COVID-19 / Coronavirus Outbreak: A Rapidly Deployable Medical Facility Optimized for Epidemics (Smart Pod™)

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Abstract

The Centers for Disease Control and Prevention (CDC) recommends that healthcare providers perform screening tests on patients with symptoms of COVID-19 in an isolated room to protect other patients from potential exposure to the virus.

The Smart Pod™, a rapidly deployable medical facility that was designed in the wake of the Ebola virus, can serve as a biocontainment unit for airborne pathogens. This emergency solution has been developed by Baylor College of Medicine as a nimble, standardized facility that is optimized for epidemics.

The expandable, 403 ft² facility has the dimensions of a standard shipping container in its folded and most compact form. It can be easily transported and reassembled, providing a rapid option for augmenting limited resources. The Smart Pod™ is a one-stop solution for epidemics, with supplies and equipment inside the pod.

In the unit, infection control is strengthened with antimicrobial flooring, HEPA filters, and a UVC lighting system proven to eliminate 99.7% of pathogens, including airborne pathogens like COVID-19. This relocatable clinic can be constructed with a negative pressure system, allowing for the elimination of contaminated air.

Video Link

The video component of this article can be found at https://www.jove.com/video/6423/

Disclosures

No conflicts of interest declared.