



# Telehealth Unites the Healthcare Ecosystem

## Delivering Quality Care to Broader Patient Populations

### **Introduction: Delivering Quality Care to All**

As we enter the new decade, healthcare for an aging population is a top-of-mind issue for government policy makers, business leaders and consumers alike. Healthcare costs have been steadily increasing, and a growing number of healthcare providers and patients worry that the recent budget crunches faced by healthcare providers will affect patient care in the years ahead. Healthcare providers are taking advantage of the American Recovery and Reinvestment Act (ARRA) stimulus funding to launch telehealth initiatives to face down some of healthcare's most daunting challenges.

### **The Value of Telehealth**

Telehealth enables collaboration across the healthcare ecosystem, regardless of where patients and healthcare providers are located. As a result, telehealth delivers several major benefits to healthcare providers. First, clinical specialists can make their services more accessible to a broader audience. They can cost effectively reach more patients virtually anytime, anywhere, which can increase their revenues while helping improve patient care. Additionally, once doctor-patient encounters are concluded, doctors can monitor patient health more closely, enabling faster and more frequent intervention.

Benefits also extend across the entire healthcare ecosystem. For example, healthcare providers can increase proficiencies by making it easier to access continued medical education, facilitate professional collaboration, and streamline healthcare administration. They can also more easily collaborate with pharmaceutical companies and device manufacturers around R&D and training for new devices and procedures. Moreover, they can join forces with national health agencies and local responders to provide rapid response to public health issues in emergency situations, such as flu outbreaks, terror attacks, and natural disasters.

### **Changing Healthcare Landscape**

As healthcare providers strive to deliver quality patient care under ever-tightening budgets, a number of trends compel providers to adopt telehealth initiatives. These include the development of new patient care models, a focus on improved care in rural areas, and the need for cost control.

### **New Patient Care Models**

The very definition of patient care is expanding. Due to tightened hospital budgets and increases in outpatient services, a growing number of patients receive treatment outside of the hospital setting.<sup>1</sup> At the same time, regulatory and reimbursement trends have broadened the definition of patient care to include services across the broad healthcare ecosystem, not just the patient-clinician

<sup>1</sup> The Medical News, Sg2: Demand for outpatient services to increase by nearly 22% over the next decade. January 6, 2010, <http://www.news-medical.net/news/20100106/Sg2-Demand-for-outpatient-services-to-increase-by-nearly-2225-over-the-next-decade.aspx>

encounter. Medicare, Medicaid and private insurers are increasing their measures on healthcare providers and their ability to meet performance benchmarks for patient outcomes.<sup>2</sup> Proposed legislation would affect reimbursements based on success and re-admission rates.<sup>3</sup> To comply, providers would need to extend care outside the hospital to homes and secondary facilities.

### Improving Care in Rural Areas

Today, care in rural areas is falling further and further behind treatment provided in urban areas. According to a recent study by the Federal Office of Rural Health Policy, only 10% of physicians practice in rural America despite the fact that 25% of the population lives in these areas. The study points out that 87% of Mental Health Professional Shortage Areas in the United States are in non-metropolitan counties and home to over 30 million people.<sup>4</sup> The facilities that remain open face a severe shortage of clinical specialists. Yet, regulatory and reimbursement trends focus on improving access to care in rural areas and underserved populations.

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– FEDERAL OFFICE OF RURAL HEALTH POLICY

### Controlling Costs

A third trend driving telehealth adoption involves the costs to provide care. Travel costs for patients living in rural areas can become prohibitive, particularly for seriously ill patients requiring expensive Medivac flights. Doctor-patient encounters become expensive in security-sensitive situations, such as those involving mental health patients and prison inmates.<sup>5</sup> Security is required for the doctors, and also for the patients during their transport to care facilities.<sup>6</sup> Finally, the reality is that first responders in rural areas are predominantly volunteers and often do not have the training and expertise to do proper triage, which can result in low quality care and higher costs.

Healthcare providers that view these trends holistically quickly recognize that telehealth offers them a way to take on these challenges. That's why there are currently more than 200 networked telemedicine programs in the U.S. involving over 3,200 hospitals and other medical facilities.<sup>7</sup>

### Critical Success Factors

Healthcare providers face three major challenges as they pursue telehealth initiatives: difficulty securing government reimbursements, obtaining state licensing, and connecting to patients in areas with limited broadband availability. Nevertheless, easy-to-use and sustainable telehealth programs are achieving positive financial return and delivering benefits beyond the initial program scope.

