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May 4,2007

Commission's Secretary
Office of the Secretary
Federal Communications Commission
9300 East Hampton Drive
Capital Heights, MD 20743

WC Docket No. 02-60

Dear Proposal Review Committee:

OneCommunity is pleased to submit this proposal to the Federal Communication Commission for the Rural Health Care Pilot Program. We believe that OneCommunity's history and experience will support the Federal Communication Commission as it plans on facilitating the creation of a nationwide broadband network dedicated to health care, connecting public and private non-profit health care providers in rural and urban locations

OneCommunity proposes the creation of HealthNet, a Northeast Ohio Broadband initiative, in support of the Telemedicine and Health Information Exchange (HIE). OneCommunity has an existing broadband network, a significant healthcare technology coordination role and an established partner network that includes the Northeast Ohio Regional Health Organization (NEO RHIO), regional urban and rural healthcare providers, and a consortium of vendors, technology researchers and government advisers.

Again, it is our pleasure to submit this proposal for this dynamic project. If you should have any questions please call us at the number below. Please note that we have submitted our proposal electronically and that this is a backup proposal in the case of electronic complications.

Sincerely,

Scot McRourke

Scot Rourke
President, OneCommunity
216-403-0877
SRourke@onecommunity.org

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NEO RHIO and OneCommunity HealthNet Partnership
FCC Rural Health Care Pilot Program
Fiscal Year 2006

Attention: FCC Review Committee
RE: Legal Counsel Contact Information

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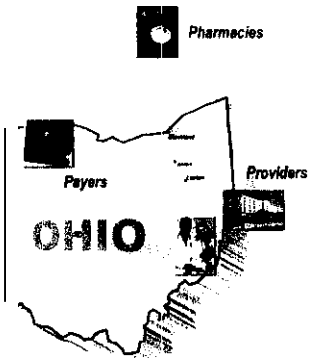
Sincerely,

Mark Ansbouty
Chief Operating Officer
NEO RHIO and OneCommunity

NEO RHIO



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NEO RHIO and OneCommunity HealthNet Partnership FCC Rural Health Care Pilot Program Fiscal Year 2006

WC Docket No. 02-60 May 5,2007

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Table of Contents

I. Introduction 1
II. Description of NEO RHIO 2
III. Goals and Objectives of the Proposed Network 3
IV. Overview of the Network's Total Costs 5
V. How will for-profit institutions help pay their fair share 5
- Table 1. NEO RHIO Membership Fee Structure 6
VI. Financial support and anticipated revenues that will pay for costs not covered by the fund 7
- Table 2. HealthNet Funding Requests under Development 8
VII. The NEO RHIO Now and in the Future 9
- Figure 1. HealthNet Regional Rural County Connection 10
- Table 3. Current hospitals, all non-profits, connected to NEO RHIO HealthNet 12
- Table 4. *Current NEO RHIO System Partners* 12
- Table 5. *Facilities slated, for initial inclusion in NEO RHIO* 13
VIII. NEO RHIO's Previous Experience 14
- Figure 2. OneCommunity Core Network Architecture 17
- Figure 3. A close-up view of a regional ring 18
- Figure 4. The US HealthNet Connection 19
IX. Project Management, Deployment, Timeline, Personnel Roles, and Budget 19
- Figure 5. HealthNet and FCC RHCP Program Organization 21
- Figure 6. HealthNet Architecture 22
- Figure 7. NEO RHIO's Network Infrastructure for Rural Expansion 23
- Figure 8. Projeet Schedule 29
X. NEO RHIO and the Application of a Telemedicine Network in Ohio 30
- Figure 9. Emergency Department Exchange 31
- Figure 10. NEO RHIO Biosurveillance and Public Reporting 36
XI. Sustainability and Future Expansion of NEO RHIO to Rural Health Care Facilities 37

Notes 39

APPENDICES

A. NEO RHIO and OneCommunity's Recognition
B. Budget Information
C. Personnel
D. Letters of Support

NEO RHIO and OneCommunity HealthNet Partnership
FCC Rural Health Care Pilot Program

I. Introduction

Onecommunity and its Northeast Ohio regional partners propose the creation of HealthNet, a Northeast Ohio Broadband initiative, in support of the Telemedicine and Health Information Exchange (HIE).

OneCommunity and its community partners have invested millions over the last three years to connect education, healthcare, government and non-profit organizations together through fiber and wireless broadband facilities. It now connects over three hundred (300) sites across Northeast Ohio including twenty-eight (28) hospitals and healthcare facilities. This investment has served as a catalyst for collaboration amongst health, education and government and the creation of the Northeast Ohio Regional Health Information Organization (NEO RHIO). Additional investment from our economic development community and the State of Ohio has enabled access to Ohio's Broadband Network and provided national access to Internet 2 (12) and the National Lambda Rail (NLR).

We would like the FCC to consider the future where;

- broadband is universally available across the rural and urban communities and quality healthcare is available not only in the hospital but to every citizen at heir clinic, doctors office or in the comfort of their home;
- access to medical information is immediate and in real-time and used by doctors to improve the quality of the care for their patients ;
- wellness education is enabled by broadband and is part of prevention and disease management;
- patients can be universally monitored and connected to their care givers wherever they are at in a convenient and private fashion and;
- underserved healthcare community has access to the same quality of health services that are readily available in our major urban hospitals.

This is the vision that OneCommunity and Northeast Ohio Regional Health Organization (NEO RHIO) are investing in for Northeast Ohio. OneCommunity has an existing broadband network, a significant healthcare technology coordination role and an established partner network that includes the rapidly growing NEO RHIO, regional urban and rural healthcare providers, and a consortium of vendors, technology researchers and government advisers. OneCommunity and NEO RHIOs creation of HealthNet is made of fiber optic cable, wireless and high quality switching devices that can connect medical facilities. Currently, data from each of the facilities is aggregated for a number of telemedicine applications and record storage in Northeast Ohio.

With the help of the FCC Rural Health Care Pilot (RHCP) Grant, HealthNet Services will be extended into over twenty-two **(2.2)** counties covering the rural communities' needs in Northeast Ohio. With this help Onecommunity and NEO RHIO will be able to gather additional community investment in the development of our regions health, education and workforce development making the rural healthcare initiative a viable and long-term sustainable business model. We encourage the FCC to share our vision of the future and provide the catalyst needed to ensure the deployment of a viable rural community health network.

Why OneCommunity, NEO RHIO and HealthNet?

Onecommunity in three years **has** successfully developed a collaborative community environment and gathered the resources necessary to implement a proven community broadband network. We have developed **the:** capacity to engage the community and our healthcare and broadband networking partners in a meaningful way for economic development and the proliferation of broadband services within our economically disadvantaged community. We have demonstrated the;

- ability as a neutral party to bring our communities competitive forces together to enhance and improve our broadband, education, healthcare **and** workforce;
- ability to attract significant Community, state and vendor investment for the adoption and use of broadband technology as an economic development tool within Northeast Ohio;
- capability to develop **and** implement core infrastructure and interoperable interconnections with all the regions common carriers, state and national networks such as Internet 2 and National Lambda Rail;
- capability to collaborate with a competitive healthcare community to develop a regional Health Information Exchange (HIE) through NEO RHIO **and**;
- sustainability necessary to ensure the success of expanding OneCommunity's core network into the rural communities of Northeast Ohio for the NEO RHIO HealthNet project.

