Testimony of

Rebecca Sanders
Indiana Telehealth Network Director
Indiana Rural Health Association

On behalf of the
National Rural Health Association
And the Indiana Rural Health Association

Broadband: A Catalyst for Small Business Growth

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Summary

Good afternoon, Chairwoman Ellmers, Ranking Member Richard and Members of the Subcommittee. I am honored to stand before you today. Thank you for the opportunity to testify today on behalf of the National Rural Health Association (NRHA) and the Indiana Rural Health Association (IRHA). My name is Rebecca Sanders and I am the Indiana Telehealth Network Director for the IRHA.

The Indiana Telehealth Network (ITN) is one of the 50 remaining projects under the Federal Communications Commission’s (FCC’s) Rural Health Care Pilot Program (RHCPP). The FCC’s RHCPP was conceived in 2006, and officially started at the end of 2007. The pilot program is designed to encourage healthcare providers to aggregate their needs and develop regional and/or statewide networks to connect health care providers through a dedicated broadband network. The pilot program funds up to 85% of the cost of constructing a regional and/or statewide network to Internet2, the National Lambda Rail, or the Public Internet. The pilot program also funds up to 85% of the monthly recurring charges for up to 72 months, depending on the length of contracts signed with telecommunications vendors for the network.

As of February 2012, the ITN has almost 60 participating healthcare facilities, including Critical Access Hospitals (25 beds or less), not-for-profit rural hospitals under 100 beds, urban partner hospitals, Rural Health Clinics (RHCs), Community Mental Health Centers (CMHCs) and Federally Qualified Health Centers (FQHCs). While connecting these facilities, our winning telecommunications vendors have laid just over 200 miles of fiber around the state of Indiana.
Indiana Telehealth Network Participants

Indiana Telehealth Network
As of January 2012

Critical Access Hospitals (CAH) (19)
Not-for-Profit Rural Hospitals Under 100 Beds (4)
Urban Partner Hospitals (5)
Rural Health Clinic (RHC) (5)
Community Mental Health Center (CMHC) (18)
Federally Qualified Health Center (FQHC) (7)
As the ITN expands its fiber across the state of Indiana, we collect stories from our healthcare participants. When asked about the impact of fiber and high speed broadband capacity on their hospital and surrounding communities, here is what some of them had to say:

- Donna Nobbe, IS Director of Margaret Mary Community Hospital (MMCH), in Batesville, IN: Broadband is critical to the successful exchange of healthcare data. MMCH is a CAH and a participant in the Indiana Telehealth Network. MMCH securely exchanges data via broadband with hospitals spanning 2 metro areas – Indianapolis, IN & Cincinnati, OH. Additionally, many physicians in the Batesville community receive data from MMCH as well as hospitals in these metro areas via secure broadband services. MMCH has seen significant growth in the types and frequency of healthcare data being exchanged. Four years ago all Lab results and Radiology interpretations were faxed from hospitals to physician practices. Today, this information is exchanged over broadband. Syndromic surveillance data is shared with the State via broadband. The use of broadband for secure data exchange is expected to continue to grow. In the near future, immunization information will travel across broadband. MMCH also plans to deliver information directly to patients via a community based patient portal across broadband service.

- Tim Putnam, CEO of Margaret Mary Community Hospital (MMCH), in Batesville, IN: When we are looking at acute critical patients like MI’s and Strokes, what I hear is like the song goes, “I want it all and I want it now.” Labs, CTs, video links, EHRs, etc. Every second of delay causes us a problem (time is tissue). As we become more dependent upon this technology it must be as reliable as possible.
Jim Boyer, CIO of Rush Memorial Hospital, in Rushville, IN: The teamwork between the Indiana Rural Health Association, NineStar Communications, and Rush Memorial Hospital has provided fiber optic connectivity at 10-gig speeds for Rush Memorial Hospital and its community. Not only does this connectivity allow faster bandwidth speeds for Rush Memorial and its clinics, it allows us as a small rural hospital to provide a greater service to our patients by giving Rush Memorial the capability of connecting to metropolitan healthcare services, which may not be found in typical rural healthcare settings.

