

A PEACH OF A TELEHEALTH PROGRAM: GEORGIA CONNECTS RURAL COMMUNITIES TO BETTER HEALTHCARE

Posted on January 11, 2011 by Administrator

Category: [Telehealth](#)

Tags: [disparities](#), [Georgia](#), [health professional shortage areas](#), [medically underserved areas](#), [telehealth](#)

Georgia's statewide telemedicine network, the Georgia Partnership for TeleHealth (GPT), uses information technology to improve the efficiency and quality of healthcare and health outcomes for underserved populations in Georgia.

Keywords: Georgia, telehealth, disparities, health professional shortage areas, medically underserved areas

Introduction and Background on Healthcare Challenges

Georgia is the largest state east of the Mississippi River. Its rural communities are spread across five major geographic regions: the Blue Ridge Mountains in the northeast, the Ridge and Valley Province and the Cumberland Plateau in the northwest, the Piedmont in central Georgia, and the Coastal Plain in the south. Georgia has 159 counties; only Texas has a higher number of counties. Georgia has more counties in persistent poverty than any other state.¹

A University of Georgia faculty study on persistent poverty published in 2009 reported that "Georgia ranks toward the bottom in terms of the overall health of its citizens. . . . Of Georgia's 159 counties, 108 counties were found to have persistent poor children's health and working age adult health." The study also found that "more counties report poor health . . . in 2000–05 than in 1992–97, signaling a decline in the health status of Georgians compared to the rest of the U.S. over this period."²

According to the Georgia State Office of Rural Health's September 2007 *State of Georgia Rural Health Plan*, in Georgia's rural counties, "the story of rural health has been one of high rates of death and disease, along with persistent poverty, low literacy, and inadequate health care services. Rural communities bear a greater burden of cardiovascular disease, cancer, diabetes, obesity, and infant conditions than their urban counterparts. . . . Rural Georgians are older, poorer, and sicker than their urban counterparts, which makes rural health critically important to the state's overall health."³

Georgia ranks ninth among the states in population with the U.S. Census Bureau's 2009 population estimate of 9,829,211.^{4–6} According to the *Georgia 2030 Population Projections* report by the Office of Planning and Budget, "between 2010 and 2030, the state's population is projected to grow by an additional 4.6 million people."⁷

As the population increases, the demands placed upon the already strained healthcare system increase. The Georgia Board for Physician Workforce reports that Georgia currently ranks 37th in the nation in proportion of physicians to population.⁸ This shortage of health professionals, including primary care, sub-specialty medical care, and behavioral health providers, in conjunction with the population growth, is cause for great concern. "Rural counties typically have half as many physicians

and dramatic shortages of nurses, therapists, and nutritionists, straining the capacity of the health care delivery system to reach the residents that need care."⁹

To further illustrate the shortage facing rural communities, according to the September 2008 *AARP Bulletin*, the number of doctors going into primary care has fallen by half, and as one physician stated, "Every neighborhood in the country is one doctor away from a crisis."¹⁰ Findings from the National Association of Community Health Centers reveal that one in five Americans has inadequate or no access to a primary care physician.¹¹

The Health Resources and Services Administration of the U.S. Department of Health and Human Services uses the designation of health professional shortage areas (HPSAs) to describe areas "having a shortage of primary medical care, dental, or mental health providers. They may be urban or rural areas, population groups, or medical or other public facilities."¹² In Georgia, 201 areas, including 38 whole counties, are designated as HPSAs for primary care, with an estimated underserved population of 1,371,292 among a total population of 2,066,893.¹³

Furthermore, the U.S. Health Resources and Services Administration reports that "minorities comprise 15 percent of the total rural population and minorities account for 30 percent of the rural poor population. Minorities face a myriad of problems ranging from chronic poverty among people in the Southeast, to a lack of stable medical care for migrant workers, to language barriers faced by newcomers to this country."¹⁴ According to 2009 U.S. Census Bureau data, Georgia's Hispanic population represents 8.3 percent and African Americans account for approximately 30 percent of the state's population. The racial or ethnic minority proportion of the population exceeds the national average.¹⁵ Addressing racial and ethnic disparities in healthcare is therefore of utmost importance.