II. Description of NEO RHIO

NEO RHIO with its ten (10) founding medical partners representing thirty-two (32) facilities, twenty-eight **(28)** of which are connected, stands ready to extend the network and its cost-saving telemedicine, research and patient information to nineteen (1**9)** additional medical facilities in areas designated as rural. Some of these institutions are in rural areas as designated by the Executive Office of the President and the Federal Office of Management and Budget. This unique geographic and hierarchal structure insures the FCC's requirement for applicants **to** connect urban with *rural and* increase the rural partners to access medical data through multiple

connections. An additional strength of NEO RHIO's position is that OneCommunity's broadband technology, design, and implementation has already been tested and is widely used by healthcare and other industries that require the same connectivity and security, namely government, public safety and education. OneCommunity and NEO RHIO are recognized globally (see Appendix A) for the successful implementation of a broadband grid among leading technology application concerns. This reputation and tested design make HealthNet a prime option to meet the FCC's financial, connectivity and rural access goals in this Pilot opportunity and to create a sustainable Ohio HealthNet infrastructure.

III. Goals and Objectives of the Proposed Network

The goal of HealthNet is to extend the current network and install additional gigabyte optical fiber connections to hospitals and government health agencies in the rural areas of Northeastern Ohio. In order ***to*** provide the levels of broadband that are required for Health information Exchange (HIE) and telemedicinie applications, the kinds of services that are routinely available in rural areas are not sufficient. 'Typically, rural areas may have access to T1 circuits (1.5 Mbps), but generally these service by extremely expensive and there are typically no services faster than T1 available at **an** affordable and sustainable price. In order to satisfactorily transmit and receive medical imaging, and to improve the quality of medical care that can be provided, speeds in a different order of magnitude are required. NEO RHIO HealthNet will provide **100** Mbps of bandwidth, upstream and downstream, to all locations connected via wireless, and will provide 1 gigabit of bandwidth, upstream and downstream, to all locations connected via fiber. In our proposed network design, over 80% of the locations included in our proposal will have the benefit of at least 1 gigabit.

Specific objectives of the proposal include:

- connecting nineteen (19) rural hospitals located in the Northeast Ohio rural health region over a dedicated broadband network;
- extending the OneCommunity/NEO RHIO broadband services to rural providers;
- providing the connecting framework for a regional repository that employs secure telehealth applications for chronic disease monitoring and continuing education services; and
- implementing sustainable enterprise solutions using HIT for eligible providers in rural and underserved counties. This network is expected to improve the quality and reduce the cost of health care.

In addition to the objectives listed above, the NEO RHIO Health Initiative is designed to offer the following medical delivery and data access benefits:

- **Better patient care** via comprehensive "real time" medical information delivered electronically to the point of care, including medication management, ePrescribing, laboratory results, radiology images, as well as in-patient and out-patient care tracking to improve the efficiency of clinical and administrative functions.

- **Foster regional collaborations** among health care entities so that a patient's information can be securely stored in the local community but is electronically accessible to those involved with providing their care in that community. A limited number **of** regional initiatives exist today, but they **vary** in the ways they approach data sharing and cannot communicate patient information outside their own system.

- **Faster patient registration and service** through the use technologies that help eliminate repetitious form completion and medical history compilation, as well as the processing of Health Savings Account (HSA), Flexible Spending Account (FSA) and health plan claims. Payer and provider administrators are also estimated to save five to ten percent of their administrative costs through the automation of previous manual and paper-based processes.

- **Support the acceleration and diffusion of clinical research** information into the hands **of** sponsors, researchers **and** the Food and Drug Administration, as well as the medical community at large. Research findings without adoption accomplish no public good; the discoveries must be translated into useful products and applications for physicians.

- **Consumer access to medical reeords** and additional patient-specific information that will allow patients **to** make more informed healthcare choices. Empowering patients nationwide to play a more active role in their healthcare requires supplying them with useful information. This added insight to their personal medical histories will allow them to make improved decisions.

- **Collaboration with Universities and medical institutions** to develop a platform for wellness and health management, generate an informed healthy community, and to train the next generation of healthcare workers and researchers.

IV. The Network's Total Costs::

The total cost of the network implementation is as follows:

FCC RHCP Project Implementation		Total
Fiber Construction	$	12,463,831
Pole Permits	$	503,263
Fiber Entrances	$	308,812
Facility Leases	$	20,040
Equipment Costs	$	656,273
Customer CPE	$	470,365
Type II expenses	$	115,400
Project Management	$	495,000
Total	$	15,032,983

FCC RHCP Project Yearly Operations and Maintenance		Total
Pole/Facility and Maintenance	$	706,160
Operational Management	$	384,000
Total	$	1,090,160
Total Project Cost	$	16,123,143

RHCP Funding Distribution Plan	Contribution		Distribution
FCC Grant Request	70.00%	$	11,286,200
OneCommunity in-kind Contribution	12.00%	$	1,934,777
Grants	18.00%	$	2,902,166
Total Funding Requirements,		$	16,123,143

This network will be constructed in an incremental manner over a one year period. Operation expenses will not be incurred until year two. The project implementation will need to be fully funded in year one for the entire project. This will allow for continuity of staffing throughout the entire project implementation.

V. How will for-profit institutiions help pay for their fair share?

Ohio Healthcare system is largely non-profit and the initial participants are all non-profit Hospitals. We anticipate that a number of for-profit healthcare providers will join our NEO RHIO which has also filed for 501(c)3 status with the Internal Revenue Service (IRS). There are very few for-profit hospitals in the Northeast **Ohio.** For-profit healthcare providers, practitioners, care facilities that connect to HealthNet as part of the NEO RHIO Health Information Exchange

(HIE) will be required to pay membership fees for participation and pay for any construction and services fees associated with the delivery of HealthNet. NEO RHIO HIE Membership model is based on level **of** participation;

Member Definitions

Individual Practitioner and Associations

- Individual practitioners participating in the NEO RHIO network
- Associations representing institutions, payers and social services representing groups involved in healthcare services

Healthcare Organizations

- Groups of private practitioners, hospice and home care service organizations participating in the NEO RHIO network. **A** group consists of **7** participants or more.

Insurer/Payer Organizations

- Insurer/Payer organizations involved with group healthcare participating in the NEO RHIO Network

Individual Hospitals

- Independent hospitals not included in systems of three or more major hospitals and clinical service organizalions

Hospital Systems

- Hospital and clinical service organizations that form **a** group of three or more major hospitals and a number of clinical service organizations

Table 1 NEO RHIO Membership Fee Structure

Membership	Annual Fee Structure
Individual Practitioner and Associations	$1,500
Healthcare Organizations	$10,000
Insurers and Payors	$50,000
Individual Hospitals	$50,000
Hospital Systems	$225,000

Membership Fee Structure

The membership fees above were established by the NEO RHIO financial workgroup as a result of interviews with other vendors and a comparison to other RHO projects. They have been discussed broadly among NEO RHIO members and other organizations in the community and have been adopted by the founding members. In addition to a statement regarding the perceived value of actual HIE services, membership fees are also viewed as an investment in a commonly-owned enterprise that will have far-reaching mutual benefit.

