June 26, 2002

MEMORANDUM

TO: CHAIR
FEDERAL COMMUNICATIONS COMMISSION

FROM: CAROLINE FORD
ASSISTANT DEAN/DIRECTOR
NEVADA STATE OFFICE OF RURAL HEALTH

SUBJECT: COMMENTS RE: WC DOCKET NO. 02-60

This correspondence is submitted on behalf of several large organizations, state agencies, local rural community groups and the rural and frontier citizens of Nevada. The Nevada State Office of Rural Health, organized within the University of Nevada-School of Medicine, has actively participated in addressing issues of telecommunications connectivity for the rural and frontier geographic areas of the state. Our development of a telecommunications infrastructure for rural health care has careful bridged together community partnerships with the University and Community College System of Nevada.

The Universal Service Fund was created as a response to a mandate of the Telecommunications Act of 1996 to "to make available, so far as possible, to all the people of the United States ... a rapid, efficient, nation-wide and world-wide wire and radio communication service with adequate facilities at reasonable charges...." While the concept of universal service was not new in 1996, that was the first time that it was formalized in public policy as a requirement of the government as a service to the citizens. The concept of universal service is based on seven general principles—six outlined in the Act and one recommended by the Federal-State Joint Board on Universal Service. The Joint Board also suggested that universal service policy "be a fair and reasonable balance" of all the principles listed below:

- **Quality and rates** Quality services should be available at affordable rates.
- **Access to advanced services** Access to advanced telecommunications and information services should be provided in all regions of the nation.
- **Access in rural and high-cost areas** Consumers in every region—including low-income consumers and those in rural areas—should have access to telecommunications and information services at costs reasonably comparable to rates charged in urban areas.
- **Equitable and nondiscriminatory contributions by providers to the preservation and advancement of universal service** All providers of telecommunications services should make contributions to universal service.

- **Specific and predictable support mechanisms** There should be specific, predictable and sufficient federal and state mechanisms to preserve and advance universal service.
- **Access to advanced telecommunications services for schools, health care facilities and libraries** Elementary and secondary schools and classrooms, health care providers, and libraries should have access to advanced telecommunications services.
- **Competitive neutrality** Universal service support mechanisms and rules should be competitively neutral with support mechanisms and rules that do not unfairly advantage or disadvantage one provider over another, and neither unfairly favor or disfavor one technology over another.

In this Notice of Public Rulemaking, the FCC has wisely responded to Congress' proposition that "Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section …. [and] the Commission may designate additional services for such support mechanism for schools, libraries, and health care providers for the purposes of subsection (h)." 47 U.S.C. Sec. 254 (c).

While the granting of universal service funds has been to improve communication resources for people in a community context, funding applications and disbursement processing has been divided along different lines:

- High Cost and Low Income
- Rural Health Care
- Schools and Libraries

These three divisions, while serving their specific constituency, have differing processes and objectives that have become an impediment to delivering the objectives of universal service to the broader community, in particular in the case of health care.

The issues that impact the Rural Health Care Fund primarily rest in three specific areas: 1) education, 2) restrictions within eligibility definitions, and 3) the application process.

Nevada has been engaged in a project over the past two years entitled "Conquering the Digital Divide in Frontier Nevada." A major premise of this project was to address policy issues between the School and Libraries Fund and the Rural Health Care Fund. We understand that small rural and frontier communities, of necessity, must aggregate their technology needs and resources. Our project partnered with fourteen communities to assess their technology capacity and develop technology solutions. Six of these communities are completing their solutions, and within several of them, aggregation of demand and integration of a telecommunication system has occurred between schools, libraries and rural health providers. Appropriately, small economically fragile communities must be concerned with avoiding duplication of precious resources, specifically in settings where demand will be low volume and the cost will be high.

An illustration of a typical scenario would be: a community consisting of a few hundred citizens, or less, located several hundred miles from a major population center with no local Internet provider. The community would typically have one or more K-12 schools, a hospital, health clinic, or solo practitioner, a police station or sheriff's office, a Fire Department, possibly a small library, and local town government building(s).

All of these entities need to have data/video connections to the outside world to efficiently conduct their business and deliver services that are comparable to their urban counterparts.

- The K-12 schools and public libraries want to provide data and video distance-learning opportunities from remote universities and community colleges and the Internet.

- The Health Care facilities want to provide remote rapid diagnostic capabilities from urban hospitals and medical schools for treatment of natural diseases or those that may be from unnatural causes such as a bio-terrorist incident. In Nevada, it will become increasingly important to provide this capability to be able to quickly respond to radiation incidents should nuclear waste ultimately be transported across the state. Continuing education and training for local medical personnel by connecting to medical schools and other training facilities in the larger metropolitan areas is also a high priority.