To give a final example of the issues facing the poor and underserved, the National Women's Law Center Health Care Report Card notes that "the lack of accessible healthcare services is particularly acute for poor and low-income people, who do not have the financial resources to travel to find healthcare and are often not accepted by physicians due to low Medicaid reimbursement rates."¹⁶ Data from the Center for Studying Health System Change support this finding.¹⁷

The Georgia Partnership for TeleHealth Response

Given the state of healthcare in Georgia and the tremendous challenge of reaching these vulnerable populations, the Georgia Partnership for TeleHealth (GPT) utilizes telemedicine to improve the health outcomes of rural Georgians through access to broadband technologies. Telemedicine is a healthcare delivery model that applies high-speed telecommunications systems and computer technology along with medical cameras to examine, diagnose, treat, and educate patients from a

distance. For example, through a live, real-time telemedicine encounter, a patient in Arlington, located in the far southwestern part of the state, may seek a second opinion from one of Georgia's leading specialty hospitals without spending the time and money required to travel for an in-person appointment. The patient would travel to the local rural hospital, Calhoun Memorial Hospital, for a specialist appointment scheduled by the patient's local primary care provider. The local provider and the specialist work together to develop the appropriate treatment plan for the patient. Labs, x-rays, and other ancillary services can be provided by the local hospital with results being sent to the specialist. Once the specialist provides a diagnosis, a treatment plan is recommended to the local physician. Follow-up specialty visits can be easily and conveniently conducted via telehealth as well.

The telehealth system is equipped with Second Opinion software to securely build an electronic patient record. Referring physicians make the patient's referral to a specialist, and once a patient record is complete, it is sent securely via e-mail to the specialty center and can only be opened using the same software. The patient records are created by telehealth coordinators at the facilities, who are typically registered nurses or midlevel providers. Many facilities in Georgia still do not have an electronic medical record system, so many records and consultation reports from physicians are printed and included in the manual patient record.

GPT's History

A massive corporate merger between two healthcare giants in December 2004 resulted in \$126.5 million of new funding and equipment for Georgia's medical schools and rural hospitals. The windfall for Georgia's medical institutions was requested by Georgia's insurance and fire safety commissioner, John Oxendine, as a condition for his approval of a merger between California-based WellPoint Health Networks Inc., the parent company of Blue Cross Blue Shield of Georgia, and Indiana-based Anthem Inc.

The \$16.5 billion merger was completed, producing a new company, known as WellPoint, which became the nation's largest health insurance company with 28 million people covered. Oxendine signed off on the deal after pinning down a multimillion-dollar promise from Anthem to help finance a rural healthcare initiative in Georgia for the next 20 years. Part of the money—roughly \$11.5 million—went toward funding telemedicine programs at 36 rural hospitals and at multiple specialty centers around the state. Anthem also agreed to grant \$15 million in insurance benefits to pay for the telemedicine procedures over the next three years. The initial anticipated rollout was projected to take 18 months, but the network was completed, equipment was deployed, and the system was being used by January 2006.

After the three-year commitment from WellPoint in December 2007, the Georgia Partnership for TeleHealth, Inc. 501 (c) (3) (GPT) was formed to continue the successes of the Georgia Telemedicine Program.

GPT Usage and Patient Satisfaction

GPT has proven its success in sustaining Georgia's only statewide telehealth network. The hallmark of the Georgia telehealth program is the Open Access Network, built using dedicated T-1 lines leased from regulated telecommunications carriers in Georgia. This reliable, open access network with high-quality bandwidth creates a highly secure, private network for the exchange of health information, with access to the Internet through a single, highly protected broadband access point at the hub location in Thomasville, Georgia. This rural network hub location allows GPT to benefit from Universal Service Funding under the Rural Health Care program. "The Rural Health Care program provides funding to eligible health care providers for telecommunications services, including broadband, necessary for the provision of health care. The goal of the program is to improve the quality of health care available to patients in rural communities by ensuring that eligible health care providers have access to affordable telecommunications services."¹⁸

