

by Ray Torres

Telemedicine

Telemedicine is yet to reach iconic and ubiquitous status in our nation's healthcare delivery system. Telemedicine is not new to the healthcare community, but largely remains an enigma for many urban physicians. The level of awareness is much higher in many rural communities, on Indian Reservations, and among managers of corrections institutions. From its origins 40 years ago, with demonstrations of hospitals extending care to patients in remote areas, the program has spread rapidly owing to the use of various telemedicine applications. The adoption of the delivery system, however, is slow coming.

In addition, telemedicine has the characteristics of an industry life cycle and could mature to a "constant access" care management system. Diagnosing and treating life threatening healthcare conditions, including stroke, trauma and burns, might just be what accelerates adoption of the program. However, in order to see the widespread adoption of telemedicine services, there must be legislative parity, which means medical reimbursement consistent with in-person healthcare services payment.

Telemedicine: An Industry Life Cycle

Telemedicine can be characterized as an industry that introduces telemedicine applications to the healthcare provider community. Applications would be subject to an application life cycle of introduction, of growth, of maturity and of decline. Each cycle is driven by marketplace forces or the lack thereof.

Teleradiology was an early pioneer in telemedicine industry. Since its arrival over four decades ago, it progressed through the application life cycle. Teleradiology service can be described as a maturing application. Until the late 1990s, it was primarily used by individual radiologists to interpret occasional emergency studies from offsite locations, often in the radiologists' home, using standard analog phone lines. Today's technology enables physicians to share and transfer critical medical images in a HIPAA-compliant, secure way, using the Internet. Faculty radiologists at the U of A College of Medicine - Tucson, have diagnosed over one million teleradiology cases, referred in from 25 rural hospitals throughout Arizona and neighboring states.

Today, there are over 50 for-profit teleradiology companies. Nighttime teleradiology coverage is common in many urban and rural communities in the United States.

Telepsychiatry, another application of telemedicine, has been the most successful of all the telemedicine applications to date, and continues on the lifecycle growth curve. One of the drivers behind telepsychiatry's growth is a shortage of psychiatrists. Another is Medicare and Medicaid in various states, as well as nearly all private health insurers reimburse for telepsychiatry.

Prison telemedicine is also a proven use of the technology. Tens of thousands of inmates, in states including California, Texas, Arizona and others have received telemedicine services.

Relatively new entrants to the telemedicine life cycle are strokes and burns. As more lives are saved, and less health debilitating outcomes through telemedicine become known to the public, one may see a rise in demand for these telemedicine services.

Telemedicine in Strokes

With the TeleStroke program, local hospitals can expand their range

of services to include high quality stroke care for patients within their own communities. By offering specialized stroke services, these medical facilities can improve patient outcomes - reduce death, decrease stroke-related disability, and reduce healthcare costs.

A recent article in the *Arizona Republic* opined that response time to a stroke played a big part in a patient's recovery. What is frightening is that most people usually cannot recognize or understand stroke warning signs. Thus time is of the essence in the "golden hour", not only for the stroke patient's timely access to a telestroke specialist, but the consultation of the correct diagnoses and treatment.

Telemedicine in Burns

The awful attack on September 11 brought to light a stark reality - only 19 burn beds available at the Arizona Burn Center of Maricopa Integrated Health System. Thanks to the burn

up to 150 burn beds available across Arizona. A separate report written by the Director of the Arizona Burn Center, indicates that in part due to the Burn Telemedicine Program, Arizona is now 500 percent more prepared to handle burn trauma from a natural or manmade disaster.

Burn telemedicine is a network of eleven partner Arizona hospitals. The network has the ability to connect via telemedicine with the Arizona Burn Center of Maricopa Integrated Health System. Having that ability to remotely connect to highly trained burn surgeons via the internet could quite possibly mean the difference between life and death.

Enabling Technology a Factor

Very few companies across the country design and manufacture telemedicine equipment such as GlobalMed. These companies design and manufacture telemedicine solu-

that utilize the "cloud". Cloud computing is new model for how people get work done and how they access information. The Arizona Telemedicine program spoke of hospitals on the network use GlobalMed equipment, as does the Veterans Administration.

It is somewhat mystifying why in today's advancement of software applications, wireless and intelligent devices, high-definition images and video, and use of the Internet that telemedicine has yet to achieve household name status among consumers and the medical community in general. Technology is the critical success factor to the growth and adoption of telemedicine services.

Parity Legislation Needed in Arizona

In the 90's, then former Arizona House of Representative **Robert Burns**, later Senate President, initiated the legislation that created the Arizona


ATP is a large, multidisciplinary, university-based program that provides telemedicine services, distance learning, informatics training, and telemedicine technology assessment capabilities to communities throughout Arizona, the sixth largest state in the United States, in square miles.

Even though two telemedicine parity bills were introduced in the 2012 Arizona legislative session, they failed to be heard. Stronger support is needed to prevail against the headwinds of opposition lobbyists. Perhaps others in 2013 will join in force with **Suzanne Sisley, MD**, who has been an advocate for parity legislation.

Because of ATP's success and other compelling reasons, Arizona legislators should further examine telemedicine parity models. Legislators need not look far for these models with twelve states having adopted mandates

for telehealth covering over 106 million Americans. Equally important, six states have had such a law in effect for over 10 years. There remains no effort to repeal, roll-back, or restrictions to the law.

In the Final Analysis

With the arrival of telemedicine, thousands of lives will be saved, patient outcomes improved, and overall healthcare costs reduced. And while the miracles of modern medicine are at work, technology is at the center of "constant access" enabling the diagnosing and treating of life threatening healthcare conditions. And to advance telemedicine in the 21st century, more telemedicine advocates need to sway the traditionalist legislators to think through the cost-benefit of parity legislation. 



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