

The Future of Telehealth/Telemedicine: Implications for Broadband Development in Washington

Medical care providers throughout Washington will increasingly rely on access to affordable broadband communications to provide high quality health care to the communities they serve. The Association of Washington Public Hospital Districts (AWPHD) and its members are vitally interested and have an important stake in the development of broadband infrastructure and the applications that move over it.

While this brief focuses on current and anticipated broadband communications service directly required to meet telehealth and telemedicine needs, it is important to note that AWPHD's interest in this issue extends beyond direct applications of this technology to medical care. The financial sustainability of public hospital districts is inextricably linked with the social and economic vitality of the communities they serve. As a result, AWPHD supports not only the enhancement of broadband communications linking health care sites, but the development of the broadband communications infrastructure vital to the social and economic future of all Washington's communities.

One example: the single most pressing issue rural hospitals face as they look to the future is the continuous development of a highly skilled work force. We believe that most of the nurses and health professionals who will work in our rural clinics and hospitals in 2015 are today in junior high schools *in those same communities*. So, the development and accessibility of applications to engage, encourage and inspire tomorrow's health professionals is crucial. A second example: rural communities are constantly recruiting doctors and other highly skilled health professionals. The decision to choose a particular rural community involves not just the professional, but usually a spouse/partner and children. Again, the capacity of our rural communities to *provide economic and educational opportunities for families* is vital.

Current and Anticipated Use of Broadband for Telehealth/Telemedicine

Current and near-term telehealth/telemedicine applications and services for which broadband capacity and applications are necessary include (*but are not limited to*):

Continuing medical education: Especially for rural hospital districts located far from major tertiary care and higher education centers, the ability to support local health care professionals with both formal and informal continuing education and training, utilizing a combination of video-conferencing and on-line tools, is essential. The alternative--requiring health care professional to travel to classroom courses-- is becoming cost prohibitive for hospitals and clinics facing tight budgets, and creates a safety risk for the providers who travel to get to class.

Access to specialized services: Smaller hospitals and clinics do not have local access to specialized health and medical services ranging from radiologists and psychiatrists to dermatologists and pharmacists. As a result, patients must travel many miles to obtain these specialized services or the specialists must travel to rural locations on a scheduled basis. Either way, the quality of health care is constrained by a lack of local access. Using broadband applications available today, specialized health care professionals can provide services statewide or within broad geographic regions meeting the needs of health care consumers in their home communities. *Importantly, providing this local access re-inforces the value of the local health facility in the eyes of residents who otherwise face hours on the road to secure a thirty minute consult.*

Emergency medical response: The importance of available broadband communications to support Public Hospital Districts goes beyond securing financial sustainability and improving health care quality to saving lives. Public hospitals and the EMS providers they support are the first line of care in life threatening situations and prepare accident victims for transfer to regional trauma care centers. Many public hospitals now include video and high speed data connections within their emergency rooms to create a “real-time” connection with the surgeon, or other specialist who will receive the patient after a life flight or ambulance transport. In the very near future, wireless technology will make en route transmission of vital health data (blood pressure, pulse, respiration rates, etc.) from first responders to local facilities and regional centers routine—*IF the communications infrastructure is there to support the exchange.*

Electronic medical records: Nearly all public hospitals and clinics in Washington use some type of electronic medical record system. However, in most cases, these systems are presently utilized only as a basis for patient billing and “in hospital” patient records (the Inland Northwest Health Services (INHS) Electronic Medical Record (EMR) initiative is an outstanding exception to this general rule—though even the nationally acclaimed INHS system is often challenged to move information outside its own network). Broadband communication capacity and network interoperability are key components to sharing patient data in a secure fashion when and where the data is needed for medical decision-making and treatment.

Home health monitoring: A growing number of Public Hospital Districts are engaged in (or considering) information technology-enabled home health monitoring. Such monitoring ranges from use of home equipment to monitor patient vital signs using basic telephone lines to the use of video connections enabling people to interact with doctors and nurses from their homes. To fully develop home health monitoring initiatives, broadband communication must not only extend to the hospital or clinics door, but also to patients’ homes. As the population ages, and the disease burden shifts from acute intervention to chronic care support, these capacities will quickly become more vital—and perhaps more popular—than the telephone is today.

Need to Address Gaps in Washington’s Broadband Network

Hospitals and clinics are as unique as the communities they serve when it comes to telecommunications bandwidth options. A recent investigation of broadband capacity available to Washington’s Public Hospital Districts concludes there are significant gaps and variation in bandwidth to many Washington communities. For some rural locations, especially those served by particular Public Utility Districts, fiber connections are ubiquitous. In general, though, DSL or leased T-1 lines are the most common options. For clinics in outlying rural communities access to “even” DSL level broadband service can be problematic. Some rural hospital leaders also express concern that their expanding use of the limited bandwidth available to the community comes at the expense of other essential community economic and social development. Home monitoring services are particularly limited by a lack of capacity outside incorporated communities.

Making Bandwidth Affordable

Even when bandwidth options are available, the cost of connection and use can be a financial barrier for health providers with limited budgets. Hospitals and clinics located in regions where Public Utility Districts are proactive providers of broadband communications have the highest bandwidth options at affordable prices. Communities dependent upon leased lines from private vendors are more likely to face bandwidth restrictions and higher prices. In the late 1990’s Congress created the Universal Service Fund (\$400 million per year) to subsidize rural telecommunications infrastructure. Unfortunately, the process for accessing funding is exceptionally complex, and little of the money has been used.