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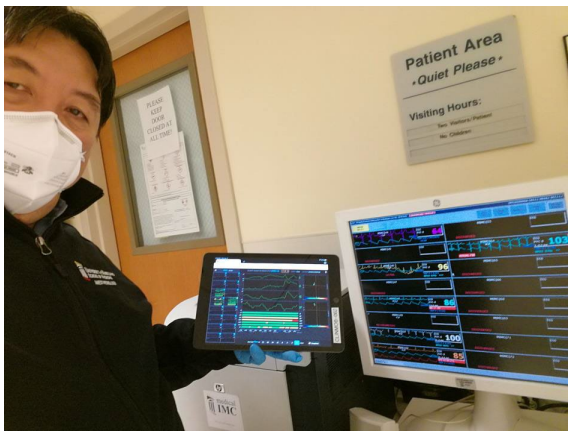
Critical-Care Patient Vital Signs Viewer System

Overview

Our team of trauma care specialists at University of Maryland, Baltimore built the "*Real-Time Patient Vital Signs Viewer System*" (the **"VS Viewer"**) as a custom-designed physiological data display system that allows for bedside and remote monitoring of critically ill patients. In fact, the system has reliably been running continuously since 2015 to monitor critically ill patients in > 200 beds at the R. Adams Cowley Shock Trauma Center. In response to the COVID-19 critical care crisis, our team deployed the VS Viewer to > 100 additional beds, including in UM Medical Center's Emergency Department. The VS Viewer uses advanced data visualization techniques to organize longitudinal physiological data from multiple patients into at-a-glance, color-coded views of real-time patient vital signs data. This unique visual platform allows clinicians to monitor and track patient vital signs trends and physiologic metrics, enhancing their ability to prioritize care for multiple patients and identify abnormal physiologic events/patterns and the need for medical intervention. The VS Viewer system is designed with a robust network architecture to collect and summarize key information from system-wide data sources that achieves high fault tolerance and improves data collection rates (Hu et al., 2017). Our team also adapted the VS Viewer display for use with mobile devices, with communication to data servers through a secure on-campus network and encrypted data streams. This mode of operation offers distinct advantages, as monitors can be accessed remotely to reduce the need for healthcare providers' physical presence and workload (e.g., inside bio-containment units where personal protective equipment is required).



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Description
Trauma care; remote monitor; clinical decision support tool

Field
Digital Healthcare

Technology Status
Available for licensing

Patent Status
US Patent 11,291,369
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UMB Docket#
PH-2012-076

References
Hu et al., 2017. *J Med Syst* 41:3.
DOI: 10.1007/s10916-016-0648-5

Market & Advantages

The VS Viewer was custom designed the meet the requirements of leading trauma specialists at the University of Maryland's R. Adams Cowley Shock Trauma Center. Current trauma specialists using the VS Viewer in their daily clinical practice rely on the system, and credit its use with alerting staff to critical events that have enabled life-saving interventions. In the large market sector of healthcare IT products, our VS Viewer would likely be categorized as a clinical decision support system. Further technology development is also ongoing under grants to UMB from the DoD.

Stage of Development

With its robust design and continuous, reliable operation at the R. Adams Cowley Shock Trauma Center since 2015, we'd anticipate the VS Viewer could readily be deployed to advantage at other trauma care sites.

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