



Health Equity

Using Telemedicine to Achieve the New Paradigm in Healthcare

Health Equity: an incomprehensible idea in today's ever - expanding world of 5.6 billion people in which the vast majority – 4.7 billion – live in developing countries. Of this number, approximately 3 billion live on less than \$2 a day, and 1.2 billion live on less than \$1 a day. In most industrialized countries, there is one physician for every 200 – 500 people. Many inhabitants in developing countries experience such devastatingly low physician - to - patient ratios as 1:6,000 to 1:30,000 people. How can those in need benefit from the revolutionary, specialized health care being used today?

Telemedicine begins to answer these questions. Commonly referred to as “distance medicine”, this exciting new technology enables medical screening, diagnosis, patient care and professional education by sending information electronically to another location, where it can be easily utilized. Additionally, telemedicine connects the isolated members of a population with vital medical sources and encourages a unique partnership between doctors and patients. By treating patients remotely, global use of telemedicine will elevate the level of patient care worldwide and also address the disturbing reality of physician shortages.

While elements of telemedicine have been around since the 1970's, interest surged when digital - imaging technology became widely available in the late 1990's. In the early 1990's, only a few telemedicine networks existed in the U.S. By the end of the decade, over 50,000 consultations were conducted remotely. Areas of the medical field that are using telemedicine most often are psychiatry, cardiology, ophthalmology and orthopedics. Global expansion of this technology is helping to bring about more diverse applications such as health screenings, early detection of disease outbreaks and health statistics collection.

Real Life Stories

In one scenario, a child injures his head and requires immediate medical care. While the local clinic can provide basic treatment, more specialized care is necessary due to complex symptoms. The nearest hospital is days away. In another example, an increasing number of diabetes, HIV and AIDS cases are suspected in a remote region. Due to lack of resources and organizational cohesiveness, immediate needs cannot adequately be assessed and remedied. These illustrations reveal the void that telemedicine can realistically fill. Medical resources can be effectively “multiplied” by



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enabling patient information and diagnosis to be sent over the Internet. Today’s technology is faster, less expensive, and easier to use, allowing reduced medical costs and increased quality of patient care. Actual applications include:

Radiology is becoming a key specialty in the world of telemedicine.

Today, virtually every hospital uses some kind of computer-enabled equipment to process radiographic images. Imaging means like X-rays, computed tomography (CAT), magnetic resonance imaging (MRI), even ultrasound, are all modalities that can generate digital information which can be sent over the Internet. In Tennessee for example, rural hospitals send patient images to a central group of radiologists for diagnosis. And by viewing these images on a computer screen instead of film, the high cost of printing has been reduced. In a major medical center, the cost of processing, maintaining, and storing patient films may be as high as \$3 million a year, a cost that can be eliminated or greatly reduced.

Monitoring via technology is another promising area for telemedicine. In Japan for example, cardiac patients experiencing heart pains hold a personal monitoring device to their chests and send the results to their doctor over a telephone line. In other countries pregnant women experiencing preterm labor can be equipped with home uterine monitors that can send reports to a centralized nursing station for analysis, allowing them to self-administer medication as directed by their health professionals.

Research facilities know that email speeds communication between people, thereby accelerating progress. Leveraging the power of the Internet, scientists can find and share information faster and often with less expense than through traditional means. Communications technology enables almost unlimited access to information through web sites and online journals and enhances communication with colleagues.

Distance Learning for medicine has been used for some time, and the methods training of medical professionals is improving every year. Video and voice conferencing allows teams to learn and discuss materials, despite enormous geographical separation. Web sites also offer free, self-paced courses to registrants. Entire course curriculums are available online and the amount of and access to training materials continues to grow.

Virtual Training can potentially accelerate a person’s ability to comprehend and assimilate new information because of the type and format of new educational programs. Virtual environments let student explore a three-dimensional recreation of a human subject, seeing information from new angles. Medical teams accelerate learning by reconstructing a patient’s organs on the computer screen to examine a tumor or irregularity.

Empowering Partnerships are vital. Even with the technology miracles, the problem of linking those in need of the miracle still exists. Achieving global “health equity” will involve new and existing organizations worldwide, all working together. The Internet allows everyone to communicate more readily, and the combined knowledge can be greater, in value, than the sum of its parts. Each country has significant ethical issues to address. But as a truly global health infrastructure emerges, it can provide decision-makers with accurate and timely information to help guide policies.

New Paradigm for Health

Please contact us to explore the many new ways to connect people and widely needed resources. Technology is only a tool to guide us to a solution.

Optimal Insights

We provide global consulting solutions to help organizations achieve the miracles available through medical networks.

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