While these membership fees represent the major cost **to** "customers" (members) of the HIE over the first five years of implementation and operation, they will not cover total costs of operation. Instead these are discounted to reflect other revenue streams, **to** include state and private grants, contracts with public health agencies, and revenues derived from the Administrative Services. As the clinical information exchange performance becomes optimized over time, and as additional information services are added, members are expected **to** support an increasing fraction of overall costs as the system moves to independent sustainability. The cost per transaction will likely decrease over time, while total member-based revenues will increase, **as** the volume **of** transactions, the numbers of users increase.

VI. Financial support and anticipated revenues that will pay for costs not covered by the fund

OneCommunity and NEO RHIO are developing collaborative grants and funding programs to support the expansion of HIE for the rural and urban communities throughout Northeast Ohio. Central to the approach is that both urban and specifically rural hospitals are hearing a consistent message **of** bow the quality of healthcare can be economically improved throughout the region.

- The U.S. Department of Agriculture USDA will offer $128 million in loans and grants for telemedicine and distance learning in 2007

- Health and Human Services (HHS) National Health Information Network (NHIN) will offer $28 million for support of the nations Regional Health Information Organizations (RHIOs)

- Ohio Health Department State Medicaid Program will offer between $4 and $10 million depending on Federal Matching for the *6* Ohio Regional Health Information Organizations. NEO RHIO is expected to receive between $1 and $4 Million in support of it's HIE activities to provide public health information reporting.

- Ohio Third Frontier (OTF) Fund has committed $500 million towards research, innovation and high tech economic development. Has just created a new category for health information the total funding support for such activities has not yet been determined.

Expectedfunds from major economic development organizations

Northeastern Ohio is in the national top tier in philanthropy and supportive economic and business development. OneCommunity has established significant rapport, support and historical funding from these organizations. OneCommunity has received over $2 million in cash and $1 *3* million in equipment and in-kind donations. Many of our current funding agencies are behind this project and envision significant momentum with future regional and national funding sources.

OneCommnity and NEO RHIO anticipate the larger portion of its current funding opportunities to be focused on information rather than the community's infrastructure and have submitted a number of foundation grants in support of the regional and rural efforts. Onecommunity is currently working on a number of community grants and proposals for HealthNet and our Rural HIE/Telemedicine initiative. Table 2 outlines four initiatives under development along with the current FCC RHCP proposal.

Table 2 HealthNet Funding Requests under Development

Intended Purpose	Under Development	Requested	Pending	Awarded
Columbiana County Economic Development Grant		$ 750,000		$ 750,000
Community Support of OneCommunity/HealthNet		$ 450,000	$ 350,000	$ 100,000
Telemedicine Network and Conference Equipment	$ 1,500,000	$ -	$	
RHIO HIE Services and Last Mile Access	$ 500,000	$ -	$	
Fiber and Equipment		$ 500,000		$ 500,000
Wireless Pilot Project		$ 200,000		
Fiber - Economic Development Zones		$ 250,000		$ 250,000
Total	**$ 2,000,000**	**$ 2,150,000**	**$ 350,000**	**$ 1,600,000**

Service Revenue

OneCommnity currently has service contracts with over 50 organizations connecting in excess of 300 remote sites to the OneCommunity Regional Intranet. Of these organizations 28 of them are hospitals within our urban core in Akron, Canton, Cleveland, Parma, and Youngstown. These organizations currently pay for construction and service fees for there connection to the Onecommunity network.

The rural community hospitals and healthcare providers do not have the same financial wherewithal and technology capacity that their urban counterparts have. Federal, state, local and private grants will enable OneCommunity to develop a regional infrastructure that allows us to lower the cost for our rural healthcare consumers and still provide them with the same level of access for HIE/Telemedicine that their urban counterparts have. In addition the aggregation of these regional rural healthcare partners provides infrastructure needed to interconnect rural k-12 schools and colleges which will help further reduce the operational expense associated With managing and maintaining a regional network infrastructure. This approach will require our rural community healthcare partners to subscribe to annual operational fees to cover refresh, maintenance and repair services. However, this will be a capped cost and enable our rural community partners to have access to significantly greater broadband capacity for a more financially viable price.

Many agencies such as United Way have discussed using Onecommunity and the NEO RHIO as a lead agent for their developing of healthcare education and service programs. Several Federally Qualified Health Clinics and rural hospitals are exploring technology solutions in the

areas **of** electronic medical records, disaster recovery and public health reporting using OneCommunity as a resource and possible partner.

VII. The NEO RHIO Now and in the Future

OneCommunity and NEO RHIO HealthNet Initiative is committed to using technology and materials that meet and exceed the unique requirements of HIE and telemedicine. NEO RHIO is in a position to leverage its resources to be a model for the national health information network the Department of Health and Human Services predicts could save the United States $140 billion per year.[2]

Another compelling reason for implementing the network to rural sites is to help reticent medical professionals with administrative costs. NEO RHIO will assist medical professionals increase efficiencies offered through the implementation of technology. **A** recent study by the Center for Studying Health System Change showed physicians' net incomes from their medical practices declined about **7%** on average from 1995 to 2003.[3] That trend may have heightened the reluctance of some professionals to install telemedicine services. In 2006, the Bush administration charged that every patient in the country should have an electronic health record by the year 2014. While technology is already entrenched in most care providers' offices and medical systems, the lack of connectivity between software, hardware and the Internet inhibits its effectiveness. **As** a result, 90 percent of all medical transactions are still paper. According to Mark Ansboury, principal of the NEO RHIO Health Initiative, the network has the potential to reduce telecommunication costs 40 to 60% by the year 2014 while it also takes away the ceiling for the application and use of broadband capacity.

A. OneCommunity HealthNet connected twenty-eight (28) urban hospitals in past 12 months with no relatedpublicfunding

Should funds for this FCC proposal be awarded, NEO RHIO will be extending services for its ten (10) founding medical partners, representing thirty-two (32) facilities. This will insure a structure for interoperability. OneCommunity's network now located in urban settings and surrounding rural areas, enables different systems to work together. OneCommunity has developed a collaborative network model that leverages common carriers, cable companies and third party provider networks to create a truly interoperable and consistent quality of service that crosses all the networks that will enable the NEO RHIO (HIE) partners to develop a standard of care between the rural and urban healthcare communities. The HealthNet model already exists with the 28 connected urban healthcare connections.

In general, rural populations are at higher risk **than** their urban counterparts for many chronic diseases, especially diabetes.[1] one of the factors that shapes the care continuum is the rural-urban interdependencies for healthcare. This is especially true in Northeastern Ohio where many individuals need to travel limited but complicated distances to seek out both primary care because of resource shortages and tertiary care. There are far reaching

consequences of a "poor health community" A healthy population is essential for the socioeconomic success of the Northeastern Ohio another rural, underserved regions in the United States.