- Law enforcement has training needs as well in addition to the a need to digitally communicate with other federal, state and local agencies to transmit information on criminal activity including photographs, fingerprints, criminal history, DMV records, etc.

In order to provide this capability to these rural entities, network connectivity needs to be supplied that consists of:

- End user equipment including CSU/DSU's, routers, video equipment, etc. These are one-time costs, that for a typical installation in Nevada, could run anywhere from $25K to $40K **per site** depending on the services provided.

- Installation of a communications circuit between a central hub location in the community to the nearest public or private backbone network point of presence. The cost to provide this circuit includes one-time installation costs and ongoing lease or maintenance fees associated with continuing operation of the circuit.

- The one-time installation costs could include significant one-time equipment costs (typically tens of thousands of dollars) in the case of a wireless solution or more modest one-time costs (anywhere from $500 to $5000) associated with establishing a circuit with a commercial provider.

Ongoing lease/maintenance costs could range anywhere from a few hundred dollars a month to a few thousand dollars a month depending on the location of the facility and the rates charged by commercial telecommunications service providers.

Unfortunately, the cost associated with developing this type of data and/or video connection in a rural community is so prohibitively high that few of these small and relatively poor communities, or agencies within these communities, can afford it on their own.

Our discovery that the Rural Health Care Fund and use of the Universal Service support mechanism, has fallen short of our expectations to assist needy communities and necessary services in rural America is disappointing. To this end we have coordinated a review and response to the FCC WC Docket No. 02-60 to address amending the current provisions which would allow for improved efficiency in the processing of applications to the fund, and address expanded definitions of RHCC criteria to reflect the realities of rural and frontier telecommunication and health care challenges.

Partnered in the preparation of this response are: The School of Medicine-State Office of Rural Health, the systems computing administration of the University and Community College System of Nevada, the State of Nevada Attorney General's Office, the Rural Telecommunications Task Force, and Nevada Health Centers, Inc.

In general, Nevada's comments regarding a weak response of applications to the RHCC fund is due in part to the fact that much of the rural connectively has been supported through the University and Community College System of Nevada, hereafter referred to as UCCSN. Individual applications to the Fund have been limited by the inability to connect site specific locations at a reasonable cost, and without the benefit of reimbursement for infrastructure build out (as allowed in the Schools and Library fund), solo and small group practitioners and facilities are compromised by the cost. Adding to these circumstances is the application process and necessary knowledge required of health care practitioners that do not have the discretionary time to understand the complicated Fund procedures.

Unlike Schools and Libraries which have large organized infrastructures to support telecommunications development, connectivity, maintenance and paperwork filings; rural health practitioners and facilities are typically solo units that must individually commit the time and resources to investigate technology options, pricing, negotiations, engineering and all associated paperwork for Fund access. These concerns were inherent at the initiation of the RHCC and therefore should have been anticipated.

We are pleased that the FCC is concerned with troublesome aspects of the program and seek improvements to the regulations and expansion of Fund dimension. We are too are interested in providing constructive criticism of the current regulations and hope that our suggestions have merit for the FCC to consider their incorporation into new guidelines and conditions.

A. Eligible Health Care Providers

The restrictive definition of health care provider has severely limited many important practitioners and facilities that provide critical service to rural and frontier areas. Expansion of the definition of these practitioners should be done to recognize the spectrum of rural health provider. Additionally they should also be recognized for the role these providers play (public and private) as part of the fabric of a health care network in responding to emergency medical issues and other aspects of health services as part of bioterrorist preparedness.

At a minimum, the definition of rural health care provider should be expanded to include: physician and physician groups without regard as to how they are organized (public or private-profit, non-profit or not-for profit); Emergency Service Personnel (all ranges from EMT Basic to Paramedic) including EMS services (any organized, licensed provider group which may include ambulance services, fire services, or law enforcement agencies); Nursing homes (either free standing or as attached part Skilled Nursing Facilities to a rural hospital); Hospice services and personnel (as licensed by states and consisting of various ranges of personnel primarily from Nursing backgrounds; Substance Abuse Treatment Centers inclusive of licensed personnel; Mental Health Facilities inclusive of licensed personnel; Community Health Centers, Federally Qualified Health Centers, and Rural Health Clinics (all categories defined as "safety net providers" and certified by Medicare with these organizational titles); and rural health entities or practitioners which might be further specified by a state, subject to a standardized set of characteristics.

