

Article for ATA Conference on Telehealth for Emerging Pathogens

Overview

Telehealth or telemedicine is the way of the future and the present. As we face the COVID-19 global pandemic, healthcare systems across the country have transitioned to telehealth to care for patients with symptoms and diagnoses of this emerging pathogen. Telehealth allows us to overcome the barriers of *time and distance* while managing pathogens efficiently and safely. Telehealth can be adopted by anyone: physicians, advanced practice providers (APPs), nurses, healthcare administrators, patients, and families. Further, telehealth can be adopted anywhere: hospitals, community settings, free-clinics, private clinics, and homes in both remote and urban areas.

Telehealth is an easy and quick capability to leverage.

At the University of Virginia Health System (UVA HS), we learned during the 2014-2016 Ebola outbreak how sophisticated telehealth can be. Now with COVID-19, we are learning how simple and direct telehealth can be. Further, telehealth is applicable to all airborne special or emerging pathogens, not just Ebola or the novel coronavirus.

Core Components for Implementing Telehealth

When adopting telehealth to treat patients with an airborne infectious disease, organizations must consider the core components. Such components include computers, laptops, smart phones, and tablets; Bluetooth capabilities; internet or Wi-Fi; peripheral equipment (also known as remote diagnostic tools); and a secure software platform. For patients, their devices must contain a web camera and microphone so that healthcare providers can see and hear patients clearly and can obtain objective data to conduct an assessment.

In response to the novel coronavirus, at UVA HS, we developed a kit referred to as the *COVID 19 Response Kit*. This kit includes an iPad tablet with Bluetooth capabilities and peripheral equipment such as a thermometer, a pulse oximeter, and usually a stethoscope. This kit allows patients to collect objective data including temperature, oxygen saturation levels, blood pressure, and auscultation (internal sounds of the body) and send the data via the secure platform to the provider's device.

Benefits

Telehealth for emerging pathogens offers numerous benefits:

- Telehealth allows providers to manage the patient in isolation from a distance. Patients who are contagious can remain isolated yet cleared for at-home care and recovery.
- Telehealth can be equivalent to face-to-face care as it allows for management of most healthcare services, including specialty care.

- Computers, laptops, tablets, and smartphones can be used by distant providers so that individuals can be served and cared for by a strong healthcare team.
- Telehealth can reach community settings, such as nursing homes, assisted living, correctional facilities, and other settings where at-risk populations reside.
- With telehealth, a provider is creating safety, mitigating risk, and mitigating the sense of isolation for a patient who is quarantined. If necessary, a patient can be seen in-person at a clinic, transferred to a hospital, or seen by a rapid response team deployed to the home.
- There is *no question* that telehealth is a proven safe and effective methodology.

Telehealth Availability

Telehealth for emerging pathogens does not need to be expensive nor does it require the use of sophisticated technology. Using technology that is previously-owned by and accessible to patients and providers is the mobile friendly path, initially; equipment and technology upgrades can always occur later.

It is important to use devices common to the healthcare environment and repurpose them for a medical encounter. Most people are familiar with various types of technology and can easily learn how to use such devices to work with a provider during an exam via video communications.

Providers can achieve the two fundamental outcomes for telehealth of *continuous care and connection* while maintaining *distance and safety*.

Other Considerations

During the pandemic crisis, healthcare organizations loosened telehealth security restrictions. However, it is critical that connections be secure for patient and provider confidentiality including protected health information (also known as PHI). Security must remain a priority to prevent PHI from being compromised.

We must build telehealth models for current and future use, at the same time. It is essential to guarantee patient and provider confidence in the system especially as healthcare systems move to incorporate telehealth more and more.

Telehealth creates opportunities for increasing accessibility to care in new and different ways. However, limitations exist regarding where care can be provided; this prevents populations and institutions from being served fully and appropriately. Payment structures and healthcare reimbursement and policies will need to change.

When we use technology during a crisis, we align Advanced Practice Providers (APPs) to provide care in the way they do best. An APP can provide much of the care but call in a specialist only when needed. Using APPs in this manner allows care to be more efficient and effective because APPs are often cost-effective substitutes for physicians; APPs generally have greater availability and incur less cost than physicians. Using APPs *with* technology represents a major paradigm shift in providing healthcare.

Overall:

Telemedicine translates into safety and caring.

Telehealth can be implemented anywhere.

Telehealth or Telemedicine is the way of the future.