

Rx for Pennsylvania's Rural Hospitals: Broadband Internet Can Improve Patient Care, Operating Efficiencies

Adapted from "Broadband Internet Use in Rural Pennsylvania"

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The Issue. Rural hospitals with broadband Internet access have new opportunities to improve patient care and create operating efficiencies. Yet, even though telecommunications providers are increasingly offering these advanced broadband services in rural areas, adoption is far from universal. Availability, service cost and lack of knowledge of broadband's potential in health care are constraining its utilization by rural healthcare providers. Perhaps more importantly, these constraints are hampering the development of new services such as remote patient monitoring to minimize travel, advanced procedures like tele-surgery and operational capabilities including e-procurement for supplies and online appointment, billing and payment information.

This study by Penn State researchers Amy Glasmeier, Chris Benner and Chandrani Ohdedar and funded by the Center for Rural Pennsylvania demonstrates that rural hospitals need new policies to take better advantage of the opportunities enabled by broadband Internet services. Such policies should advocate developing networks with other rural hospitals as well as with urban facilities. Networks of rural hospitals expand opportunities to share Internet-based medical applications while networks with urban hospitals will mean greater access to their expertise and more sophisticated resources. Policies also should focus on broadband affordability and higher rates of adoption by healthcare personnel.

Background. Broadband services are extremely beneficial to healthcare provider. They enable access to vast amounts of data, rapid gathering of that information and online professional training. Broadband Internet also facilitates the development of interactive processes such as online disease management, consultation through real-time video systems and automatic checks of possible medications errors. While more and more rural hospitals are accessing broadband Internet services, few are taking advantage of these new—or what the researchers characterize as "transformational"—capabilities.

To identify how rural hospitals use broadband Internet services, the researchers analyzed the Web sites of more than a dozen rural hospitals located throughout Pennsylvania—three hospitals initially identified for inclusion in the research study had to be dropped because they had no Web sites. The services and functionalities specified on the Web sites of the rural hospitals were then compared with those specified on the Web sites of healthcare facilities located in several of the state's urban areas and also in other states. In addition, the researchers interviewed technology personnel from rural hospitals to ascertain each facility's technology practices.

Key Findings. The researchers found that broadband utilization was greater among rural hospitals that were part of an HMO or a multi-facility program as the need to communicate between facilities in various locations required both the availability and deployment of broadband. Because of that IT infrastructure, those hospitals were more likely to develop transformative services such as online treatment management, Internet-based transfer of patient medical information between hospitals and clinics and online engagement between patients and medical personnel.

Coupled with the investment in infrastructure was investment in training for medical and non-medical staff. This influenced implementation of transformative services and adoption of such interactive func-

tions as online bill payment, bill status, appointment management for tests and examinations and information-release requests. Expanded utilization also occurred more frequently in hospitals which regularly added staff and medical professionals.

Policy Recommendations. Because the power of the Internet is in the broad range of processes that it makes possible and that could not have been previously envisioned, the aim of public policy programming in public health should be to take advantage of these possibilities. Policies are needed to increase deployment and adoption of broadband Internet services. These would:

- » Enable online training for healthcare practitioners;
- » Provide access to more data for diagnosis and improve operating efficiencies;
- » Give consumers greater access to health care in more efficient and effective forms such as:
 - Remote monitoring of elderly or homebound patients;
 - Online registration, appointment bookings, prescription services or access to test results;
 - Transmission of complex medical images and videos to specialists in hospitals located in other areas for consultation and diagnosis.
- » Enable and support the formation of networks between rural hospitals and among rural hospitals and those located in urban and suburban areas.
- » In addition, policies are needed which promote adoption of broadband Internet services by providing considerable technical support and creating new reward structures to encourage and facilitate healthcare practitioners' uptake of these new capabilities.

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