

Wireless Technology Empowers Physicians

Ohio hospital system improves patient care by allowing physicians secure access to critical data from any location.

By Dave Fiser

Akron General Health System in Akron, Ohio, is transforming the way physicians make rounds—literally lightening their loads with wireless PCs and portal technology. The implementation has reduced the paperwork that physicians must carry with them on their rounds and is dramatically improving the ability of our physicians to deliver the best possible care to patients.

Akron General, a medical center with 537 beds and 600 active medical staff physicians (1,000 physicians overall), embarked on its wireless initiative in 2003, when it rolled out a pilot program to 25 physicians who volunteered to test the new technology. The idea behind the initiative was simple: to give our physicians and clinicians instant, but secure, access to critical patient and medical information—including test results, medical records, insurance information, transcriptions and e-mail—from any location.

The primary tools we required to achieve this objective included Hewlett-Packard TC1100 wireless tablet PCs and Oracle Application Server Portal. We worked with AdvizeX Technologies, a provider of e-services, critical application infrastructure and enterprise management solutions, to manage the implementation.

Before and After

Before the portal went live, acquiring necessary patient information was a time-consuming task for physicians, who were forced to rely on a cumbersome combination of electronic and paper-based systems to access patient information while on rounds. Physicians had to logon to a mainframe system in the physician lounge, and then look up and print out their patient census and lab results. Now they can logon to the portal from any computer with an Internet connection, including their wireless tablet PCs, and access the same information in one simple step.

We began to see results from the initiative almost instantly. Physicians began to report that they could spend more time with patients instead of tracking down and printing out information. For example, some physicians report that the program allows them to easily share findings with patients and review files online at the bedside. The doctors have at their fingertips the critical information they need to make more informed decisions, such as drug interactions and guidelines for patient care. The wireless technology is also a bonus for the nursing staff, who can now easily read physician notes and no longer having to decipher the handwriting of busy physicians.



*Dave Fiser is
director of ERP/e-
Business, Akron
General Health
System, Akron,
Ohio.*

Some physicians active on the portal rotate between Akron General and other facilities outside our healthcare network. These physicians have reported significant decreases in efficiency when they work with patients outside the electronic system and are forced to, once again, fumble with cumbersome paperwork and struggle with disparate applications.

The benefits of our wireless technology and portal implementation go beyond our original goal of improved patient care. In addition to increasing physician productivity and efficiency, we estimate that Oracle's streamlined content management capabilities will save the hospital approximately \$40,000 to \$50,000 annually in IT operations costs. These savings are derived from several areas. Various areas within the hospital system now have access to content management capabilities, whereas previously, we had to outsource this activity to Web developers. For example, using tools afforded by the new system, the medical library can now directly access and maintain portal content for medical sites used by our physicians.

The portal implementation also facilitates compliance with HIPAA regulations. For example, the Internet Directory capabilities in the application allow user authentication and permissions for content delivery on the portal. Single sign-on capabilities also help us protect patient privacy while reducing the number of times physicians need to logon to different applications. Previously, the average user might have had six or seven logons for the various systems they needed to access, which increases security risks.

Success Spurs New Initiatives

The program was originally rolled out via a pilot program to 25 physicians who volunteered to test the new technology. In June 2003, we rolled out the results portion of the physician portal, which allowed physicians access to laboratory results, radiology results and transcription. Simultaneously, we began demonstrating the portal to various medical groups within the hospital, such as department chiefs, management teams and the department chairman, with plans of expanding the portal to benefit a greater portion of the hospital system. Word spread quickly, as other physicians noticed their colleagues making rounds without piles of files and charts. Soon, entire departments were inquiring about the program. Before long, management decided to roll out the program to the entire facility.

Today, we have more than 150 physicians using the portal technology. The hospital's goal is to roll out the portal program to all 600 active physicians by end of 2005. We are also expanding the program to include a new tablet PC rounding library, allowing physicians to check in and check out wireless tablet PCs for each round. Also, we have added wireless printing throughout the medical center.

Building on our initial success, the hospital now plans to deploy several portal enhancements that can be accessed via wireless technology. These include:

- a pharmacy medical administration record application, which will allow physicians to more easily track and access patient pharmaceutical records;
- an EKG application, which will allow quick and easy reporting capabilities and access to interpretations; and
- a physician office staff portal that will enable offices to schedule appointments and access patient demographics and test results securely over the Web.

Laying the Groundwork for Success

Careful planning was a critical factor in the successful pilot and subsequent phased rollout of our wireless portal implementation. Training was essential to give the physicians a sense of confidence from the start. The physicians involved in the program receive personalized training on the tablets and portal. Each physician works one-on-one with a member of the IT staff to learn how to use the tablet PC and leverage the portal's many features. Training meetings are

arranged at the physicians' convenience. In addition, the IT staff configures each participating physician's office and home, allowing wireless access to information at any time and from nearly any location.

Our portal program is gaining recognition as a model for other facilities' wireless initiatives. Various hospital systems in the Canton/Akron/Cleveland metropolitan areas have inquired about Akron General's use of the physician portal and wireless tablet PC technology.

In designing the new portal system, we knew that we required physician support to build a program tailored specifically to their needs. The decision to build a new IT system, rather than upgrade our old program, was deliberate. We wanted to start fresh with the physicians' full cooperation and input. We met regularly with the physicians to involve them in portal plans, seeking input and feedback during the design and prototype processes, and redesigning, if necessary. We continued this process until we all agreed upon the final product.

Some facilities cite clinician resistance to new technologies as a hurdle to deploying and gaining the benefits of available leading-edge IT. Understanding this reality, we chose to involve physicians in every step of our wireless and portal implementation process. In doing so, we cultivated an environment that engendered a sense of excitement about new IT. As a result, we are able to reap the full benefits of our technology investment: a return on investment that includes increased physician productivity and higher levels of patient care.

For more information about **Oracle Application Server Portal**, www.rsleads.com/412ht-206.

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