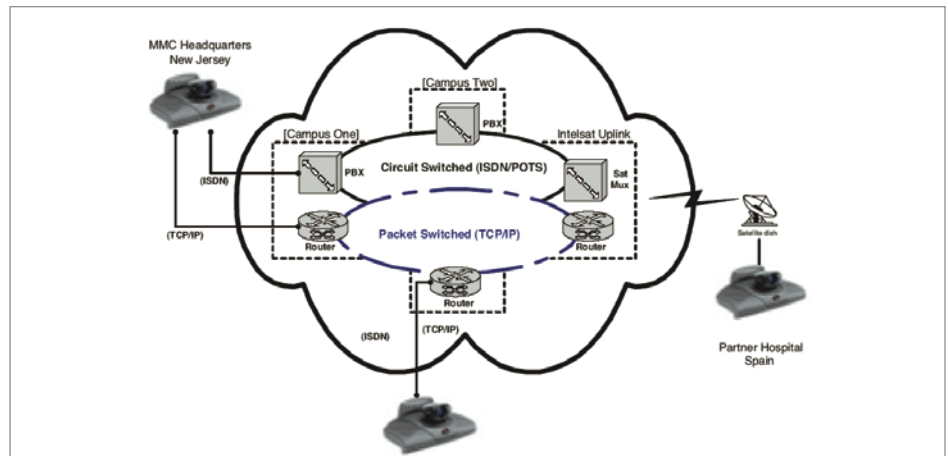
Connecting Countries Around the World

Facilitating real-time, interactive video calls that allow doctors to see patients and actually share physical medical data is the foundation of the MMC program, and to accomplish this, the organization relies on Polycom's award-winning VSX™ 7000, which delivers the industry's highest audio and video quality.

"Simply stated, I've never seen a clearer, more crisp video call than those I hold using Polycom's VSX 7000 systems," says Brady. "The audio and video quality are so good, you truly feel that doctors located half way around the world are in the next room. And, the VSX 7000 systems install within minutes and are extremely user friendly."

MMC also uses Polycom's MGC™-50 multipoint control unit to easily connect multiple locations, both domestic and over seas, in one video call. This allows the organization to bypass the expense and administrative hassle of using a service provider for multipoint calls, which it holds frequently.

In addition to the ClassStation solution MMC uses for its Children's Theatre, MMC headquarters houses a ClassStation room referred to as the Digital Classroom. With seating for 20, the Digital Classroom is ideal for live, interactive seminars,



The IT Perspective

The entire MMC video network is based on Polycom video conferencing systems, including the company's award-winning VSX™ 7000 which includes Siren™ 14 audio and Polycom StereoSurround™ to deliver the best audio and video performance in the industry. For calls involving multiple locations, both domestic and overseas, MMC uses Polycom's MGC™-50 multipoint control unit.

The initial contact for a medical consultation between the U.S. and a medically underserved country is fielded by MMC and then communicated to a participating U.S. children's hospital. The hospital arranges a telemedicine conference using the video units deployed at MMC headquarters and partner and overseas hospitals. The conference is initiated at the U.S. hospital and routed over a service provider IP network to a teleport where it travels to the Intelsat cloud, and once there, to an uplink and onto the satellite. The satellite transmits the signal to a local teleport into the designated country, and the connection is made to the hospital either over IP or via a receive-only dish on the roof of the hospital.

For its audio-only calls, MMC finds the portability of Polycom's wireless conference phone, the SoundStation2W™, ideal.

training sessions, and diagnostic telemedicine sessions among physicians, researchers, and hospital administrators. Users find that the integrated nature of the ClassStation solution allows for seamless communication during video calls.

"If during a symposium, a doctor has input or feedback, he or she is able to tap a button integrated into the room's smart desks that activates a local microphone and alerts the camera to pan automatically to the speaker. Functionality like this eliminates distractions in dealing with the technology and keeps the flow of the meeting natural," adds Brady.

Participation Growing

The MMC network of participating countries is well established and growing rapidly, encompassing pediatric healthcare facilities in Latin America, Africa, India, and Eastern Europe, and the volunteer services of more than 26 tier-one U.S.-based and four international medical institutions. MMC also partners with the United Nations and the World Bank - serving as the exclusive content provider for its Global Development & Learning Network.

Moving forward, MMC plans to continue expanding its network both by increasing the number of countries in which its services are available and by expanding its programming. In addition to

the extensive telemedicine work the organization does, it would like to significantly increase the education and training sessions it offers over video. A donation of 32 additional VSX 7000 systems from Polycom in the coming year will help extend MMC's global outreach efforts.

"The ability to educate physicians regarding new medicines and procedures and to assist in effectively diagnosing and treating patients over great distances through face-to-face interaction and real-time data exchange is creating a new paradigm for international pediatric medicine," concludes Brady.

About Medical Missions for Children

Medical Missions for Children (MMC) is a non-profit organization dedicated to elevating the care of catastrophically ill children in underserved U.S. and international communities. Medical Missions for Children is headquartered at St. Joseph's Children's Hospital in Paterson, NJ. Visit www.mmissions.org for additional information.



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