If an applicant should apply to the Fund which does not cleanly fall into a specified category, there should be a mechanism in place to request a state (possibly the Attorney General's office in association with a State Office of Rural Health and State Health Division) to quantify that entity based on a set of characteristics.

B. 1. Eligible Services

Allowing for the continual and rapid development of technology solutions to provide Internet Access, as well as other forms of telecommunications, should not be restricted by definition, but rather accommodate wording that supports the intended purpose. However access to Internet services is acquired in rural and frontier areas, the RHCC should allow for discounted rates and further provide funding against the cost of access charges to Internet services. To accommodate the impact of this provision nationally, a percentage formula could be applied. The degree of rurality might be utilized as a factor in providing a larger offset to the most remote areas, with a lesser percentage to those that are located more in proximity to urban and suburban areas. Currently a new definition of Frontier is recognized and utilized in America (developed through the Frontier Education Center-see attached) that can be applied to all counties in the United States to differentiate rural and urban. This data is currently available and could be quickly

utilized to determine the fiscal impact of separating rural and frontier areas against zip code information.

Access to dial-up Internet service can supplement the development of direct-connect public/private healthcare wide area networks and significantly impact a greater percentage of rural territory due to pervasive availability of traditional dial tone. This could be a critical factor in emergency preparedness and response for areas that are still without technology capacity except through POTS. Additionally, as more health care education is delivered on web-based systems, the demand for connectivity continues to increase. More products that link patient data, clinical information for providers and consumers, and practice management support are web based and also are driving demand.

A possible consideration might be a proportional offset for Internet services which would decline over the course of five years to allow for new customers to the Fund each year, or would have a differential offset for public non-profit versus private for profit

Internet services will be the most efficient means of mass communication for information dissemination, data exchange and some forms of telehealth in the event of a bioterrorism event. As enhanced technology is available and commonly utilized across the Internet, recognition of how health services delivery, information exchange and public health and safety are supported should be incorporated into the eligible services definition.

Toll charges should be eliminated as they are becoming obsolete in many areas and the rural/urban rate comparison should be eliminated and allow for rural areas to be compared to other rural areas.

There is a need to expand the definition of allowable support by the USF. The Rural Health Care Fund currently only allows for a subsidy for the difference between rural and urban ongoing circuit costs associated with making a rural network connection. However, these costs are only a part of what it takes to establish this type of connection and many communities need help with the one-time equipment and installation costs as well. A circuit is of no use if it doesn't have anything to connect to and end equipment costs have proven to end progress for many communities.

In other cases, particularly in Nevada, through collaborative efforts at the State level, high capacity fiber optic network capability has been developed. This runs along major interstate routes and runs right through many rural communities in need of connectivity, but there is no service distribution point available to allow the local community to an "on-ramp" to the backbone network. If made available, USF support could be effectively utilized to help develop these rural backbone distribution points that would provide cost effective, high-speed, access to many rural communities.

In many cases, wireless technology may be the most cost effective solution to the health care connectivity program. The State of Nevada has, through a collaborative effort with education, law enforcement, the Department of Transportation, and other key public service and safety entities, developed a statewide two–way digital radio system capable

of both voice and data transmission. Utilization of the statewide digital radio system by rural health care facilities could in several cases provide the necessary connectivity at a fraction of the traditional cost by leveraging existing assets, yet the equipment necessary to establish this capability is currently not eligible for USF support.

These two examples are indicative of some of the opportunities that could be taken advantage of to more rapidly develop rural connectivity if more flexibility were allowed in the use of the USF.

2. Services Necessary for the Provision of Health Care

Comments placed within this section have applicability in other sections of this docket, but have been placed here to address a broad area of concern regarding the eligibility of infrastructure build out, equipment needs and expanded interpretation of health care services.

In Nevada, our experience with utilization of lines devoted to rural health care includes education, in particular, distance education. Proportional costs associated with education of the health providers is allowable, yet other associated programming to **prepare** rural health practitioners, such as basic chemistry, anatomy, physiology, is disallowed. This is an educational barrier and disadvantages rural and frontier communities from preparing their own practitioners and staff who have a higher probability of retaining to their "home" community.

Rural communities now approach the health facilities for a variety of needs that include education. Allowing the system to utilize USF for these purposes makes better use of the system capacity, and further promotes educational subject matter that prepares the practitioners of the future.

Additionally, hospital administrators and other rural health providers need to use the technology and the system to address such facility issues as quality of care, reimbursement, infection control, and in concert with bioterrorism events, coordination with the State Health Division and Department of Emergency Management for information and data exchange. None of these administrative purposes are supported yet are critical to the operational efficiencies and preparedness of practitioners and facilities within their communities.

