

# Connecting Virginians to Care

## Broadband's Impact on Telehealth

### *A Conversation with Dr. Karen Rheuban, Co-founder and Director, UVA Center for Telehealth*

Broadband is transforming how Virginians access care, expanding options for patients and providers while reducing longstanding barriers. Through the Department of Housing and Community Development's Virginia Telecommunication Initiative (VATI) and the Broadband Equity, Access, and Deployment (BEAD) Program, the Commonwealth is working to connect remaining unserved locations and expand access to essential services, including telehealth. Dr. Karen Rheuban, co-founder and director of the UVA Center for Telehealth, shares her perspective on how connectivity is shaping healthcare access across Virginia.



#### 1 How have you seen reliable broadband change what's possible for patients and providers, and how does it help close gaps in care for rural and underserved communities in Virginia?

Reliable high-speed internet has been transformational to the growth of telemedicine. When we started our program in the mid-1990s, there was very limited connectivity to community and rural hospitals, and particularly limited connectivity to patients' homes. The ability to provide expert care to patients who were remote from our institution grew significantly as high-speed internet became more widely available.

As broadband infrastructure expanded, so did our ability to reach patients. A great example is our Telestroke program, one of our earliest telemedicine initiatives. Virginia sits in the stroke belt, where subspecialty vascular neurologists are needed but often not available in rural communities. For stroke patients, time to treatment is critical to reducing morbidity and mortality. Through Telestroke, our neurologists can remotely examine patients suspected of stroke, review CT scan images, quickly render an opinion, and, as appropriate, support the administration of clot-busting agents. We have even configured EMS vehicles with telemedicine, so that a stroke neurologist can evaluate the patient from the ambulance, to accelerate time to appropriate treatment. Indeed, through our Telestroke program, patients in rural communities can receive treatment, such as clot dissolving therapies, within the same time period they might have received that treatment in the UVA Emergency Department. That is truly transformational care.

Today, we have scaled telemedicine across more than 75 subspecialties and are approaching 1 million total telemedicine-supported patient encounters. UVA providers use telemedicine across the full care continuum, from ambulatory services, pre-hospital care, to in-hospital and post-discharge care, across all patient populations. However, for those patients who do not have reliable access to broadband, reaching them through telemedicine remains a challenge.

#### 2 Can you share a story from your work where access, or lack of access, to broadband directly impacted a patient's ability to receive care?

A personal example was a case that involved a critically ill newborn referred to UVA Pediatric Cardiology during a blizzard. Neither ambulance nor helicopter transport was immediately available because of the dire weather conditions. Through a telemedicine connection to his community hospital, and a review of his cardiac ultrasound, I was able to identify his rare and complex diagnosis, initiate stabilizing life-saving treatment, and when he was safely transported after weather conditions improved, he arrived at UVA Health in excellent condition and underwent successful open-heart surgery. Without that broadband connection to the neonatal intensive care unit, he very likely might not have survived the night.

Relatedly, the use of telemedicine for maternity care is another particularly important example. There are significant “maternity deserts” in the Commonwealth, particularly in rural areas, and many hospitals are closing their maternity units. As a result, patients often have to travel long distances for routine obstetrical care and delivery.

High-risk obstetricians are primarily centered in urban areas and academic medical centers, which can make it difficult for women with high-risk pregnancies to access the care they need. Our maternal-fetal medicine telemedicine program helps address this gap by connecting specialists to patients seen at community partner sites, such as Virginia Department of Health clinics, federally qualified community health centers, free clinics, and hospitals. Through this model, we have reduced rates of preterm delivery and improved both maternal and infant outcomes. Telemedicine, empowered by broadband access in these community sites, has played a critical role in meeting this need.

### 3 For a Virginia family that would otherwise have to travel hours for care, how has telehealth shifted what access looks like in practice?

High-speed internet now enables telemedicine services to be provided to patients in their homes, local community healthcare settings, or even in an alternative access point such as a school or even a library. Certain services can be provided without the need for long-distance travel, as appropriate to the clinical condition.

Much of the Commonwealth is rural, and historically, for many patients, accessing care can require long and expensive travel. Patients on the Eastern Shore, for example, must cross the Bay Bridge-Tunnel for complex care that may not be locally available. Patients in rural southern Albemarle County may experience travel by public transportation of 2 hours to reach UVA Health. Telemedicine helps address these challenges, creating a more holistic approach to care that meets patients where they are, rather than requiring them to come to us physically.

Patients absolutely love the convenience of a telemedicine visit. I remember one of the very first patients I treated via telemedicine in the 1990s. This was an infant who had recently undergone open-heart surgery. His mother lived in a very rural area west of Rockingham County and normally had to drive 2 to 3 hours with her infant to Charlottesville for care. After her son’s surgery, I asked if she would consider doing the follow-up visit closer to home at Rockingham Memorial Hospital, using our new telemedicine system there to connect with us here at UVA Health in Charlottesville.

She agreed, and we were able to complete the visit remotely, working with her son’s local pediatrician and an ultrasound technologist in real time. Afterward, I asked what she thought of the experience. She said, “Tell everyone if I do not have to drive back to Charlottesville [for healthcare], I am never coming back.”

### 4 Why is expanding broadband access so critical right now for the future of healthcare in Virginia, and how do you see the Commonwealth’s investments shaping the future of telehealth? What do you want Virginians to understand about why this work matters?

We are facing a period of uncertainty for rural healthcare. It has been said that up to as many as 20 Virginia hospitals might close, which would leave many rural communities without a reliable provider in their own geographic area. We are also concerned about the impact of potential insurance coverage changes, and what that means for both access to care and the sustainability of rural hospitals. In that context, telemedicine is a crucial element right now to help mitigate that risk.

Investments in broadband, including BEAD deployment and non-deployment efforts, are critical to preserving and enhancing our healthcare infrastructure. Without that connectivity, we cannot extend care to the patients and communities that need it most.

Work to expand broadband and telehealth access matters greatly because every patient deserves access to high-quality care, and when appropriate and feasible, it is always best if that care can be provided in their own community in coordination with their own medical home. If we can reduce barriers to receiving care and provide services that are not locally available through increased access to broadband and telemedicine, then we have done a service to the Commonwealth of Virginia and its citizens.