- These services include telemedicine, connectivity to a state health information exchange, ability to send and receive radiology images faster, thus cutting patient wait times, distant education for our clinicians and physicians, data exchange, and video conferencing. The partnership between NineStar Communications, the Indiana Rural Health Association, and Rush Memorial Hospital has allowed Rush Memorial Hospital to stay competitive in an ever changing healthcare market, advance Rush Memorial towards the future of healthcare interoperability, and advance the technical services Rush Memorial provides its patients. Overall, the Rural Healthcare Pilot Program has allowed our community to economically develop in commerce with local and metropolitan businesses and members of the rural Rush County community.

John Hill, Director of ECS for St. Vincent Health: St. Vincent Health is a group of 20 hospitals serving central and southern Indiana with over 15,000 Associates. Our mission is to extend our faith based ministry to some of the most rural areas within Indiana. With a significant tertiary facility at our core in Indianapolis we can proudly claim 8 Critical Access Hospital as part of our
family. St. Vincent is blessed with our successes to date but is in no way immune from the economic pressures that surround health care and particularly in serving some of these rural areas.

- We have been very fortunate to be able to participate in the Indiana Telehealth Network. This has enabled us to offer a much higher quality of care to these underserved areas and do so with very modest operating costs derived from the ITN initiative. This endeavor will support our business model to continue to expand our presence in critical access as well as growing our employed physician community. The end result is improved quality of care, incremental new jobs, and St. Vincent can continue to fulfill our mission and support our enabling strengths of Healthcare that is Safe, Health That Leaves No One Behind, and Healthcare That Works.

- With the relationship established by ITN, St. Vincent can cost effectively extend the same patient experiences that are most often associated only within the metropolitan environment. This includes all voice, data and video applications, delivered on high bandwidth, highly reliable and cost effective transport services.

- Another benefit of the ITN initiative is that it has become an incubator for businesses working together in Indiana. St. Vincent, ITN and the local economic development folks have all come together to exploit the opportunity of the new cost effective network connectivity. In one or our small towns we are now working with a group of local investors exploring new business opportunities which will lead to new jobs in an economically depressed area.

- Many thanks and sincere appreciation to those with the vision to create this and everyone that has worked so hard to make it all happen.
**Anchor Tenant Concept**

One of the most unique aspects of the ITN, as compared to other pilot projects, is our ‘anchor tenant’ concept. As part of our objective scoring during the RFP process, vendors are given additional points for overbuilding (and paying their own ‘fair share’) into the surrounding community and providing us with marketing plans for the provisioning of services above and beyond the healthcare anchor tenant. The majority of our winning vendors have taken this concept to heart and meets with local community leaders to discuss potential services to businesses surrounding the healthcare facilities.

- The Indiana Fiber Network (IFN) has won the majority of our contracts under the ITN, to date. They also provide us with NOC services for our ITN Shared Platform, or common meet point, for all of our healthcare participants. Our videoconferencing and telestroke equipment is powered out of our Shared Platform.
- When describing their marketing plan, IFN recently said “Working with the rural communities to provide broadband connectivity is not something new to IFN, it is what we do every day.” August Zehner of IFN gave us an example of how the fiber they built into Community Hospital of Bremen, in Marshall County, Indiana, affected the local community: Bremen, Indiana has been able to get affordable fiber connection in the local community through the ITN program. The hospital was the first business in Marshall County to have access to such services due to their participation in the ITN. The Bremen Chamber of Commerce had been involved in many discussions and grant endeavors with key stakeholders in the state for several years regarding the need for reasonably priced fiber access to enhance their economic development competitive advantage. The IFN has since helped two other businesses in the area with high speed broadband options for transport and internet access: Bremen Casting, and Universal Bearings.
Rob Cleveland, Executive Director of the Blackford County Economic Development Corporation, says: The ITN will allow businesses in Blackford County access to an asset that is currently not available to them. They have previously had difficulty getting regular telecom providers to provide reasonably priced broadband services. Many manufacturers were forced to pay huge sums of money for T-1 lines to serve their facilities. The fiber will give the community an entirely new outlook on economic development. There are so many benefits to this program. In addition to the schools and manufacturers, the potential for our downtowns might be the largest benefit. Rural downtowns are suffering. They are no longer the retail centers for the community – and probably never will be again. For a rural downtown to survive, it must be a service-oriented business, or a retailer that sells to the world. Currently, we do not have that capability in either of our downtowns. By making fiber available to downtown Hartford City and downtown Montpelier, we will be able to do so much more in the way of business attraction.