### Ease of Use

While many healthcare providers are enjoying the success of early telehealth initiatives, turning these initiatives into long-term, established practice depends on both the ease of use and sustainability of telehealth programs. Telehealth programs, and their underlying technologies, must focus on ease of use to provide value and gain widespread adoption.<sup>8</sup> Patients and medical professionals with little technical savvy must be able to perform telehealth sessions as easily as making telephone calls, and medical professionals will have little patience with technical glitches that waste their time. A few mishaps could lead to medical staff completely abandoning telemedicine systems. Telehealth systems must also be easily accessible, regardless of patient and caregiver locations and device types.<sup>9</sup> Physicians and patients should be able to connect to one another seamlessly and with high quality via phones, laptop computers, handheld devices, and any other mobile device.

## Telehealth in Action

### Challenge

A top East Coast hospital and medical school, known for its highly specialized diagnostic and treatment programs, was experiencing extremely high demand for its specialists.

The travel costs for this collaboration became unmanageable, and with so many doctors on the road, the hospital's successful team approach and hard-earned reputation to comprehensive healthcare was at stake.

### Solution

Verizon Business designed and equipped eight new immersive video conference rooms at the hospital and three rooms at remote affiliated hospitals. This managed telepresence service provides real-time video with life-size visual communications that replicate face-to-face meetings.

The medical center staff accesses all the features and functions of the video-bridging service through the Verizon Conferencing Private IP network, the public Internet, a traditional ISDN network, or any combination.

Since implementing the solution, the medical center has saved thousands of dollars and expanded both training and patient services.

2 Agency for Healthcare Research and Quality, Pay for Performance: A Decision Guide for Purchasers, April 2006. <http://www.ahrq.gov/qual/p4pguide.htm>

3 Agency for Healthcare Research and Quality, General Questions About the AHRQ QIs, AHRQ Quality Indicators, July 2004. [http://www.qualityindicators.ahrq.gov/general\\_faqs.htm](http://www.qualityindicators.ahrq.gov/general_faqs.htm)

4 Southwest Rural Health Research Center, Rural Healthy People 2010—Healthy People 2010: A Companion Document for Rural Areas.

5 Health Leaders Media, A Captive Audience—and Providers—Benefit from Telemedicine, February 3, 2010.

6 Booz Allen, Accounting for the Costs of US Healthcare: McKinsey Global Insight Health IT Trends Overview, January 2009.

7 American Telemedicine Association, ATA 2009 Meeting Overview, <http://www.americantelemed.org/44a/pages/index.cfm?pageID=3561>

8 Frost & Sullivan, Advances in Telemedicine and Patient Care Technology matching up with Evolving Patient Needs, 22 April 2005.

9 Online Journal of Space Communication, Telemedicine Systems and Telecommunications, Issue No. 14, Winter 2009.



To achieve this, connectivity needs to occur in a network-agnostic manner. Seamless connectivity over both inter-hospital and intra-hospital networks make ubiquitous connections possible, particularly when the network enables the technology systems at each endpoint to communicate. Leading telehealth networks are currently adopting measures to ensure that the most common endpoint technologies provided by companies such as Cisco, Nortel and Polycom have the ability to communicate with one another without compromising communications and data integrity.

### **Sustainability**

The federal government has been offering funding, even before the ARRA stimulus package, to help build out infrastructure to support telemedicine in rural areas.<sup>10</sup> While this has helped to jump-start many programs by funding up to 85% of infrastructure costs, a key challenge has been maintaining program sustainability once government funding has been depleted.<sup>11</sup> Healthcare providers must seek to maintain sustainability by increasing the number of services that they use over the telemedicine infrastructure. Otherwise, long-term costs will start to outweigh realized savings and revenue potential. Fortunately, telehealth programs routinely cover more than 50 clinical areas today in such areas as teleradiology, telemental health, telestroke, telepediatrics, and many others.<sup>12</sup> Extending a telehealth program to encompass this broad swath of services is simple to achieve for providers who plan their programs and infrastructure properly.

