Telemedicine Ready, But Deployments Need Boost To Meet Demand

PRNewswire/ - Telemedicine is technologically ready to meet the growing demand for access to health services in developing nations and remote areas around the world, say experts from IEEE, the world's largest professional technical association. However, widespread use of telemedicine will require greater collaboration between technologists and clinicians to ensure it delivers on its promises in the real world - millions more people reached, with measurably better outcomes for those patients.

"From faster wireless networks to mobile imaging applications to biosensors, the technologies for delivering telemedicine services are certainly there," said Dr. Yongmin Kim, IEEE Fellow and professor of bioengineering and electrical engineering at the University of Washington. "But advancing telemedicine through technology innovation alone is not enough. We now need to make it easier for the health care providers to embrace and apply these technologies in diverse medical environments."

Dr. Yadin David, IEEE Senior Member and founder of the Center for Telehealth and e-Health Law in Washington, D.C., recommends health care providers and technologists agree on standards for minimum system performance of telemedicine networks and platforms, along with the development of a common vocabulary to describe these technologies.

"Healthcare providers can look at the technical description of a heart pump or X-ray machine and understand whether it will meet their requirements in delivering quality care to a patient. But how easily can radiologists, for example, understand whether the pixel resolution or compression rate of their video equipment will enable them to clearly see fine detail on images for more accurate diagnoses?" he said. "We need to translate technical criteria into the clinical domain to make it easier for healthcare providers to relate to it."

For its part, IEEE is actively working to encourage the collaboration required for increased telemedicine adoption by bringing the technical experts in telemedicine together with the clinicians who must use it effectively. In October, it will host a joint medical technology conference with the American Medical Association in Boston. The AMA-IEEE Medical Technology Conference will help foster mutual understanding between the clinical and technical experts working on this issue.

The IEEE Standards Association has also been actively developing standards that contribute to telemedicine. For example, the IEEE 11073T family of standards enables interoperable communication between medical devices and external computer systems. They provide automatic and detailed electronic data capture of patient vital signs information and device operational data.

The global telemedicine market is already experiencing significant momentum, and is expected to grow from $9.8 billion in 2010 to $23 billion in 2015, a compound annual growth rate (CAGR) of 18.6 percent over the next several years, according to BCC Research. Looking ahead, IEEE experts expect a number of technologies to play strategic roles in advancing the adoption of telemedicine, including smart phones, wearable sensors and instrumentations.

These innovations could be particularly beneficial in developing countries, such as India, where 70 percent of the country's population resides in rural areas compared to 90 percent of the health care centers located in urban areas of the country. "The urban population has always had the benefit of specialized healthcare," said Dinesh Bindiganavale, IEEE Member and independent health care consultant. "Telemedicine is extending this benefit to the rural population and increasing access to quality healthcare where it is needed the most."

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