Critical to addressing bioterrorism preparedness is communication between Emergency Medical Services (EMS) and health facilities. In a report to the FCC in 1999 by the Public Safety Wireless Network (PSWN) Committee, EMS and associated fire support services were identified as having inadequate radio communications resources to cope with a major crisis or disaster. The events of 9-11 confirmed these findings, and subsequent meetings have been hosted by the FCC and PSWN to identify solutions. Key findings identified that 53% of the Emergency Medical Radio systems are in excess of 25 years old and cannot provide the operational support necessary to cope with a minor or

major bio-hazard, nuclear, or natural disaster. The recommended solutions to resolve these deficiencies included:

1. Development of shared regional radio systems that support all public service providers and responders;
2. Implementation of new trunked radio technologies and systems that can meet day-today and emergency voice and data requirements; and
3. A coordinated outreach program with key decision makers within State and local governments that can provide the leadership necessary to coordinate institutional issues and funding to implement recommendations 1 & 2.

The Nevada EMS system is typical of FCC and PSWN findings. The deficiencies include aged equipment, older basic technologies, little or no interoperability with other public safety providers and, as noted in post 9-11 meetings, an inability to react and respond to multi-jurisdictional emergencies. Major flaws of the currently-used EMS radio system include equipment that is twenty-two years old and no longer supported by the manufacturer, resulting in technical non-reliability; it is difficult to use resulting in operational non-reliability; and it is not capable of communication with radio systems utilized by other agencies and services, and therefore not capable of providing operational support for a large multi-agency/area emergency or disaster.

Nevada is interested in replacing the existing EMS radio system with service on the Nevada Shared Radio System (NSRS). This would mean that the new EMS radio system would operate a fully integrated, but virtually separate, radio system. It would allow for EMS providers to provide communications between health facilities and medical first-responders such as paramedics.

Important features that factors and functionality into bioterrorism preparedness include: ease of use, long distance communication; communication with other agencies (interoperability) when needed, yet privacy (encryption) on a normal basis; capability of telephone system interconnection, and; data transmission and the capability of network/email.

C. Calculation of Discounted Services

The maximum allowable distance rule should be eliminated and if a substitution is needed, replacing the MAD to the closest licensed or certified trauma center for subsidy would most likely accommodate a better calculation for most rural and frontier areas.

Section 254(h) of the Telecommunications Act of 1996, provides incentives aimed at making the telecommunications charges reasonably comparable between the rural and urban areas of Nevada as well as the rest of the country. 47 U.S.C. Sec. 254 (h). However, Nevada's rural health care providers have not been in a position to take great advantage of universal service funding because most of rural Nevada is served by Nevada Bell which generally makes T-1 lines available at the same postage stamp rate regardless of whether the health care provider resides in rural or urban area.

In rural Nevada, the small populations and lack of infrastructure where there are communities, is a much greater hindrance to the development of telemedicine than distance from the appropriate urban area.

C. 1. Interpretation of Similar Services

High Cost Phone rates- Issues related to comparing high cost rates in urban areas may be a barrier to installation of digital phone service in rural communities. If a comparable urban rate is $600 dollars a month, and the rural rates are set against this cost, it may still be cost prohibitive to a rural community accessing digital capabilities. It is important that limited rural operating margins be taken into consideration in offsetting access to digital services. In Nevada two examples exist. Some small communities did not take advantage of digital services early on because of the installation costs and the first months' cost, before Universal Service assisted in the subsidy. A grant was written to request funding to offset the installation costs, but still the first few months of operating costs had to be paid before the publicly funded clinics were able to utilize digital services. This is a significant barrier to publicly funded services, as they do not have the discretionary operational funds to "advance" the cost of a needed telecommunication service.

There are other examples where it may cost more for multiple connections, cross town T-1 to a rural hub; rural hub on different T-1; or multiple T's to an urban site. The total cost may be more than an urban site. All lines combined, each "T" is treated separately, and even though real T-1 is equivalent to urban costs, added together, the total costs for mileage are far greater than an urban application. All costs should be combined together for cost support.

It is imperative that the FCC consider wireless solutions for reimbursement in the amending of the Rural Health Care Fund. Our technology assessments in several rural and frontier sites were more cost effective and the most efficient technology solutions for communities to consider given their remoteness and low end-user volume.

D. 1. Streamlining the Application Process

Rural health care providers typically do no have professional grant writers or personnel experienced with dealing with governmental grant applications. Consequently, they can be easily intimidated and frustrated by the application process. Coupling this unfamiliarity with the currently limited scope of eligible support leads many of these facilities to say "Why, bother? It's not worth my time."

