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Medical Center
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Oconto Falls, WI
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HSHS is sponsored by Hospital Sisters Ministries and the Hospital Sisters of St. Francis is the founding Institute.

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To: Members, Legislative Council Study Committee on Rural Broadband

From:

- Kevin Groskreutz, MBA, CHCIO, Chief Information Officer – Ancillary Systems, Western Wisconsin Division, Hospital Sisters Health System
- David Mortimer, MDiv, Director, Innovation Institute, Hospital Sisters of St. Francis Foundation, Hospital Sisters Health System

Re: Broadband Expansion Grant Program recommendations: Critical importance of supporting rural health care providers and EMS with affordable, fast, reliable broadband infrastructure that supports telehealth and telemedicine to increase access to care for underserved rural communities with shortages of health care professionals

On behalf of our six hospitals and rural hospital and physician partners in Wisconsin, Hospital Sisters Health System (HSHS) appreciates the opportunity to submit these comments on rural health care access and broadband, and ideas to consider as the Committee reviews the Wisconsin Broadband Expansion Grant Program. HSHS is submitting this comment because access to affordable, fast, reliable broadband access throughout Wisconsin is especially critical to rural hospitals and Emergency Medical Services (EMS) and the communities they serve. This infrastructure using fiber and towers hosting wireless technologies saves lives, reduces disability and improves patient outcomes.

Experience in Broadband Expansion Grant Program: HSHS Sacred Heart Hospital (Eau Claire) and HSHS St. Joseph's Hospital (Chippewa Falls) were partners in a successful first round FY 2014 grant funded by the PSC Broadband Expansion Grant authorized under Wisconsin Statute s. 196.504. Our project was led by CCI Systems and Eau Claire County. CESA 10 and the Augusta, Fall Creek and Osseo-Fairchild School Districts and the Chippewa Valley Inter Networking Consortium also participated in the project. The proposal created a fixed wireless project in east central Eau Claire County, adjacent to Lake Eau Claire. The grant awarded funds to build one communications tower with a large transmission footprint at a location within a county park, and equipment on additional existing towers. The project provided broadband services to an unserved area in eastern Eau Claire County. In FY 2014, our grant of \$139,467 was the largest award given. The project funded by the grant is one part of a 200+ mile broadband network in western Wisconsin that extends from Eau Claire and Chippewa Falls to Menomonie (west), Spooner (north), Mondovi (south), and to Fall Creek, Fairchild and Augusta (east).

High speed broadband is critical to health care access in rural areas: Distance should never be a barrier to the best possible health care. In medical emergencies, fast and reliable access to health care professionals, health records and diagnostic images—using technology connected by advanced broadband—can be decisive factors that improve outcomes. Faster care decisions lead to better patient outcomes; better care and better outcomes reduce costs. The telehealth network in western Wisconsin:

- Links ERs with telemedicine and health information exchanges (HIE)
- Connects a Tele-Radiology Image Hub with 43 healthcare facilities in WI and MN
- Improves health care access to reduce disparities in rural areas

- Links Eau Claire County EMS paramedics to hospital ERs with real-time 12-Lead EKG data for faster treatment decisions
- Alleviates health care professional shortages by allowing centrally located “on call” tele-coverage

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High speed, reliable broadband supports better, faster and more cost-effective patient care: Broadband networks:

- Share electronic patient medical records to coordinate care; supports federal Meaningful Use requirements; supports the statewide health information exchange (HIE) network
- Reduce costs through shared software applications among hospital and clinic sites within a health system (such as common telephone, paging, voice mail, email, & file storage and sharing)
- Connect hospitals with skilled nursing facilities for better care coordination and patient transfers
- Provide cost-effective and efficient offsite storage for disaster recovery

Broadband in the health care setting needs to be “fault tolerant”: In order to be fail-safe for 24/7 patient-critical applications, broadband network connections for health care providers are best arranged so that a failure at any point will not compromise connectivity. By eliminating the possibility of a single point of failure with redundancy, these fault tolerant networks are also used by police, fire, 911-emergency call centers and for disaster preparedness services. When fiber and communication electronics are physically diverse and redundant, data transmission has a fault-tolerance so that if cut by a backhoe (or a beaver in a wetland), the data processing and communications network runs without interruption.

Low-capacity broadband speeds are insufficient for many health care applications: Using a highway analogy, a network is a “roadway” for sharing digital data. High-capacity fiber optic speeds are analogous to a multi-lane freeway to provide speeds of 100 Mbps (Megabits per second) to 10 Gbps and beyond. Lower capacity speeds, like BadgerNet (providing libraries, schools and municipalities from one to 100 Mbps at rates based on bandwidth), are analogous to a narrow road. And like a road, during peak usage times a lower capacity broadband network can become clogged and too slow for efficient health care applications.