Steve Eberly, Executive Director of the Warren County Local Economic Development Organization, and County Commissioner for Warren County, has been one of our biggest supporters. Within the next month, one of our longest construction builds will be completed by the Indiana Fiber Network at St. Vincent Williamsport Hospital in Warren County. Warren County is just one of the 92 counties in the state of Indiana. According to the USAC website, 64% (or 59) of the 92 counties are considered rural. Another 32% (or 29) have pockets of rurality. Only 4% (or 4) counties in Indiana are considered urban by USAC standard. According to 2010 Census records, there are 8,508 residents in Warren County, which represents less than 1% of the population of Indiana. Approximately 24 miles of fiber optic cabling was laid as part of the construction build to St. Vincent Williamsport Hospital, which also included boring under the
Wabash River. This build would not have been possible without Steve’s leadership, and the support of the rest of his team.

- When I spoke with Steve, he told me about the new cellular tower that will be built on the REMC’s site. The Warren County REMC is the smallest in the state of Indiana, but is now able to host a cell tower because of the fiber brought to Williamsport under the ITN. Several other enhanced connectivity projects for Warren, Benton, and Fountain counties have been accelerated by as much as five (5) years because of the fiber brought to Williamsport by the Indiana Fiber Network, under the ITN. Two (2) high schools are on schedule to get high speed fiber optic broadband access by the end of 2012. Two of the area’s largest employers will have fiber in the very near future as well.

  Harrison Steele Castings Company, the largest employer in Fountain County, has approximately 900 employees. They are a world leader in their industry and a preferred supplier to many of the word’s most prestigious names in agriculture, heavy equipment, energy, military, mining, and the oil and gas industries.

- Another of the area’s largest employers is TMF Center, a family-owned business with around 400 employees. Founded in 1977 in Illinois, TMF moved to Williamsport, Indiana in 1994 due to the more favorable business climate in Indiana. Since moving to Indiana, TMF Center has grown from annual sales of $5 million to over $48 million today.

  Ron Arnold, Executive Director or the Daviess County Economic Development Corporation, was extremely excited when the IFN built fiber into Daviess Community Hospital. The fiber goes right by what will be one of the largest intersections of the new I-69 corridor off of State Road 50 in Washington, Indiana. Several business are currently located near that intersection, and
many others are interested in locating there, based on the knowledge that fiber and high speed broadband will be available to them.

- Another of our premier vendors is Smithville Digital. Smithville Digital is a facility based Competitive Local Exchange Carrier headquartered in Ellettsville, Indiana. As a part of the bid process, Smithville Digital has been selected to provide broadband service to Critical Access Hospitals in Linton, Sullivan, Bedford and Bloomington.
  
  o As a result of winning these bids, Smithville sees opportunity within these communities and has already established relationships with businesses and local governments.
  
  o For example, Smithville is now providing broadband access with a fiber-to-the-premises solution to Lawrence County courthouse in Bedford which lies along the path we build for IU Health Bedford.
  
  o In Sullivan, Smithville is providing service to businesses along US 41.
  
  o Discussions are ongoing with businesses in Linton including a local Wireless ISP for fiber connectivity and broadband.
  
  o Smithville’s relationship with IU Health Bloomington goes back several years but through this grant we have been able to connect facilities in rural areas connected with IU Health Bloomington.