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– CALIFORNIA TELEMEDICINE AND EHEALTH CENTER

Another method of ensuring program sustainability is to monitor the wide range of funding sources that continue to arise. Healthcare service providers that have a means of tracking new funding opportunities from governmental organizations can boost their programs' longevity and enjoy gradual ramp-up of programs without concern for funding shortfalls.<sup>13</sup> Key to recognizing funding opportunities is knowledge of the government's definition of "meaningful use" when determining whether or not a provider qualifies for program funding and additional bonus payments.<sup>14</sup> In order to take full advantage of government funding and improve network and program sustainability, healthcare providers need to look at telehealth initiatives strategically and recognize the long-term means and benefits of integrating telehealth into their overall healthcare network ecosystem and operating environment.

### **Best Practices to Achieve Telehealth Success**

Pragmatic planning is the key to telehealth program success. Those organizations that establish clear plans, start small, and build on early accomplishments will enjoy short- and long-term success and higher returns on their telehealth investments.

#### **Start Small and Build on Success**

To achieve a solid level of telehealth program sustainability once grant funding has been exhausted, providers must carefully plan their initiatives to ensure early success, realistic expansion plans, and continuous return on program investment. According to the California Telemedicine and eHealth Center (CTEC) best practices, telehealth initiatives typically start within a single clinical area, like radiology, pediatrics, neurology or mental health, and expand over time to additional specialties.<sup>15</sup> Also critical to early-stage success is physician sponsorship within the targeted clinical area. To gain maximum traction and to avoid an "us-versus-them" mentality during implementation, at least one physician should be intimately involved with the planning and execution of the telehealth initiative.

<sup>10</sup> Universal Service Administrative Company, Rural Health Care Pilot Program - Search Postings: 2008, <http://www.usac.org/rhc-pilot-program/tools/search-postings-2008.aspx>

<sup>11</sup> Ibid.

<sup>12</sup> California Telemedicine and eHealth Center, What is Telemedicine? <http://www.cteonline.org/what-is-telemedicine.php>

<sup>13</sup> Eureka Times Standard, New Legislation Would Increase Funding for Telemedicine, April 30, 2009.

<sup>14</sup> Bulletin of the American College of Surgeons, The HIT Incentives in the ARRA, June 2009.

<sup>15</sup> California Telemedicine & eHealth Center, Assessing Organizational Readiness: Is Your Organization Ready for Telemedicine? January 2009.

### Work With a Trusted Technology Partner

As healthcare challenges become more pervasive and more IT funding is channeled to healthcare providers for care-focused initiatives, a new set of technology vendors are throwing their hats into the healthcare IT ring.<sup>16</sup> Healthcare providers should make certain to choose a technology partner who not only understands the technical issues, but who has the experience to understand the underlying business issues and drivers. It is one thing to install a videoconferencing system for telemedicine, but it is quite another to help a healthcare provider optimize technology touch points across the broad healthcare ecosystem. As an extension of normal patient care, telehealth systems are called upon for security and reliability in support of life-saving applications. Because of their importance, their design and use must be simple and intuitive. Therefore, telehealth initiatives call for experienced hands with decades of experience integrating equipment, global networks, security and other services and who can provide a single point of help and accountability. To aid in the search for the right business partner, healthcare providers can leverage the telehealth continuum to recognize where they currently stand along the continuum and the capabilities they need to move forward.

## Each healthcare network is unique, and providers would do well to avoid “one-size-fits-all” solutions.

Experienced healthcare IT service providers focus on delivering the appropriate mix of consulting, system integration and managed services to help improve patient care. Each healthcare network is unique, and providers would do well to avoid “one-size-fits-all” solutions. Instead, a telehealth program should align to a healthcare network’s existing environment. This will cause the least amount of disruption while helping to meet specific objectives for clinical consultations, continued medical education and training, as well as administration. Given the customized nature of telehealth implementations, professional services capabilities will play an important role in qualifying a technology partner.

### The Right Mix of Professional Services

Rather than jumping blindly into a telehealth initiative, healthcare providers can leverage an experienced technology provider to identify organizational needs and conduct an assessment of capabilities. In some cases, leading telehealth technology providers will even have the ability to scope and identify sources of funding beyond initial ARRA grants. For healthcare providers that have already finalized their program roadmap and allocated funding, the right technology partner should be able to provide focused assistance for the unaddressed areas along the telehealth continuum. In this case, there would still be a need for designing and implementing an integrated solution, whether it is simple content sharing or a fully immersive in-person experience. Secure, managed services should also be a gating criterion for choosing the right technology partner. HIPAA regulations have increased penalties and breach notification requirements for protecting patient information, so it is important that the technology partner provide a reliable and secure network to maintain the privacy of patient data.<sup>17</sup> This will enable healthcare providers to see, in near real-time, exactly who is accessing each individual patient’s data and for what reasons. Finally, many healthcare providers do not want to spend the time and resources maintaining their own telehealth technology and network, choosing instead to focus on what they do best—providing patient care. For this reason, leading telehealth technology partners also provide fully managed and hosted telehealth solutions. Since these providers have provisioned remarkably scalable and robust infrastructures, they are well prepared for the rapid expansion of a telehealth program.