Representing nearly 20 percent of the U.S. population, rural communities, like their urban counterparts, are witnessing change in the provision of healthcare services. However, these smaller, poorer and geographically-isolated communities experience significant challenges in providing viable and high-quality healthcare services. The implementation of a health information technology (HIT) infrastructure will assist the rural community in building healthcare partnerships and resources.[2]

The OneCommunity NEO RHIO HealtNet includes router systems, managed video conferencing and other products that drive efficiencies. The nonprofit, information-technology service now connects public and nonprofit institutions - including health-care facilities to fast, fiber-optic networks in the Cleveland-Akron/Canton-Youngstown area; that connectivity and its benefits will easily be extended to rural care facilities and physicians. The proposed rural expansion will provide connectivity for nineteen (19) additional rural hospitals and cover twenty-two (22) counties in six regional zones. OneCommunity's NEO RHIO Health network will reach:

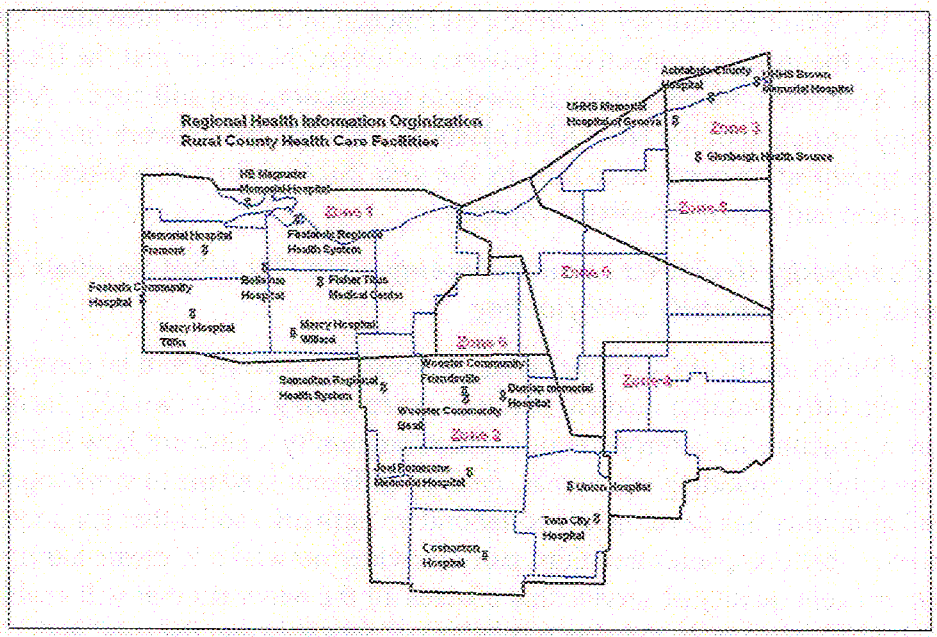

Figure 1. HealthNet Regional Rural County Coverage

The proposed rural expansion will provide connectivity for twenty-one (21) additional rural hospitals and cover twenty-two (22) counties in six regional zones.

Zone 0 – Cuyahoga, Summit, Stark, Portage, Mid Mahoning
Zone 1 – Lorain, Huron, Erie, Sandusky, Seneca
Zone 2 – Ashland, Wayne, Western Stark, Holmes, Tuscawarus, Coscockton
Zone 3 – Ashtabula

Zone 4 – Carrolton, Columbiana, Eastern Stark, south Mahoning.
Zone 5 – Trumbull, Geauga, Lake.
Zone 6 – Medina

For the past decade Northeast Ohio similar the other national trends has transitioned the healthcare provider landscape into an oligopoly. **A** number of our regions hospital systems throughout have developed various collaborative "arrangements" with other urban and rural hospitals that have traditionally lbeen competitive. This healthcare system alignment has been brought on because of competition drivers to develop quality healthcare services. Recent grants from a number of organizations such as the Robert Woods Johnson grant for "Aligning Forces for Quality" and others have begun to align a significant portion of the care providers and ancillary services. Over the last two years OneCommunity, now supported through the NEO RHIO has through technology adoption, guided these hospital systems to think regionally and also collaboratively. The end result is that Onecommunity has focused health system "competitors" to contemplate using broadband technology to construct state- and region-wide broadband networks to provide ielehealth and telemedicine services. This is a critical and dynamic shift in regional thinking and is central to the OneCommunity and NEO RHIO HealthNet approach.

Some key examples of success within our healthcare community include the;

- collaboration between MetroHealth, University Hospitals, and Cleveland Clinic and federally qualified healthcare partners to align the disease management for diabetes in an effort to align the quality in healthcare services across the region;

- collaboration between the Cleveland Clinic, OneCommunity and the Cleveland Municipal School District to provide broadband services to facilitate real-time interactive educational environment, advanced lab, research and intern opportunities to students as part of heath, wellness and development of the next generation of healthcare workers and;

- formation of NEO RHIO to serve as a neutral third party for Health Information Exchange (HIE) between all the hospitals and healthcare providers in Northeast Ohio.

Table 3. Current hospitals, all nonprofits, connected to NEO RHIO HealthNet

OneCommunity HealthNet Connections(28)
Akron Children's Hospital - Main Hospital
Akron Children's Hospital - St. Elizabeth Hospital - Youngstown, Ohio
Akron Children's Hospital Boardman - Youngstown, Ohio
Akron Children's Hospital Ashland - Ashland Ohio
Cleveland Clinic – Main
Cleveland Clinic - Secondary/BTI
Mercy Medical Center - Carroll County Health Center
Mercy Medical Center - Jackson Health Center
Mercy Medical Center - Mercy Health Center
Mercy Medical Center - Professional Care
Mercy Medical Center - Professional Medical Equipment
MetroHealth Systems - Cedar Avenue Service Center
MetroHealth Systems – South Campus
Parma Community Hospital Site#1 Main
Parma Community Hospital Site#2 WellPointe
Sisters of Charity St. Augustine - St. Vincent Charity Hospital
Southwest General Hospital Site#1
Southwest General Hospital Site#2 Strongsville
Southwest General Hospital Site#3 Pearl Road
St. John Westshore Family Medicine Center (N. Olmsted)
St. John Westshore Hospital
University Hospital Health Systems - Heather Hill
University Hospital Health Systems - Main
West Shore Primary Care Associates - Avon - Hale Rd.
West Shore Primary Care Associates - Avon Lake
West Shore Primary Care Associates -North Ridgeville
West Shore Primary Care Associates - Sheffield Village
West Shore Primary Care Associates - Westlake

Table 4. Current NEO RHIO System Partners

NEO RHIO Member Institutions		
Hospital or System (IDN)	**Location**	**County**
Medina General Medical Center	Akron	Summit
Akron Children's Hospital	Akron	Summit
Summa Health System	Akron	Summit
UHHS/CSAHS	Cleveland/Canton	Cuyahoga and Stark
University Hospitals of Cleveland	Cleveland	Cuyahoga and Regional
Cleveland Clinic Foundation	Cleveland	Cuyahoga and Regional
MetroHealth Medical Center	Cleveland	Cuyahoga
Lake Hospital System	Willoughby	Lake
Aultman Hospital	Canton	Stark
Parma Community Hospital	Parma	Cuyahoga
Southwest Hospitals	Strongsville	Cuyahoga

A. Extending the NEO RHIO to rural counties.

OneCommunity proposes to extend its HealthNet to an additional nine (9) counties largely designated as rural communities. This expanded network will initially serve nineteen non-profit health care providers, two (2) of which are Federally Qualified Healthcare Providers serving the underserved community. However, HealthNet will serve as the framework for expansion of the health services at no cost to the FCC. NEO RHIO will continue to expand HIE/Telemedicine services throughout the region to individual care facilities, practitioners, healthcare homes, and underserved health centers.

