Health care’s digital divide

Minnesota’s large hospital systems may be well on their way to meeting goals for electronic health record adoption, but rural and critical access hospitals are being left behind.

BY PAUL KLEEBERG, M.D.

Minnesota has been a leader both in adopting health information technology and using it to provide high-quality care at a low cost. The Minnesota Legislature has been an advocate for the use of electronic health record (EHR) systems in hospitals and clinics. In 2004, it established the Minnesota eHealth Advisory Committee to provide recommendations related to the adoption of EHRs and other health information technology. Based on the committee’s recommendations, in 2008 the Legislature mandated that health care providers in the state use interoperable EHR systems by 2015.

The federal government has also driven this. In 2009, Congress passed the Health Information Technology for Economic and Clinical Health (HITECH) Act, part of the Recovery Act, requiring providers and hospitals nationwide to adopt and use EHR technology to meet specific goals (termed “meaningful use”) by 2015. To achieve this, the law provided a mixture of incentives and penalties to drive adoption. The use of health information technology has grown significantly throughout the United States since passage of the HITECH Act. In fact, between 2008 and 2012, EHR system adoption more than doubled in office practices and more than quadrupled in hospitals.

These gains have been impressive, but they have not been evenly distributed. Surveys conducted in 2012 showed that 64 percent of the 131 Minnesota hospitals that responded had a “basic EHR.” Of the 86 rural and critical access hospitals (CAHs) that were included only 47 percent had one. A basic EHR system is one that offers the following functions: patient history and demographics, patient problem lists, physician clinical notes, a comprehensive list of patients’ medications and allergies, computerized orders for prescriptions, and the ability to view laboratory and imaging results electronically.

Large urban systems see benefits

Large health systems in metropolitan areas have a number of advantages when it comes to health information technology. First, they have greater access to resources and skilled temporary staff. Larger organizations are able to afford more expensive and elaborate systems that have been refined and redesigned to meet the needs of integrated systems that have inpatient and ambulatory facilities. Often they have access to information technology experts who can customize the system to meet their unique needs. Finally, since many of these facilities had EHR systems in place prior to the federal government’s incentive program and were already doing many of the things required to earn an incentive, they were able to use those additional dollars to further customize and enhance their systems to meet their quality objectives.

A systematic review of the literature published in 2006 sheds light on this. Reviewers who looked at the impact of EHRs on the quality, efficiency and cost of medical care found that 25 percent of the 257 studies that met the inclusion criteria were from four academic medical centers. These institutions had been using their own internally developed systems for a number of years, and they were the only ones in the study that showed quality and efficiency benefits. This demonstrated two things: First, that it takes time for a facility to see the benefits of using an EHR, and second, that local development and enhancement are necessary to create a system that meets the needs of a facility.

That large systems have been the ones to realize the benefits of EHR systems was evident at the Minnesota eHealth Summit in June of this year. Representatives from two such systems talked about the benefits of using EHRs. Both have large IT staffs, which helped design and implement their EHRs. Both used a mature product and
customized it for their needs. One had been using its EHR for a number of years and was able to show significant benefits.\textsuperscript{10} This system had gone paperless in its clinics in 2004 and in its main hospital in 2006.

**Small rural hospitals face challenges**

Rural and critical access hospitals find themselves in a much different situation. These facilities do not have the same resources at their disposal that large urban hospitals have. Many of them have limited IT staff, making it difficult to customize their EHR system. In addition, the EHR systems designed for these smaller facilities are typically not as mature as the ones used by large systems. Many started out as billing and materials management systems, pharmacy systems, nursing documentation systems and order entry systems designed more for pharmacists who order by vial or tablet than for physicians who order by dose. Order sets, which make electronic order entry easier and are commonly used in large facilities, are often missing in the systems used at smaller hospitals because of the physician and staff time it takes to develop them. To add to the challenge, some of these EHR systems lack a robust physician documentation component, making it impossible for the hospital to give up paper charts altogether. Having to manage patient care using both electronic and paper records is inefficient and increases the chance for error.