### A Vision for Improving Telehealth ROI

Telehealth delivers many benefits today. But the exciting news is that today’s telehealth initiatives represent just the first wave of technological innovation, with two additional waves on the near-term horizon. With Wave 1 today, healthcare providers have successfully implemented stand-alone telehealth programs that enable different endpoints within the same network to collaborate. These take the form of endpoint-to-endpoint or endpoint-to-multipoint collaboration. Successes abound in this wave, but to remain sustainable, telehealth programs need to progress to the second wave, characterized by deeper system integration.<sup>18</sup> In Wave 2, some telehealth programs are beginning to integrate with one another

<sup>16</sup> Datamonitor Expert View, Telehealth Holds Great Potential but Wider Awareness may not Lead to Adoption, March 13, 2009.

<sup>17</sup> U.S. Department of Health & Human Services, HIPAA Privacy Rule, <http://www.hhs.gov/ocr/privacy/index.html>

<sup>18</sup> Center for Telehealth and E-Health Law, For the CMS and the VA, Telehealth Programs are a Clear Success, <http://www.telehealthlawcenter.org/?c=125&a=1945>

and with critical hospital systems for delivering patient care and information.<sup>19</sup> This wave leverages the Health Information Exchange so that all telemedicine technologies interoperate and share information across providers and/or within organizations. Wave 3 is currently under development and solves three critical telehealth challenges. The first is the interconnectivity of one-time calls between people on different networks. Next is connectivity from any endpoint to any company on any network, and the final one is the mobility of telehealth.<sup>20</sup>

## Allowing patients to be seen from any device will help realize the number-one goal of telehealth—improved patient care to a broader patient population.

Telehealth will deliver even more benefits once it achieves any-to-any connectivity. In this way, patients, physicians and other healthcare professionals can collaborate from a closed and secure hospital information network to a different secured network that may be on another carrier's network. Once connected, endpoint devices can communicate seamlessly, regardless of the device manufacturer. Any-to-any connectivity will also enable ultimate mobility in telehealth, because the devices that can communicate through the network can be both fixed and mobile. So whether a patient or physician is using a mobile phone, laptop, desktop or any other variety of systems, collaboration through the telehealth system will be seamless. Allowing patients to be seen from any device will help realize the number one goal of telehealth—improved patient care to a broader patient population.

### Conclusion

Driven by a need to improve and expand patient care, healthcare providers are adopting telehealth in growing numbers.<sup>21</sup> They recognize that the collaboration capabilities of telehealth can help them reach new and broader patient populations, respond rapidly to emergency situations, deliver continuous quality care at lower costs, and improve both continuing education and administration. To avoid costly missteps and to streamline program success, organizations should seek to partner with telehealth service providers with in-depth experience in healthcare IT consulting, professional services, security, and managed IT services. Through their ability to deliver on the promise of telehealth, while protecting patient information, leading healthcare IT services companies are enabling healthcare providers to extract the most value from their investments in telehealth programs. For that reason, healthcare providers seeking to launch or expand their own telehealth initiatives should engage their technology partner as early in their planning process as possible to maximize program success.

As a trusted partner, Verizon can help you make telehealth a success in your organization. For information, visit [www.verizonbusiness.com](http://www.verizonbusiness.com) and contact your Verizon Account Manager.

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<sup>19</sup> eHealth Initiative, National Health Information Exchange Survey Shows Increased Activity, Cost Savings, Positive Impact on Physician Practices, <http://www.ehealthinitiative.org/HIESurvey/>

<sup>20</sup> U.S. Medicine, Mobile Telehealth Units Evolve from Need Among Beneficiaries in Rural Areas, November 2009.

<sup>21</sup> Baltimore Sun, Telehealth Use Gains Due to Physician Shortages, Insurance Acceptances, September 14, 2009.

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