

The Impact of Wireless Local Area Network in a Healthcare Sector

George Elote*

Department of Digital Technology, Raytheon Technologies, Waltham, Massachusetts, USA

ABOUT THE STUDY

WLANs, or wireless local area networks, are the next generation of healthcare data networks. They make it possible to collect clinical data in a prehospital setting (such as a patient's home) using a variety of devices, including personal digital assistants, laptops, digital electrocardiogram (EKG) machines, and even cellular phones, and then transmit the information to a physician or hospital. The pace of transmission is critical to the technology's usability in the prehospital situation. Because wireless technology has several advantages over its wired version, such as simplicity of installation and access to network information, as well as improved productivity and convenience, the Internet has pushed physicians to utilise computers and hospitals to deploy wireless communications.

According to the study, Personal Digital Assistants (PDAs) connected to a network were only useful for transferring data in prehospital stroke care. According to another research, cellular phones, pagers, and other radio-based devices will continue to be a significant form of communication in the foreseeable future. The evolution of Wireless Local Area Network (WLAN) technology has the potential to allow clinicians to get patient information from any location, even before they arrive at the Emergency Room (ER) (Orthner, personal communication). Due to early medical interventions, timely access to a patient's information may fundamentally enhance patient care in both pre and in-hospital settings.

At present, patient data such as electrocardiograms (EKG) and demographics are seldom sent from the prehospital environment to the ER before the ambulance arrives. As a result, some preventive measures have to be given, regardless of need (e.g., aspirin or thrombolysis for presumed acute myocardial

infarction. However, despite the potential benefits of wireless technology in prehospital settings, the application of this technology has been slow and few related studies have been carried out.

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Limitations of the study

The Windows operating system and Cisco wireless equipment were used extensively in this investigation. Various companies are rapidly releasing IEEE 802.11 a solutions for the next generation of WLANs. As a result, stability, compatibility, and interoperability with other suppliers must be evaluated further. Although implementing a WLAN utilizing this new protocol is now costly, prices and capabilities are projected to improve in the near future.

WLAN technology will aid paramedics and other health-care personnel in obtaining information in a restricted location, such as a patient's home, an office, a small clinic, or an emergency room. The key to assuring WLAN security and accessibility is to implement it in a centrally managed and multiple-layer-controlled ACS. Product capacity, speed, compatibility, interoperability, and security management should all be studied in the future.

Correspondence to: George Elote, Department of Digital Technology, Raytheon Technologies, Waltham, Massachusetts, US, E-mail: georgeelote@harvard.edu

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