Table 5. Facilities slated for initial inclusion in the NEO RHIO
Counties, addresses, zip code, Rural Urban Commuting Area (RUCA) code, contact information and phone number for each health care facility participating in the network

System	County	Facility Name & Address	RUCA CODE	HPSA	Contact Names	Phone
	Ashland	Samaritan Regional Health System 1025 Center Street Ashland, OH 44805	4		Danny Boggs, CEO	419-289-0491
CCHS	Ashtabula	Ashtabula (County Medical Center 2420 Lake Ave Ashtabula, OH 44004	2	HPSA	Kevin Miller, CEO & Jason Kopczak, CFO	440-997-6520 440-997-6221
		Glenbeigh 2420 Lake Ave Ashtabula, OH 44004	2	HPSA	Pat Weston-Hall	440-563-3400
UHHS	Ashtabula	Conneaut Medical Center 158 West Main Road Conneaut, OH 44030	2	HPSA	Rich Frenchie, CEO	440-593-1131
		Geneva Medical Center 870 West Main Street Geneva, OH 44041	4.2	HPSA	Rich Frenchie, CEO	440-593-1131
Mercy Health Partners	Huron	Mercy Hospital – Willard 10 East Howard St. Willard, Ohio 44890	1.2		Joe Glass	419- 251-8982
CHN & CC5	Erie	Firelands Regional Medical Center 1101 Decatur St. Sandusky, Ohio 44870	1		Chuck Stark, CEO Dan Moncher, CFO	419-557-7400 419- 557-7793
CHN & CC5	Huron	Fisher Titus Medical Center 272 Benedict Avc.. Norwalk, OH 44857			Pat Martin, CEO Wendy Melching, CFO	419-668-8101 419- 663-1975
	Holmes MUA	Joel Pomerene Memorial Hospital 81 Wooster Road Millersburg, Ohio 44654	10.5	HPSA	Tony Snyder, CEO	419-557-7400
CC5	Ottawa	H.B. Magruder Memorial Hospital 615 Fulton Street, Port Clinton, OH 43452	4		Dave Norwyne, CEO	419- 557-7793

System	County	Facility Name & Address	RUCA CODE	HPSA	Contact Names	Phone
:C5	Sandusky MUA	**Bellevue** 811 NW St. Bellevue, Ohio 4481I	7.3	HPSA	Mike Winthrop, CEO Alan Ganci, CFO	419-557-7400 419- 557-7793
:C5		**Memorial (Fremont)** 715 S. Taft Ave Fremont, OH 43420	4.2	HPSA	Al Gorman, CEO Rick Ruppel, CFO	419-668-8101 419- 663-1975
	Seneca	**Fostoria Community** 501 Van Buren St. Fostoria, Oh 44830	4	HPSA	Tim Jakacki, CEO	419-435-7734
		Mercy Hospital – Tiffin 2355 Tiffen Avenue Findlay, OH 45840	4	HPSA	Joe Glass	419- 251-8982
	Tuscarawas MUA	**Twin City** 819 N. First Street Dennison, OH 44621	4	HPSA	Marge Jentes, CEO	740-922-2800
		Union Hospital 659 Boulevard Dover, OH 44622	4	HPSA	Bill Harding, CEO	330-343-3311
	Union	**Memorial Hospital of Union County** 500 London Avenue Marysville, OH 43040	2		Chip Hubbs, CEO Jeff Ehlers, CFO	937-644-6115 937-644-6115
	Wayne	**Dunlap Memorial** 832 South Main Street Orrville, OH 44661	7.4		Rod Steiger, Interim CEO	330-682-3010
		Wooster Community 1761 Beall Ave. Wooster, Ohio 44691	4		Bill Sheron, CEO	330-263-8100

RUCA = Rural Urban Commuting Code
MUA = County with Medically Underserved Areas
HPSA = Health Professional Shortage Area

VIII. NEO RHIO's previous experience in developing and managing telemedicine programs.

A. ***OneCommunity's and NEO RHIO's track record makes*** *their Health Initiative a prime candidate for this FCC funding award.* The Network model proposed for this Health Initiative leverages an existing grid that already connects literally hundreds of key entities in just a few years across various industries and including deep programming efforts that leverage the power of the network. The success of the existing OneCommunity and NEO RHIO network makes it a good "fit" for the creation of the rural connection strategy. Already OneCommunity has been globally recognized among researchers, vendors, and similar international concerns for its network capabilities in the public, health, and educational sectors. Following are some of its successes.

1. *Government.* OneCommunity has already improved constituent access to critical knowledge and services through Web-based information and interaction. By aggregating government bandwidth demand and related IT services, the nonprofit has

reduced expenses. Another advantage to the OneCommunity network, which will serve as a base for NEO RHIO, is its role in increasing productivity of employees who work remotely. Using the Onecommunity Network, City of Cleveland building inspectors have been able file reports from the field using the secure wireless network. Some of the Northeast Ohio communities that have benefited from the use of the OneCommunity Network are the City of Cleveland, Cuyahoga County and Mayfield Village. Solutions of Onecommunity offered to these partner communities include an access to tax credits (Cleveland Housing Network) through an online application. More than $3 million in tax credits were awarded to low-income residents through this program in 2006.

2. ***Public Safety.*** The OneCommunity partnership in the area of public safety complements the HealthNet Initiative's goals as medical partners also engage in public emergency response and health service activity throughout the Northeast Ohio region. OneCommunity and its vendor partners are developing opportunities to enable local law enforcement to rapidly access and search content from video surveillance cameras to improve response times and enhance public safety. All of the developments in the public service area allow Onecommunity and NEO RHIO to leverage similar cross-application features to the partners of the HealthNet Initiative.

3. ***Education.*** OneCommunity connected 117 Cleveland Public Schools to the community network. In addition, the nonprofit is currently in the process of developing additional broadband initiatives for the Cleveland Clinic Foundation, which delivers a broad range of educational programs to the K-12 students of our community, enhancing public student math and science education and workforce development. OneCommunity has also partnered with *ideastream* to extend the region's ability to deliver digital content and distance learning programs to the K-12 and Library networks of Northeast Ohio. These systems combine the collective strengths of technology, community involvement, vendor management, educational outreach, and teacher professional development, and they connect stakeholders throughout Northeast Ohio, profoundly affecting how children are educated. Onecommunity connects to over **300** schools and plans to connect over 1,500 schools in Northeast Ohio.

4. ***Healthcare.*** The broad-based stakeholders participating in NEO RHIO recognize the importance of using information technology to advance healthcare, enable innovation, develop new applications, and develop a system that is self-sustaining. The Northeast Ohio region has been faced with numerous economic challenges in recent years; focusing on the region's strength – healthcare – will not only improve residents' quality of life, but also support economic development. **A** simple example of using technology on a **7x24** nursing on-line service that can be accessed through the web or via on-line call in.