Growing Hospital and Clinic Needs for Higher Speed Broadband to Support New Tele-radiology, Telemedicine and Telehealth technologies: The evolution of health care technology and delivery is continuing to drive tele-health services and broadband demand. One example is advanced imaging services. Hospitals and clinics are investing in diagnostic technologies that produce more data every year as technology provides improved imaging. As the technology

improves, so does the size and volume of data sets being transmitted between healthcare providers. For example:

- The average size of a MRI trauma exam has increased from 1MB for a 0.3 Tesla MRI in 1998 to 490 MB for a 1.5 Tesla MRI in 2016.
- The average size of a CT trauma exam has increased in size from 8-32 MB for a single slice CT scanner in 1998 to 630MB for a 64 slice scanner in 2016. Currently CT manufactures are selling 256 to 320 slice scanners.
- Moreover, the volume of imaging activity increased from 22% of all trauma studies being imaged using CT in a trauma event in 1998 to 94% in 2016 due to better quality CT exams due to more closely spaced slices (millimeters).

Some current and anticipated uses of broadband for healthcare include:

- Cardiology echo study reading specifically pediatric specialties (echo cardiology).
- Emergency Department Tele-stroke programs that include remote interpretation of studies and patient consultations with remote presence neurology specialists
- e-visits (remote video office visits with primary care)
- Training and continuing education
- Psychological Counseling (facility-to-home, facility-to-facility)
- Substance abuse services (facility-to-home, facility-to-facility)
- Tele-Psychiatry (facility-to-home, facility-to-facility for outpatient, inpatient and emergency department)
- Chronic Disease Counseling (facility-to-home, facility-to-facility)
- Heart failure remote monitoring telehealth (facility to home)
- Pathology
- Dermatology/wound care
- e- ICU/Remote telemetry monitoring – (will require consistent upload speeds)

Increased upload speeds required: Healthcare broadband needs will continue to require increased upload speeds as data/content in the form of high definition video or images will be generated from rural facilities and homes with the need transmit the data to healthcare professionals in urban centers. In our experience in western WI, rural bandwidth capacity needs to be improved to provide the same access to and quality of healthcare for rural citizens that urban dwellers receive.

Expanded broadband to anchor institutions improves the overall health and viability of the community: Many broadband expansion or support programs silo education, government, and healthcare agencies into using support mechanisms designed for a specific industry vertical with cumbersome rules that impede collaboration and leverage across industry verticals. Allowing collaboration between institutions leverages any funding in a more meaningful way. For instance, communities like Ladysmith, WI are considering sharing an aggregated broadband pipe to Eau Claire, WI to improve the connectivity to K-12, government, and healthcare institutions. This is an example of key community stakeholders looking to “bulk” or “cooperatively” purchase more bandwidth for their community

BROADBAND EXPANSION GRANT PROGRAM RECOMMENDATIONS

1. **Consider adding a new priority factor to the Broadband Expansion Grant Program:** Recently, the 196.504 Broadband Expansion Grant Program statute was revised to add “Promotion of Economic Development” as a new priority factor. This means that there are six factors that can be given priority consideration during the evaluation of grant applications. With respect to the newly added issue of Economic Development, a higher degree of priority is assigned to applications that include one or more letters of support from businesses

indicating imminent plans to build or expand the size of their operations in the project area due to improved broadband connectivity. We encourage this Study Committee to consider recommending that the statute be revised at 196.504 (2) (c) to add a new priority factor: “Promote rural health care and EMS connectivity to support telehealth and telemedicine.” This would incentivize the participation of rural health care providers as stakeholders in public-private collaboratives applying for the PSC’s Broadband Expansion Grant Program.

2. Consider incentivizing projects that provide service to the following two areas of need as determined by federal Health Resources and Services Administration (HRSA):

- Health Professional Shortage Areas (HPSAs) are designated by HRSA as having shortages of primary care, dental or mental health providers and may be geographic (a county or service area), population (e.g. low income or Medicaid eligible) or facilities (e.g. federally qualified health center).
- Medically Underserved Areas/Populations are designated by HRSA as having too few primary care providers, high infant mortality, high poverty, or a high elderly population

3. Consider a process to leverage expertise from stakeholders in past successful Broadband Expansion Grant Program projects as a kind of consultant resource that can be offered to other applicants in the planning of new projects and (if funded) in the execution of the work plan

Thank you for your work in this Study Committee, and for your investment in rural broadband infrastructure. This Wisconsin investment allows urban and rural health care providers to work together to improve health in our communities and increase rural access to care.