- Other vendors were able to construct fiber to some of our CAHs with almost no cost for construction or installation of services. The reason for this is that the vendor’s business development plan had included overbuilding into the hospital’s community anyway, and access to the 85% reimbursement under the FCC’s RHCPP moved up their implementation timeline by
several years. Some of our greatest stories of partnership with Local Economic Development Organizations around the state are still in the works for Blackford County, Randolph County, and Jennings County. In many cases, we will not know the full impact of this project for another 3-5 years.

**Our Mission**

The mission of the ITN is to improve the health and well-being of Indiana residents, particularly those in rural areas, through the utilization of a dedicated broadband health network to deliver telehealth applications including, but not limited to, telemedicine, health information exchange, distance education and training, public health surveillance, emergency preparedness, and trauma system development.

A recent bill presented to the House of Representative, H.R 3458, is relevant to our mission. This bill proposes to amend title XVIII of the Social Security Act to ensure the eligibility of eligible professionals practicing in rural health clinics for electronic health records and quality improvement incentives under Medicare. As an advocate for rural health care, I urge you to vote to pass this bill.

**Benefits of Fiber**

The lightning speed of fiber optic transmission services means that health providers in rural areas can consult with specialists, monitor patients in remote locations, transmit and receive very large files, such as MRI scans, all in a matter of minutes or seconds. In many parts of Indiana, patients have no local access to specialists in critical fields, such as radiology, cardiology, and neurology and must travel great distances, often in very fragile health, to obtain those services.
When adequate broadband is available in rural areas, patients are able to access specialists via telemedicine while staying in their local communities. This results in time savings to the patients through reduced travel, and higher laboratory and radiology revenues to the local healthcare providers who would have lost those revenues to the urban healthcare provider. Some providers are beginning to create business models where all they do is to see patients remotely via telemedicine. Most patients report positive feedback on the experience of visiting with a physician via telemedicine.

The National Center for Rural Health Works (http://ruralhealthworks.org/) has created several impact models designed to illustrate the economic impact of healthcare professionals in a rural community. One study in particular focuses on the Economic Loss to a Community from a Primary Care Practitioner Shortage. According to the study, one primary care physician generates approximately $1.5 million in revenue, $0.9 million in income (wages, salaries, benefits, and proprietor income) and creates 23 jobs in both the physician clinic and the hospital. This assessment underestimates the total value of a rural primary care physician, as their impact on other sectors such as pharmacy and nursing homes is not included. Thus, the physician's economic contributions are as important to a community as their medical contributions. As our nation faces a growing physician shortage, it is absolutely critical that rural leadership across the United States understands that rural communities are at risk of losing much more than the opportunity to receive local medical care.

Among other things, the National Broadband Plan, which was released on March 17, 2010, included “a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes.” Below are a couple of Exhibits from the National Broadband Plan that illustrate healthcare data file sizes and estimated broadband capacity needs for healthcare providers.
Healthcare Data File Sizes, National Broadband Plan, Exhibit 10-B

Example file sizes for different types of files (Megabytes):

- Text of single clinical document (HL7 CDA format): 0.025 MB
- Text of single clinical document (PDF format): 0.050 MB
- Ultrasound: 0.200 MB
- Standard chart (healthy patient): 5 MB
- X-ray: 10 MB
- Chest radiograph: 16 MB
- MRI: 45 MB
- PET scan: 100 MB
- Mammography study (4 images): 160 MB
- 64-slice CT scan: 3,000 MB
- Human genome (sequence data only): 3,000 MB
- Cellular pathology study (6 slides): 25,000 MB

Megabytes (not to scale)

Required Broadband Connectivity & Quality Metrics, National Broadband Plan, Exhibit 10-C

Recommended bandwidth speeds by location category (Mbps):