NEO RHIO was conceived as a response to an Office of the National Coordinator for Health Information Technology Nationwide Health Information Network Request for Proposal (ONC NHIN RFP), released in September 2005. This effort brought together the CEOs and CIOs of several large hospitals in the Cleveland-Akron-Canton metropolitan area (Akron General Health System, Aultman Hospital, Children's Hospital Medical Center **of** Akron, Cleveland Clinic Foundation, Mercy Medical Center, MetroHealth, Summa Health System, and University Hospitals), along with multiple physician groups, pharmacies, and vendors, to discuss HIT and HIE for the region. Although the funding was not awarded, this collaboration has given rise to a network that has garnered statewide regional support, recognition among network engineering publications like Grid magazine and global awareness of its success in partnership efforts and digital collaboration.

B. ***NEO RHIO is a broadband network already designed and implemented to meet FCC application requirements for telemedicine.***

The superior architecture of the Onecommunity Core Network is achieved by a three tiered approach to connectivity from the currently installed urban network to the new rural sites: (1) The network is made up of the highest quality, massive broadband capability using fiber optic cables. (2) Flexible connectivity and interoperability between sites and users is designed around a regional zone concept; and **(3)** Rural sites will be able to make multiple connections to central hubs within these zones, giving the network a local presence. This three-tiered, zone approach enables OneCommunity to leverage existing common carrier, cable and private provider networks to create a highly integrated and interoperable Health network that can also be used to support other community network needs such as education, workforce and economic development.

1. *Superior design and engineering.* The Onecommunity core network uses path protected Dense Wave Division Multiplexing (DWDM) architecture. This facilities-based design enables OneCommunity's network to interconnect to all the common carriers, cable companies, fiber, and wireless providers across the region and provides a consistent quality of service connection transparent of the individual last mile provider. This provides full diversity extending high capacity access to rural community health care providers and offers physicians and medical facilities the ability to move real-time data and to access metadata across there local access to the 6.4 terabit massive capacity broadband network supported by the Onecommunity NEO RHIO Health network.

   As shown in the figure below, OneCommunity's design enables NEO RHIO and our healthcare community to have access to other facilities based services such as local and regional data centers for disaster recovery and offsite storage. The aggregation of multiple links inherent in the system increases network capacity to the rural health facilities enabling broadband health applications and the delivery of digital health

images such as x-ray's, CT and MRIs, patient records, telemetry and real-time telemedicine consultation. In addition the aggregation lowers overall network costs enabling rural health care providers the ability to participate in the NEO RHIO Health Information Exchange (HIE).

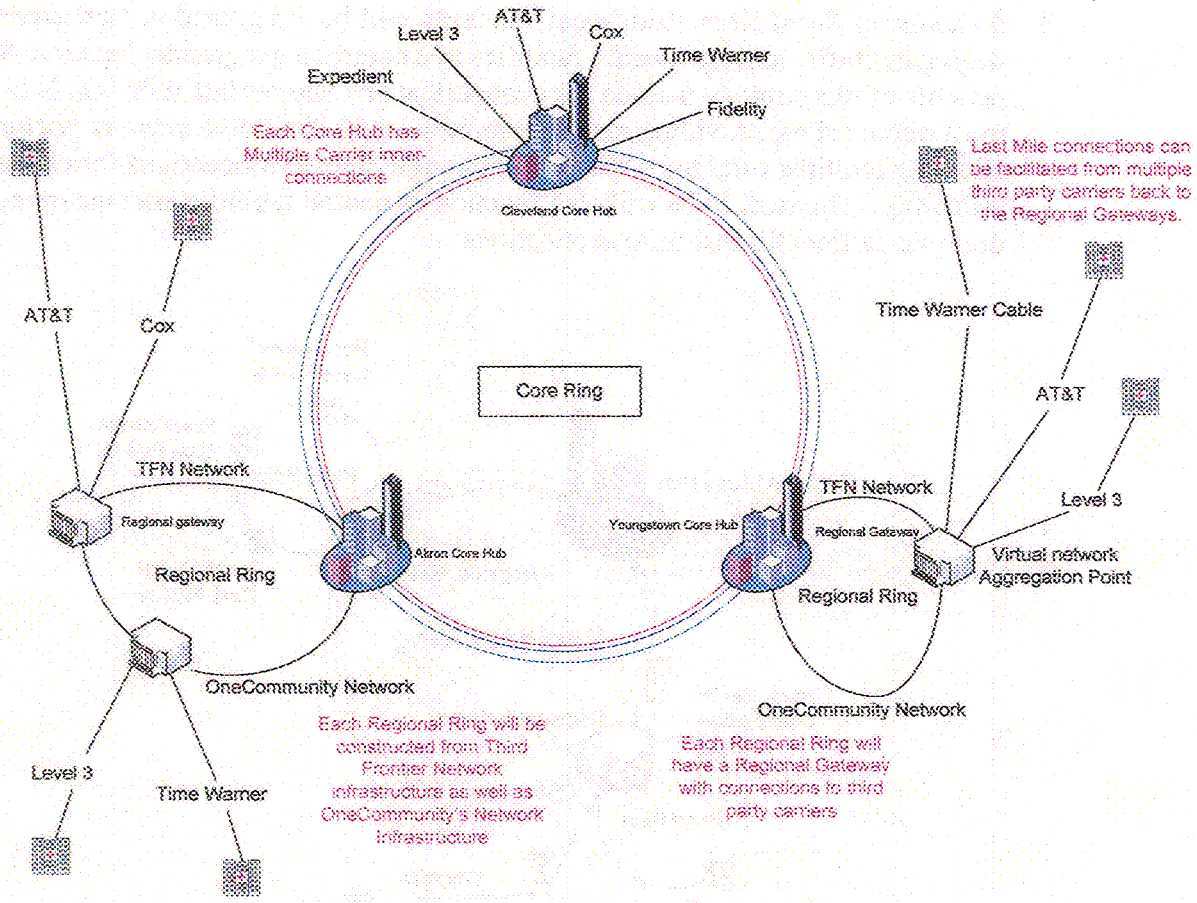

Figure 2 – OneCommunity Core Network

2. *Regional Hubs Ensure Connectivity and Interoperability among zones.* Regional hubs provide numerous connectivity functions throughout the Northeast Ohio Region. First, they allow multiple rural areas to be aggregated into a protected network structure, and they permit each rural site to connect back to a single geographically close location. Second, the regional hub concept is to provide a connecting point for the rural networks to link back to NEO RHIO's core network. Third, the regional hub insures connectivity between rural sites, offering multiple paths for data to travel to and from multiple points throughout the network—the paths can be between regional hubs, from rural to regional and from rural to regional to another rural location.

Strategically placing regional hubs also allow NEO RHIO numerous options to choose the best and most economical path to add additional hubs or connect new rural sites. Multiple hubs also serve as alternative connection paths for all sites in a network in the event of an individual path failure.

3. *Inclusion of Rural Sites.* Additional hub areas will be designated in rural areas to aggregate traffic among specific facilities in a common geographic location. Some benefits of this strategy include the economical and shorter last-mile builds to the most remote sites, providing rural communities with their own network presence, and allowing multiple rural hubs to connect through diverse connections for exceptional reliability. The rural hubs will also function as neutral facilities encompassing multiple carriers for last-mile applications.