The FCC needs to streamline the application process and provide increased support to applicants by more clearly supplying and publicizing contact toll-free phone numbers and email addresses if applicants have questions.

D. 3. c. Encouraging Partnerships with Clinics at Schools and Libraries

We wish to frame our comments in the context of partnerships **between** clinics, schools and libraries as the appropriate avenue to be support by both funds. Some of the issues to be resolved include:

- Modify h-rate program requirements and general methodology to align with e-rate program.
- Change program requirements so that the applicant is able to share connectivity bandwidth and infrastructure with other public entities.
- Adapt the application system to accommodate projects with multiple providers, multiple recipients and using both e-rate and h-rate funds.
- Develop subsidy standards so that for-profit health care providers can gain h-rate funds similar to private schools and e-rate funds.

While the Universal Service Fund exists to break down the digital divide and remove the barriers to fast, reliable telecommunications connectivity, h-rate rules and regulations have become a barrier themselves to Universal Service Fund deployment. This means that the elements of quality health care made possible by communication-mediated services and information cannot be made readily available in these communities as intended by universal service.

The Schools and Libraries Division of the Universal Service Administrative Company received regulatory flexibility that fosters closing the divide whether schools are urban or rural, small or large, public or private. This flexibility is missing from the Rural Health Care side of the USAC. Furthermore, the RHC application process does not accommodate (it actually prevents) partnerships between schools, libraries, health care providers and other public entities in rural communities. Only one of the entities can acquire and use a communications line unless a difficult analysis of usage and costs is performed and exceptions to the regulations are requested.

It is apparent that making data/video connections to rural areas can be challenging from both a technical and economic standpoint. Most communities that have successfully implemented some sort of rural connectivity have done so, not as individual entities, but by collaborating and sharing the resources of the individual stakeholders within the community i.e. education, libraries, law enforcement, health care, etc. to make it happen. Each of these entities has their own public funding mechanism that may include federal funding of some sort.

The need for combining of services was made evident in a project funded by the Nevada Digital Divide Project. Owyhee Nevada, is a small Native American community located on the Nevada-Idaho boarder. In 1999 representatives from the community including representatives from the School, Library, Tribal Government and Health Care facility met to begin discussing the barriers to digital services in the community. Several meetings were held and it was decided that the only way to afford the high cost of digital services was to combine needs and funding. Utilizing digital divide funds, tribal funds, school district funds and other funding, an extensive project was undertaken to wire the community of Owyhee. Wireless t-1 lines, trenching and other mechanisms were utilized

to wire the community together to utilize the full capacity of a t-1 line. The school, health care facility, library and tribal offices now all have compressed video and Internet access. The community has written a grant for a community college building to be linked to the t-1 line to further utilize the t-1 connection. This project is an example that in extremely isolated and remote communities, the need to consolidate the demand and better utilize expensive digital services can work effectively.

The same type of collaborative approach has been taken at the State level to allow collaboration between State agencies to jointly develop and share telecommunications infrastructure.

The FCC should realize that these types of collaborations serve to leverage the resources of all the parties involved and that any policies and regulations developed or modified should **encourage** rather than hinder these types of collaborative efforts.

In summary, I am hopeful that these comments provide some illustration of issues and recommendations that could assist the infrastructure development for rural health care, expand the definition of eligible providers and services and amend the complicated application process for the public.

I wish to acknowledge our partners in preparation of these materials including other contributions by JDL Technologies and the Nevada Department of Information Technology.

We are prepared to work closely with the FCC on the next phase of addressing the national comments and seek beneficial amendments to the Rural Health Care Fund.

DESIGNATION OF FRONTIER

The following matrix is the tool for determining designation as frontier.

Total Points Possible: 105

Minimum Points Necessary for Frontier Designation: 50

"Extremes": 55 - 100

DENSITY	Persons per Square Mile	Points
	0-12	45
	12.1 - 16	30
	16.1 - 20	20
Note: Per county or per defined service are with justification.		
TOTAL POINTS DENSITY		
DISTANCE IN MILES TO SERVICE/MARKET		Points
	> 90 Miles	30
	60 - 90	20
	30 - 60	10
	< 30	0
Note: Starting point must be rational, either a service site or proposed site		
TOTAL POINTS DISTANCE IN MILES		
TIME IN MINUTES TO SERVICE/MARKET		Points
	> 90 Minutes	30
	60 - 90	20
	30 - 60	10
	< 30	0
Note: Usual Time: Exceptions must be documented (i.e.: weather, geography, seasonal.)		
TOTAL POINTS TIME IN MINUTES		
TOTAL POINTS ALL CATEGORIES		

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