The GPT network currently includes 151 statewide access points developed through strategic partnerships with healthcare providers, community anchor institutions, and health plans and has seen clinical utilization climb exponentially over the last five years. From a mere 8 encounters in January 2006, usage has grown to 9,973 encounters in 2008 and more than 18,000 encounters in 2009, with 30,000+ encounters projected in 2010. This growth is due in part to continued marketing and education efforts by liaisons who work in specific geographic territories around Georgia and in part to continued grant funding to expand the number of access points and the number of participating healthcare providers. Previously, lack of physician buy-in was a major barrier limiting utilization. Broadening the number of participating sites and relocating equipment from nonparticipating sites has allowed the number of annual encounters to skyrocket. Charging participating facilities a monthly "partnership fee" has also encouraged sites to take ownership of their individual telehealth program and begin their own marketing and education efforts to increase utilization. [Figure 1](#) shows GPT telehealth sites across the state.

GPT has found, through patient feedback, that satisfaction with telehealth consultations and services is extremely high. Telehealth allows patients to schedule appointments with specialists in a much more timely fashion than waiting months for an in-office encounter. Patients appreciate such conveniences as reduced travel time and costs and the prevention of loss of school and work time. They are also provided the benefit of remaining under the care of the local primary care provider with whom they are familiar and comfortable.

Patient satisfaction and success has also been documented in skilled nursing facilities that participated in a GPT pilot project. "Residents with multiple chronic conditions and increased illness levels undergo frequent transitions out of the nursing home, primarily to hospitals."¹⁹ "Hospitalizations and transfer to and from nursing homes routinely result in sub-optimal transitions,

putting the resident at risk and frustrating staff in both settings.²⁰ Residents often experience serious quality problems as a consequence of poor hand-offs and transitions, including medication errors, poor communication of new care plans, changing care teams, and transportation delays and discomforts.²¹ Telehealth offers a means to provide nursing home residents with a higher level of care by reducing the number of transfers to emergency departments as well as reducing the need for transportation to specialty consults.

Access to Specialty Care

The GPT telehealth network strives to increase access to specialty care throughout Georgia, improve timeliness of diagnosis and treatment, and improve the quality of care for rural patients. The goal is to enable patients anywhere in Georgia to have access to specialty care within a 30-minute drive or less. Currently, the GPT telehealth network reaches more than 100 rural communities in locations ranging from the mountains in the north to the seashore on the east coast to the peanut fields in the southernmost regions of the state.

More than 100 specialists representing more than 40 specialties currently participate in the network, providing access to specialty care that overcomes barriers such as travel time and lost work time and that provides earlier access to care, preventing the high costs of untreated healthcare problems. One physician whose practice is located in a remote, rural Georgia county states, "Telemedicine has benefited my patients greatly. Working with patients in a rural, agricultural environment I see the barriers they face— isolation, transportation, finances. I've been able to offer them metropolitan medicine and an opportunity to overcome many of these barriers—that is a blessing. It has enriched and expanded my practice. I've learned a lot too."

The GPT network offers an established, cost-effective means of solving long-standing workforce shortage problems and providing access to healthcare for populations in all areas of rural Georgia. Telehealth sites are located in critical access and other small rural hospitals, secondary and tertiary referral centers, rural health clinics, federally qualified health centers, physicians' offices, and many local county health departments. The telemedicine network provides an array of telehealth services including specialist consultations in such areas as rheumatology, trauma, endocrinology, dermatology, diabetes education, and behavioral health.

In 2009, the top two specialties utilized for telehealth encounters through GPT were wound care (5,035 encounters) and psychiatry (2,056 encounters). Wound care, in particular, has exploded as one of the top applications of the Georgia telemedicine program. A medical center in southwest Georgia uses telemedicine to manage the wound care program for the affiliated institutions, which include four rural hospitals and four nursing home facilities. The following shows the growth of wound care encounters, representing both live and store-and-forward consultations:

- in 2006, there were 3 encounters,
- in 2007, there were 1,503 encounters,
- in 2008, there were 4,772 encounters, and
- in 2009, there were 5,035 encounters.