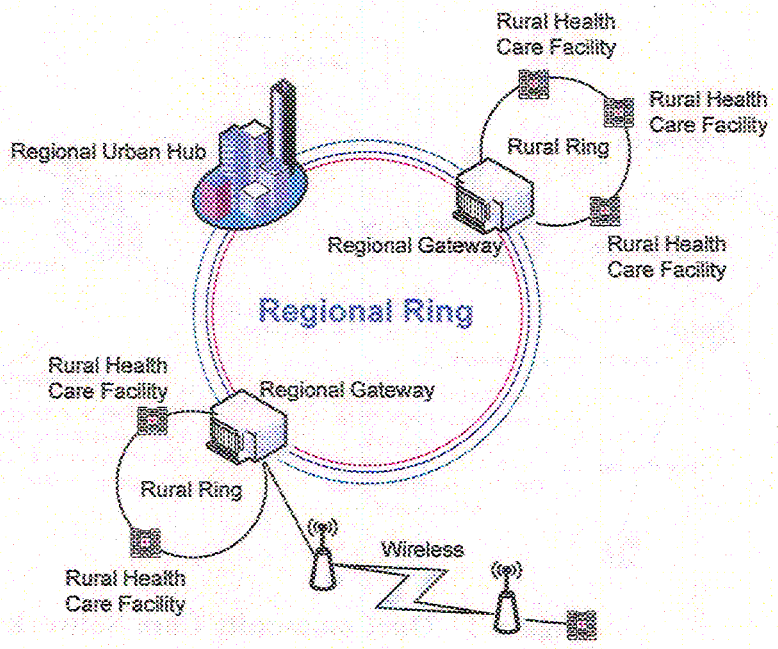

Figure 3. A close-up view of a regional ring.

4. *Regional Intranet provides on-ramp to local, state and national networks*, The OneCommunity NEO RHIO Health Network also provides physical connections to the State of Ohio's Broadband Network formally known as the Third Frontier Network (TFN), and have on-ramps to the National Lambda Rail (NLR) and Internet 2 (I2), and multiple state operators as well as various carriers and applications.

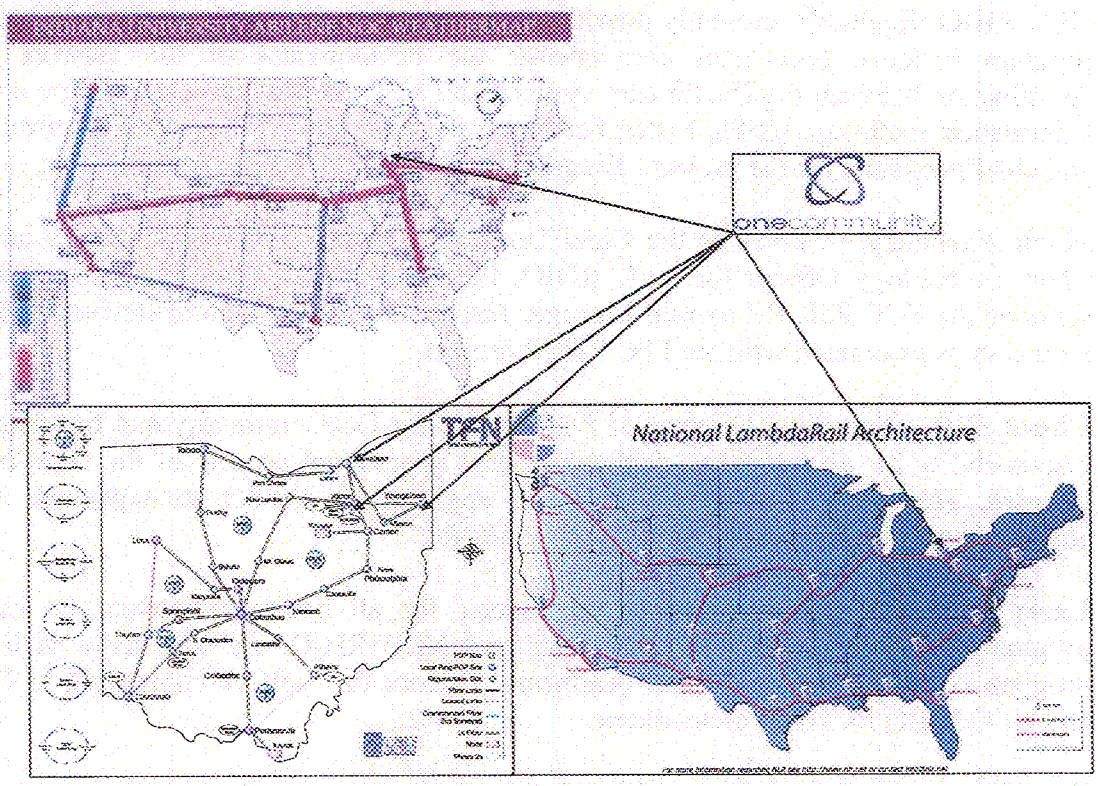

Figure 4. The U. S. – HealthNet Connection

OneCommunity proposes to partner with the FCC to connect our existing urban, state and national network connections to our new rural healthcare partners National Lambda Rail and Internet 2.

IX. Project Management, Deployment, Timelines, Personnel Roles, and Budget

The management team of OneCommunity NEO RHIO HealthNet is an experienced mix of business, technical and medical personnel. In their efforts to create a network that facilitates connectivity throughout the state, they have strategically leveraged their knowledge and partnered their efforts with the appropriate organizations. OneCommunity will be providing their experience and expertise in constructing the network architecture and infrastructure that will bring Northeast Ohio to the forefront for high speed connectivity. The HealthNet network will enable not only health care facilities in northeast Ohio, but also bring the communities together for a better symbiotic network infrastructure and enable cohesion throughout the Northeast Ohio region.

A. HealthNet Organization and Personnel Roles

OneCommunity and NEO RHIO have developed a proven management with a track record of successfully implement large scale local, regional and national projects. The team identified for the RHCP project includes the executive management of OneCommunity and

NEO RHIO. HealthNet currently provides connectivity to **28** Northeast Ohio Hospitals. The program includes two main components: the development of the network and the coordination between the Health care systems and NEO RHIO for Telemedicine and Health Information Exchange (HIE). Listed below are the FCC RHCP Program Organization chart and chief personnel for the project. Biographies are included in Appendix D.

Mark Ansboury – Serves as the Chief Operating Officer for OneCommunity and Acting Chief Technology Officer for NEO RHIO. He will have full program accountability and serve as the FCC RHCP Program Manager responsible for all administrative, financial and partnerships associated with the FFC RHCP project.

Chuck Girt – Serves as Director **of** Engineering for OneCommunity and has management responsibility for all technical, deployment and operational aspects **of** the OneCommunity network. He will be responsible for all engineering, vendor management and field engineering related to the deployment of HealthNet.

Larry Voyten – Serves as Program Director for all health initiatives and application programs associated with OneCommunity and NEO RHIO. He will serve as liason and program coordinator for the rural healthcare partners that will be connecting to HealthNet and NEO RHIO for HIE/Telemedicine.

Ron Forster – Serves as outside plant project manager for OneCommunity and is responsible for fiber plant, facilities and site preparation; He will serve as the Construction Manager for the FCC RHCP outside plant deployment.

Jonathan M. Gairing – Serves as field engineer, equipment installer and provides configuration support along with supporting field maintenance and repair services. He will manage the site and equipment installation and initial configuration for the HealthNet network.

Mark Dulma – Serves as OneCommunity's operational support, test and certification engineer in addition to providing field engineering, installation and maintenance support. He will support the site and equipment installation and initial configuration for the HealthNet network and conduct field site and operational testing and certification.

