



Mobility To Play A Larger Role In Health IT

With the rise of EHR adoption and home care demands, wireless and mobile technologies are poised to make a significant impact on the future of healthcare.

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Mobile and wireless technologies are playing a vital role in many industries including healthcare. From bedside patient care and medication administration and check-in/out applications to laboratory management and records management, the opportunities for mobile solutions are far reaching. Moreover, patient safety concerns and a plethora of compliance mandates act as viable investment drivers. As a result, VDC Research expects healthcare organizations — hospitals, clinics, home care service providers, long-term care facilities and others — to deploy almost 5 million mobile computing and communications devices in 2011.

than 20% in 2010. This figure is expected to reach at least 60% by 2013 in large part due to ARRA (American Recovery and Reinvestment Act) which includes substantial EHR subsidies which will become available beginning in 2011. With a total of \$147.7 billion allocated to healthcare and \$19 billion towards health IT, the investment is substantial. A key challenge, however, will be access to not only qualified EHR integration and solutions specialists but also to viable EHR solutions. A key issue is that many currently available EHR solutions are lacking in terms of leveraging next-generation user interface technologies such as multi-touch and gesturing and continue to rely almost exclusively on image scanning and typing for data capture.

Moreover, while the subsidies will offset some of the cost of implementing EHR solutions, overall costs will exceed these incentives. One option many physicians and healthcare organizations should be looking at to improve the ROI of their EHR investments is to include mobile capabilities to their systems. Enabling access not only from PCs but also from a variety of mobile devices (e.g. smartphones, tablets, convertible notebooks, etc.) will significantly enhance the functionality of the solution by enabling true distributed or remote information access and collection.



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MOBILITY'S WORKFLOW BENEFITS

The key mobile and wireless investment drivers for healthcare applications range from improving healthcare quality and preventing medical errors to reducing healthcare costs and increasing efficiencies. Well designed and deployed mobile and wireless solutions have a fundamentally strong track record at addressing many of these issues — especially related to workflow and workforce

efficiencies — across a number of industries. In fact, according to VDC Research's most recent research, healthcare organizations realized an almost 30% improvement in mobile workforce productivity and over a 20% reduction in operating costs as a result of mobile and wireless investments.

EHRs PROVIDE A MOBILITY CATALYST

A critical barrier to mobile and wireless investment in healthcare environments has been the low penetration of EHRs. The U.S. has an EHR penetration of less

MOBILE DEVICE REQUIREMENTS FOR HEALTHCARE-SPECIFIC APPS

A broad mix of mobile device form factors have been deployed in healthcare environments. Historically, notebooks on wheels and mobile computing carts have been dominant — especially in hospital settings. Recently, however, growing emphasis has been placed on smaller and more portable form factors — including handheld devices and smartphones. While these devices will play a role in healthcare, their smaller display sizes limit their appeal for applications such as reference management, medication administration, and materials management.

Growing emphasis has also been placed on tablet solutions with the emergence of mobile clinical assistants (MCAs) several years ago. These devices are purpose built for healthcare settings (rugged and disinfectable design) for use primarily by nurses. The first-generation versions



of these devices were not widely adopted in healthcare due to key issues related to ergonomics and performance. Moreover, many of the back-end healthcare information systems were not designed to take advantage of or support the touch interface on MCAs, which stalled adoption. Vendors are learning from these missteps and the outlook for second generation healthcare tablets looks much more promising.

The impact of consumer-oriented technologies has been widely felt in the healthcare sector — from smartphones to the Apple's recently released iPad. To date, most of these devices have been leveraged by physicians and not the broader nursing community. Interest in the iPad and other recently released slate tablets continues to grow. According to VDC's most recent research, nearly four in ten healthcare respondents have either evaluated and decided to deploy or plan to evaluate the iPad.

Although the capabilities and form factors of many consumer-oriented mobile devices are appealing to healthcare end users, many fall short in supporting full-shift healthcare applications. Due to the unique characteristics of healthcare mobile workers and the workflows they are

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exposed to, many still require mobile devices that are purpose built for their environments (i.e. designed to withstand the potentially

inclement conditions of healthcare environments). Total cost of ownership is a key priority for healthcare mobility investments (ranked in the top four as a purchase decision criterion). Moreover, annual failure rates of devices not designed for use in healthcare environments have exceeded 20% according to VDC's most recent research.

UNIFIED COMMUNICATIONS IN HEALTHCARE

Effective communication of all types is a critical requirement in the healthcare sector. UC (unified communications) solutions in the context of healthcare environments will integrate communications capabilities in reference to the user and the specific workflow to optimize performance. EHR vendors and communications solution providers are increasingly developing solutions that integrate these workflows and communications options. UC solutions can, for example, provide a single interface for email, text, voice, video, and other communication streams via smartphones, mobile PCs, tablets, and other

communications devices. The integration with the EHR platform is critical in the healthcare setting to deliver the context or presence-awareness necessary to deliver the true workflow benefits of UC solutions.

DEMAND FOR MOBILITY IN HOME CARE

When considering mobile opportunities in the healthcare sector, don't make sweeping generalizations. Mobile requirements differ vastly by ultimate end user (e.g. physician, nurse practitioner, social worker, etc.) as they do by environment (e.g. hospital, clinic, physician's office, etc.). One of the fastest growing segments of the healthcare sector — a reflection of today's changing demographics — are home care and long-term care services. Although there are nearly one-million home care workers in North America, they are increasingly challenged to support the escalating demand for services. In the wake of these challenging conditions, the opportunity for wireless solutions is increasingly evident.

The foundation of effective wireless home care solutions is no different than other service-oriented businesses — efficient access, entry, and distribution of critical client and process information. A significant administrative overhead burden exists in the home care sector to support this activity and the vast amount of data collected, retrieved and analyzed in support of home care patients. While the use of paper forms continues to be the primary approach to manage these data collection and case management requirements, the increase in demand for home care services and looming quality and capacity constraints are driving agencies to more aggressively evaluate and invest in mobile and wireless solutions.

Mobile and wireless developments in the healthcare industry are not only improving patient safety but are also maximizing the efficiency and reliability of healthcare professionals. The advancements in mobile and wireless technologies and underlying healthcare information infrastructure continue to facilitate enhanced care in a timely manner. Thus the outlook and opportunity in the healthcare sector for mobile and wireless solution providers is increasingly attractive. □

Editor's Note: As referenced in the article above, several technologies — including mobile computing carts, handheld and tablet computers, and smartphones contribute to enhancing the mobility of healthcare information and personnel. More information on these technologies can be found in the Technology Marketplace section of this publication starting on page 25 and in the full-page advertisements from sponsors Datalogic Scanning (C3) and Unitech (C4).