

Virtual Critical Care: A Lifeline for Rural Hospitals and Patients

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How Augusta University Health's telemedicine program enables 24/7 COVID-19 and chronic care consults for rural hospitals

Augusta University Health (AU Health) operates two hospitals, a critical care center, and more than 80 outpatient practice sites in 24 counties in Georgia and South Carolina. In 2019, AU Health partnered with Amwell to roll out a grant-funded program to provide telemedicine emergency services at six rural hospitals in Georgia

with two major goals in mind: to improve care in rural communities and keep their hospitals financially viable. In the summer of 2020, the program pivoted to provide critical care consults to patients with COVID-19 or other chronic conditions who could not be transferred to higher levels of care. In the first months of the program, participating rural hospitals reduced their transfers by more than 80%, enabling patients to receive care in their communities with minimal disruption to continuity of care.

From Limited Telemedicine Use to Rapid Adoption

While AU Health initially established a telestroke program back in 2002, the academic medical center's use of telemedicine was otherwise limited to sporadic outpatient virtual care operations across the state of Georgia. In 2018, AU Health received a U.S. Department of Agriculture (USDA) Distance Learning and Telemedicine grant to create a tele-ER program that would support emergency services at six rural hospitals in Georgia. The system partnered with Amwell in July 2019 to roll out the tele-ER program using Amwell's platform, as well as a new direct-to-consumer virtual urgent care program in the 13-county region around Savannah, Georgia.





As COVID-19 began to hit the region in early March 2020, AU Health was able to pivot quickly, first by converting the direct-to-consumer program — which uses Amwell's Urgent Care Module — into a COVID-19 virtual screening clinic. From March 13 to June 13, 2020, AU Health conducted more than 25,000 virtual screenings, or about 275 per day, and referred 15,000 patients for in-person COVID-19 testing, according to Lauren Williams Hopkins, AU Health's director of population health and virtual care.

In addition to virtual screening, AU Health responded to the pandemic by expanding its tele-ER program to include tele-critical care, and the organization made it available to rural hospitals. The tele-critical care program leverages the same processes and Amwell Hospital platform as the tele-ER program to enable emergency physicians to provide inpatient consults under the virtual oversight of AU Health critical care physicians.

Supporting Rural Health through Virtual Inpatient and Specialty Consults

AU Health's tele-ER program is set up to make consults available 24 hours a day, 7 days a week to rural emergency rooms (ERs). The originating rural hospital sites initiate the consult, and the visit is conducted on Amwell's C750 or C760 Telemedicine Cart in the ER. All ER faculties at AU Health, including pediatric

emergency physicians, participate in the program. Visits are documented in AU Health's Cerner electronic health record (EHR) system, and notes are shared with rural facilities using AU Health's health information exchange.

"Our goals were to try and keep people in their rural communities so that they have the social support of their home community, and also to keep those rural hospitals financially viable," says Matthew Lyon, M.D., AU Health's medical director for virtual care. "We've had some closures in our rural hospitals in Georgia. With telemedicine, we hope to keep those hospitals open and provide ongoing care in those rural counties."

During the first wave of the pandemic, AU Health focused its efforts heavily on rolling out its virtual screening clinic. However, in July 2020, COVID-19 cases began to dramatically surge in the region, and AU Health realized rural hospitals required additional support. Many urban hospitals could no longer accept patient transfers, so patients who would ordinarily be transferred to a higher level of care were being held in rural facilities. That prompted AU Health to explore how to provide inpatient consults

AU Health at a Glance

AU Health comprises the 478-bed Augusta University Medical Center, the 154-bed Children's Hospital of Georgia (which includes the region's only Level IV neonatal intensive care unit [NICU]), a critical care center (which houses a 13-county regional Level I trauma center), and more than 80 outpatient practice sites, serving over 24 counties in Georgia and South Carolina. AU Health has over 650 members within its provider group and over 3,600 total staff, conducting more than 19,000 inpatient visits and 368,000 outpatient visits annually.



to rural hospitals using the existing tele-ER program infrastructure, which was not initially set up to support inpatient or specialty care consults.

The tele-critical care program launched on July 20, 2020. Most of the visits were urgent, though emergent and scheduled visits were also supported. Telemedicine clinical coordinators assisted with visit preparation work, providing face sheets, clinical documentation, and labs prior to virtual provider rounding.

The program also supports point-of-care ultrasounds, and uses a video laryngoscope guide through the Amwell C750 or C760 Telemedicine Cart. This allowed AU Health physicians to assist rural providers with processes such as intubations and mechanical ventilation, which are critical to treating patients with COVID-19.

A Dramatic Drop in Transfers

From the launch of the tele-critical care program in July to January 31, 2021, AU Health has treated 412 patients and conducted approximately 6.65 encounters per day at six rural Georgia hospitals. While the vast majority of patients (nearly 87%) were treated for COVID-19, consults also supported cardiology, gastroenterology, and pulmonology care.

Of the 412 patients treated, only 84 required a transfer to a higher level of care. This represented a decrease of more than 81% for the rural hospitals participating in the program, which previously had been transferring over 48 patients per month to AU Health, according to Lyon. In addition, more than 66% of patients were discharged to their homes, and nearly 9% of patients received end-of-life care within a rural hospital and without transfer.



TELE-CRITICAL CARE PROGRAM BY THE NUMBERS

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Virtual Care at Emanuel Medical Center

Emanuel Medical Center, in Swainsboro, Georgia, is one of only three hospitals in the state to receive a 5-star rating from the Centers for Medicare & Medicaid Services. The hospital has an 18-bed medical surgery unit and an 8-bed ICU. Primary care physicians manage their patients in the ICU. In all of 2019, the hospital had fewer than 14 total ventilator patient days. Amid a surge in COVID-19 cases — with nearly 6.6% of Emanuel County's 22,260 residents testing positive — the hospital was the first to roll out AU Health's tele-critical care program. In the four months that followed, the hospital was able to support 177 ventilator patient days and a total of 1,021 patient days for COVID-19 care.







62 **TREATED** PATIENTS COVID-19 **TREATED**

DECREASE IN

TRANSFER RATES

The Future of Virtual Care at AU Health

As of December 2020, eight hospitals are part of AU Health's tele-ER and tele-critical care programs, and the system plans to expand the program to five more hospitals in the coming months. According to Dr. Lyon, other plans for further virtual care growth include:

- Partnering with larger tertiary hospitals to serve as smaller telemedicine hubs
- Expanding pediatric telemedicine options for inpatient and ER care
- Working with skilled nursing, long-term post-acute care, and inpatient rehab facilities
- Building a stronger relationship with the Medical College of Georgia and its regional campuses

The biggest lesson AU Health learned from rolling out and expanding the virtual care program is that telemedicine has to be part of a larger healthcare ecosystem and cannot simply work in isolation.

"With this backbone of critical care telemedicine, we're able to bridge that continuity from emergency care all the way through discharge," says Dr. Lyon. "We think it really helps decrease this rural/urban disparity by keeping people in their rural community and increasing the inpatient volume of these rural hospitals, which then impacts their financial viability and keeps them open."



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