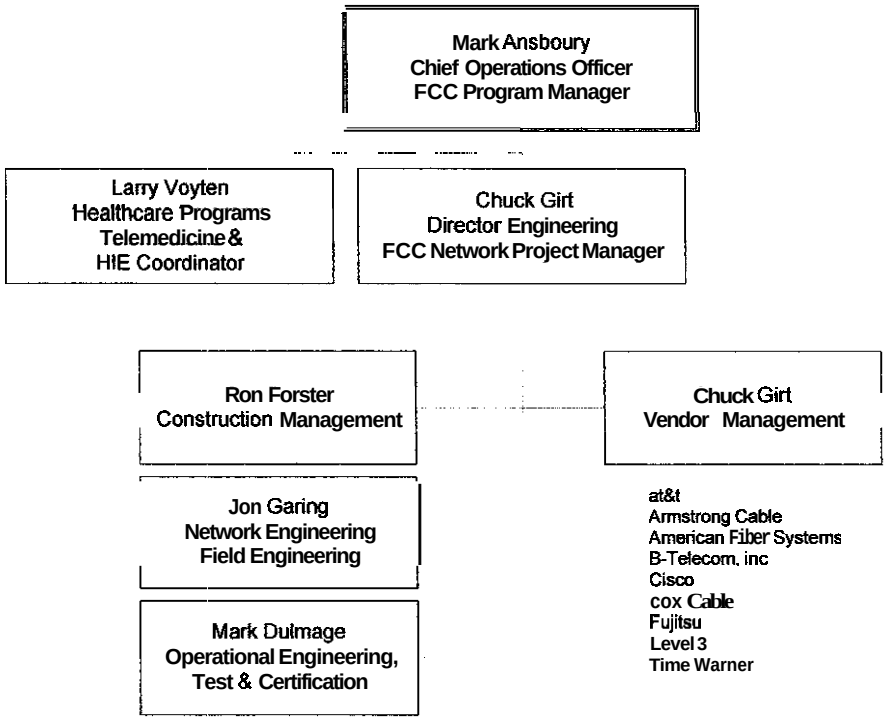

Figure 5. HealthNet and FCC RHCP Program Organization

C. Deployment Plan.

OneCommunity and NEO RHIO have created an infrastructure devised to provide connectivity to health care facilities using a common infrastructure to reduce the costs of individual high speed connections and to provide transport to areas that are devoid of high speed connectivity. The overall goal of the HealthNet infrastructure is to construct a diverse, high availability network to meet the needs of the heath care community as well as the communities themselves.

The proposed design focuses on fiber infrastructure and includes the ability to incorporate wireless technology. Option 1 provided in the main body of the proposal includes 90% fiber based infrastructure connecting the 19 core rural healthcare facilities via fiber. Option 2 in Appendix B Budget Information includes a change in the design to incorporate alternative wireless connectivity. Option 2 is based on 50% core fiber and 50% wireless connectivity. The proposed wireless connections will deliver 100 Mbps services.

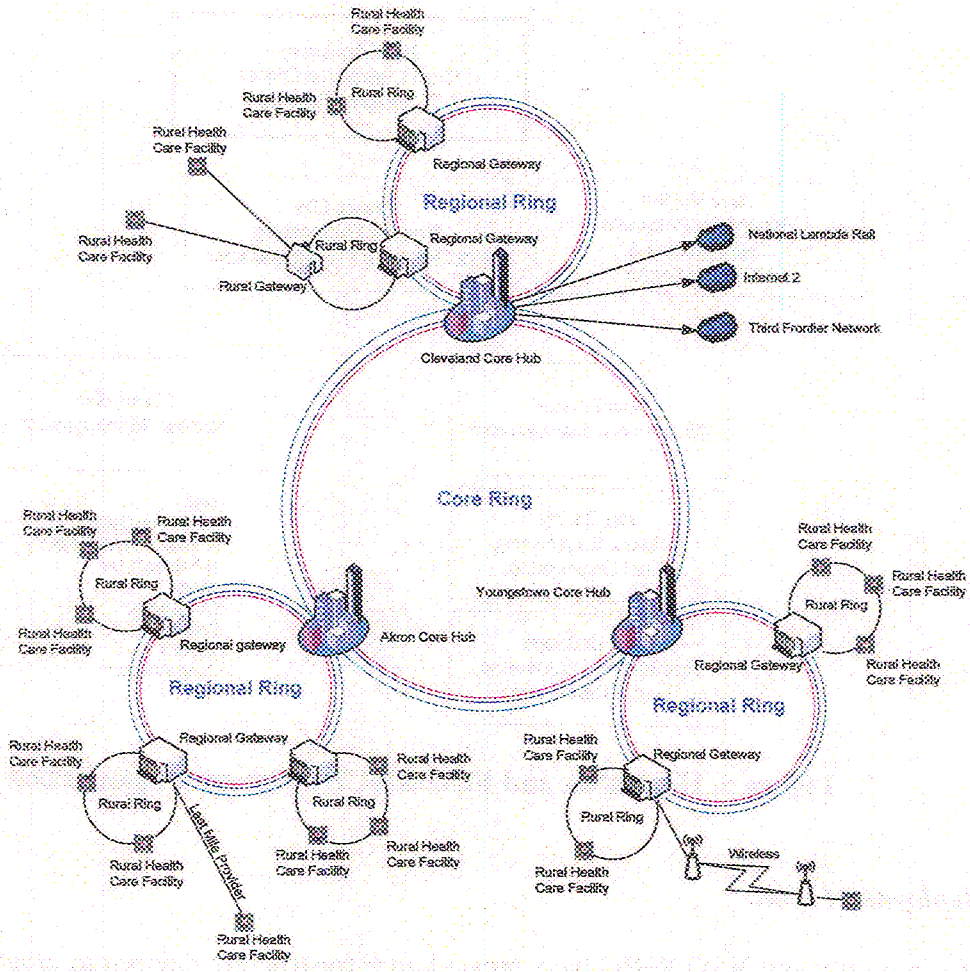

Figure 6. HealthNet Architecture

HealthNet, Figure 7, as designed by OneCommunity will have three layers to its network infrastructure. The Primary or 'Core' layer as it will be referred too, has a series of Core hubs, which are located in Cleveland, Akron, Canton, and Youngstown. This core infrastructure is built on a DWDM platform with a MPLS core for Ethernet connectivity. This design of Core network will have the ability to pass 6.4 terabits of data throughput. The second layer in the RHIO network is the 'Regional Gateways'. Regional gateways are the connection or 'gateway' from the rural and urban areas back to the core of the network. This layer is also built on a DWDM infrastructure with MPLS for Ethernet connectivity. Every regional gateway will have an MPLS master node as well as access devices for customer interfaces. Each Regional gateway will have 80 gigabit to 6.4 terabits of data throughput. The third layer in this network is the rural fiber rings and 'Rural Gateways'. Fiber infrastructure will be constructed in the rural areas that will be connected back to the strategically located Regional Gateways. If needed, 'Rural Gateways' will be placed in strategic areas to aggregate traffic back through the rural fiber infrastructure. The rural hubs will connect back to the regional gateways using a combination of CWDM and DWDM technologies. Each