- Single Physician Practice: 4 Mbps
- Small Primary Care Practice (2-4 physicians): 10 Mbps
- Nursing Home: 10 Mbps
- Rural Health Center (<5 physicians): 10 Mbps
- Clinic/Large Physician Practice (5-25 physicians): 25 Mbps
- Hospital: 100 Mbps
- Academic/Large Medical Center: 1,000 Mbps

Quality Metric | Recommended Target
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Reliability (uptime) | 99.9%
Latency | <50 ms primary<br><120 ms back-up
Jitter | <20 ms
Packet loss | <1%

*Recommended targets reflect findings from interviews and submissions to the public record.
Based on these exhibits above, you can see the recommended bandwidth speed by even a single physician office is 4 mbps. This is slightly greater than 2 T1s (at 1.5 mbps each). Many of the rural health clinics in Indiana are using DSL today – all they can afford is the $60-$100 for business grade DSL – which very rarely would meet the recommended bandwidth speed, and almost certainly would not have the guaranteed speed reliabilities often found with fiber optic broadband services.

**Examples of Additional Services that can be deployed on top of Broadband Network Infrastructures**

Now that the ITN has the majority of our sites connected to reliable high speed broadband connectivity, we have begun layering services on top of our fiber optic network infrastructure. Through partnerships with our vendors, we have established partnership agreements for disaster recovery, including access to offsite data storage, backup, and recovery services. Additionally, we are in our second year of administering our own videoconferencing network, funded by the Indiana Flex Program (Flex). Flex is funded by a grant awarded to the Indiana State Department of Health, State Office of Rural Health (SORH) by HRSA Office of Rural Health Policy (ORHP). As of February 2012, we have deployed approximately 100 webcams and MOVI/Cisco Telepresence licenses for desktop videoconferencing. Within the next 30-60 days, we will have a total of 13 different Videoconferencing Host Sites in our member hospitals across the state. Through the IRHA, we have procured a media server and are now able to stream, record, and archive events on our Virtual Library. In the next couple of months, we will be launching our new ‘Lunch and Learn’ series. This will include topics requested by our members. Some of the topics will have CME available. We are also very close to signing a group purchasing agreement with an Online Learning Management System (LMS) vendor. We hope to have that service up and running by fall 2012. The LMS will provide access to accredited continuing education courses for hospital staff via a dedicated e-Learning portal. We estimate an average savings of $2,300 per trip per
employee in reduced travel costs for off-site classes. Future plans include access to patient education courses via the dedicated e-Learning portal. None of this would have been possible without the high speed fiber optic broadband network put into place under the ITN via the FCC’s Rural Health Care Pilot Program.

**USF Reform**

I personally participated in multiple sets of group comments on the USF NPRM. We do not have the time here today to talk about all of the details, possibilities, and ramifications regarding Universal Service Reform. There are many lessons learned in the FCC RHCPP that should be incorporated into the new Connect America Fund: continue to allow consortium applications; continue to fund construction of healthcare networks; set the subsidy level for the Health Broadband Services Program at 85%.

Other suggestions for improvement of the program include: make every effort to further streamline the eligibility and application processes to reduce administrative burdens; implement electronic signatures and submission of documents; consider revising the definition of ‘rural’ to be more inclusive of connected healthcare facilities; defer any ‘meaningful use’ criteria and reporting requirements; allow networks to individually determine the best way to operate their network – IUR, capital lease, short term lease, contracts for services, etc.; permit subsidy for administrative expenses and maintenance costs for NOCs; expand the list of eligible entities to include Health Information Exchanges (HIEs), Health Information Organizations (HIOs), Regional Extension Centers (RECs), data centers and nursing homes.

**Expected Outcomes**

In accordance with the mission of the ITN, we are constantly striving to assist our healthcare facilities with becoming anchor tenants in their communities. From the beginning of our participation under the FCC RHCPP, we have tasked our telecommunications providers with the continued expansion of
broadband services to residential homes and businesses throughout Indiana. Once again, I thank you for this opportunity to speak to you today.