In addition to specialty care, GPT is committed to providing broadband education, awareness, training, access, equipment, and support to schools, medical and healthcare providers, community colleges and other institutions of higher learning, and other community support organizations, including organizations that provide outreach, access, equipment, and support services to facilitate greater use of broadband services by vulnerable populations, resulting in increased broadband adoption and improved health outcomes of rural Georgians.

New Opportunities

GPT continues to apply for grant funding to further expand services into underserved areas of Georgia. GPT received a “Highly Recommended” priority along with a letter of recommendation from the State of Georgia Office of the Governor for the second round of the Broadband Technologies Opportunity Program (BTOP). On September 13, 2010, it was announced that GPT was awarded a BTOP grant. This \$2.5 million grant, with an additional \$1.2 million in matching contributions, will allow GPT to connect community-serving institutions such as hospitals, schools, and public health departments in the state by expanding the existing telehealth network to 67 additional community anchor sites. The target area to be served by the TCGBH (TeleConnect Georgia for Better Health) program is Georgia's 91 counties in persistent poverty, with a total population of 1,848,452 and 400,932 unserved and underserved citizens living below the poverty level. Another group that will benefit from increased broadband services is the 1,575 primary care physicians and approximately 6,000 nurses and 700 nonphysician practitioners serving these 91 poverty-stricken counties, most of which are designated as medically underserved areas, mental health professional shortage areas, and health professional shortage areas according to the *State of Georgia Rural Health Plan*, published by the Georgia State Office of Rural Health.²²

The project also plans to implement a training and awareness program for residents and rural healthcare providers to improve healthcare delivery in areas of the state with high levels of poverty. Key public and private sector stakeholders will work together to improve healthcare access for the 400,932 poor and underserved individuals in 91 counties, create 10 new jobs, and promote broadband demand and sustainability through the expanded GPT telehealth network.

On August 30, 2010, GPT was named as one of four new Telehealth Resource Centers in the United States by the Department of Health and Human Services. The Southeastern Telehealth Resource Center (SETRC) will be operated by GPT and will provide technical assistance to help healthcare organizations, networks, and providers implement cost-effective telehealth programs serving rural

and medically underserved areas and populations. The program is designed for entities with a successful track record in helping to develop sustainable telehealth programs. GPT will use the experience gained over the last five years to assist other states in the Southeast in building and implementing their own successful programs by providing guidance on issues ranging from overcoming challenges and implementing best practices to training, evaluation, and addressing payment sources.

Conclusion

GPT plans to remain on the forefront as telehealth evolves and revolutionizes healthcare. It will continue to address the need to improve healthcare access and outcomes statewide by expanding telemedicine sites, services, clinic capabilities, and utilization. Opportunities to expand the network and grow within the region lie in GPT's trauma and stroke programs as well as in the areas of mental health, child advocacy, school systems, and other specialty services. Many primary care physicians are now incorporating telehealth into their daily practices to enhance their patient services as well. Plans to expand the network across state lines and increase education, training, and consulting services are also currently in the works. GPT plans to broaden services through more Web-based software options and by partnering with new physician groups who will offer 24/7 primary care and specialty services. This expansion will allow for growth in emergency departments and urgent care facilities and will provide increased opportunities for presentation sites to connect to each other for additional peer review, collaboration, and educational purposes.

GPT has achieved phenomenal success and unprecedented growth thanks to support provided from sources ranging from the gold-domed state capital in Atlanta to the tin-roofed rural physician's office in South Georgia. Moving forward, GPT's expertise will be leveraged in the oversight and management of SETRC, whose focus on the application of best telehealth practices and technical assistance is vital to the long-term success of telemedicine in the Southeast, where there is a great need for leadership. Over the years, GPT has learned many lessons from others and from its own experience as a statewide network. Through SETRC, GPT will leverage its network strength and experience in order to create a regional telehealth resource center of excellence.

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Rena Brewer, RN, MA; GiGi Goble; and Paula Guy, RN. "A Peach of a Telehealth Program: Georgia Connects Rural Communities to Better Healthcare." *Perspectives in Health Information Management* (Winter 2011): 1-9.

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