

Virtual Emergency Care as a Patient-Centered, Efficient, Cost-Effective Alternative Modality Across Multiple VA Medical Centers

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Introduction: In early 2021, a network of 8 Veterans Health Administration (VHA) Medical Centers in Arizona, New Mexico, and California (VISN 22), implemented a Tele-Emergency Department (Tele-ED) to offer accessible, convenient, on demand, synchronous virtual emergency care to patients. A centralized nurse triage call center refers patients from the highest acuity categories to the Tele-ED. Tele-ED staff conduct video and telephone visits to manage the presenting complaint. Here we demonstrate the resolution of a majority of presenting complaints within one hour from call center triage and decreased out-of-network (OON) emergency and urgent care expenditure through the Tele-ED program.

Methods and Implementation: A multidisciplinary group of clinicians devised a Telehealth Service Agreement to outline clinician supervision, privileging, funding, staffing, and procedural workflows. Protocols were developed to ensure safe patient handoffs between the call center and the Tele-ED, emergency plans for patients in crisis, and handling of patients refusing advice to contact 911. Network funding for six providers was allocated proportionately to the 8 constituent medical centers. More than 150 clinicians contribute to the labor pool for the six full-time equivalent employees (FTEE), allowing ED clinicians to participate while maintaining their diagnostic and procedural skills. This distributed staffing model ensures patients are seen by the next available provider rather than waiting for a provider from their facility. A standardized order menu was built into each site's electronic medical record (EMR). All 8 sites went live in a staged manner over the course of 4 weeks.

Results: After 10 months of operation, >13,000 Veterans have been evaluated and treated. Of these Veterans, 58% have had their care resolved (needed no further diagnostic or ED referral). The average visit lasted 49 minutes from call center triage to clinician completion of visit.

Across national VHA, OON urgent care (UC) and ED expenditure increased by 58% and 32% respectively from 2020 to 2021. In contrast, VISN 22 OON UC and ED costs increased by only 25% and 30% respectively. Conservative cost savings are estimated to be \$5.8 million over 10 months. Annual program costs are currently \$3.39 million. Tele-ED is projected to save VHA/VISN 22 \$2.9 million in its first year, with a 200% return on investment.

Survey data shows 86.3% of Tele-ED providers felt they were either more or equally productive working in the virtual environment compared to their face-to-face work. Eighty six percent felt the program improved timeliness to care, and 81.8% relayed that the program had a positive impact on patients' satisfaction with VA care.

Discussion: The COVID-19 pandemic has forced healthcare organizations to provide more care while facing scarcity of staff and supplies. The Tele-ED program uses the VA's secure clinical video-conferencing platform, VA Video Connect (VVC). A VVC link sent via e-mail or text message brings patients into the virtual "room" where an ED RN assesses the patient and performs a Columbia Suicide Severity Rating Scale (C-SSRS) screen. Patients triaged to the highest acuity are provided a warm hand-off between the nurse call center and the Tele-ED RN. Hourly encounter rates are comparable to the face-to-face ED clinician encounter rate in VHA EDs.

Early data suggest the program will provide a safe environment for Veterans to access the healthcare system, allow a finer determination of which Veterans are most likely to need in-person care, and reduce COVID transmission opportunities for patients and staff. Lower consumption rates for personal protective equipment, decreased OON expenditure, and decreased clinician burnout are additional benefits of this program.

From a strategic perspective, VISN 22 has developed a patient-centered virtual 9th Emergency Department. Our ED clinicians are comfortable using telemedicine to provide care to acutely ill patients and have gained competency in managing telehealth technology. If the need arises, operations can be rapidly expanded to provide emergency virtual care within VISN 22 for internal and external disasters, such as pandemic surges. The expansion potential of the virtual ED is not bound by the constraints of a physical emergency department footprint.