Many of these hospitals have asked their EHR vendor for an ambulatory component, thinking it would provide a seamless interface between hospital and outpatient setting. But often, the interface is not seamless, and these products are difficult to use. Because of that, physicians may not see their benefits.

To add to the challenge, physicians practicing in ambulatory clinics affiliated with rural hospital or CAH were excluded from the federal incentive program when it began. Most of these physicians do not use Medicare part B billing, which was a requirement for participation in the program. This May, the Centers for Medicaid and Medicare Services announced that some physicians who bill through critical access hospitals will become eligible for the incentive dollars, if they meet certain criteria;\textsuperscript{11} but this may be too little too late to get these physicians to adopt EHR systems. A recent *Health Affairs* article states the problem this way: "Rural hospitals have made substantial progress, with one in eight of them acquiring at least a basic [EHR] system in 2012 alone…. However, the gap between urban and rural hospitals remains."\textsuperscript{13}

In our travels to Minnesota and North Dakota CAHs, we’ve seen evidence of the rural-urban technology divide. We’ve seen physicians who work in these facilities struggle to use their EHR, and it was easy to understand why they were unhappy. The products were a generation behind those being used in large facilities.

Vendors who build products for these small hospitals also struggle. For one thing, they are using all their resources to keep up with the certification requirements for meaningful use and have had little time or resources left to refine and improve their products. Second, they are trying to meet their clients’ upgrade and installation demands in order to keep pace with meaningful use. Consequently, many small hospitals have found themselves on long waiting lists for EHR installation.

**Closing the rural-urban gap**

Office-based physicians in both rural and urban settings appear to have been able to adopt EHR systems and use them effectively.\textsuperscript{14} In Minnesota, 67 percent of all office-based providers and 66 percent of primary care providers had a basic EHR in 2012.\textsuperscript{7,15}

One reason may be because there are a number of good EHR products on the market for ambulatory practices. The American Academy of Family Physicians regularly rates systems and has found that many score very highly in physician satisfaction.\textsuperscript{16} Some of those require minimal maintenance as well.

A national study found the biggest relative increase in the EHR adoption rate was among older physicians and those working in solo practices and community health centers—groups that historically had low adoption rates.\textsuperscript{17} Although small practices continue to lag behind larger ones, the gap has closed significantly. The authors attributed that to the work of the HIT regional extension centers, which were created to help primary care providers with adoption and use of EHR systems.

Although the extension centers were also asked to assist rural hospitals and CAHs, funding for those facilities came later and has not been adequate to support the needs of hospitals. Consequently, many extension centers decided not to work with rural hospitals and CAHs. (Minnesota’s extension center, REACH, has worked with 95 percent of the state’s rural hospitals and CAHs.)

Some small rural hospitals, through strong leadership and a bold vision, have been very successful at gaining physician and staff buy-in and now use their EHR system effectively. Others have been able to achieve meaningful use by leveraging their nursing, pharmacy and IT staff (with minimal physician participation)—an approach that will become more challenging to maintain as the meaningful use requirements become more demanding. The vendors who serve these facilities are working hard to enhance their products and have made significant progress.

But a big concern remains for the rural hospitals and CAHs. Unlike many of the larger facilities that already had EHRs in place, these facilities, which were frequently short on capital, used any meaningful use incentives they received to assist with the initial purchase and installation of their EHR system as opposed to enhancing it.

In the future, rural facilities are going to need assistance as they continue to adopt, enhance and optimize their use of EHR systems. Most started later than their urban counterparts and do not have the same support mechanisms available to them. The HIT regional extension centers can be of significant assistance to these hospitals;\textsuperscript{6,13} however, their contracts are set to expire in February of 2014. If we
do not figure out a mechanism to provide support and technical assistance to these facilities, the digital divide will only grow wider and the quality, efficiency and safety of health care in our rural communities will fall behind. MM

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REFERENCES


