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## PROJECT NARRATIVE

### EXECUTIVE SUMMARY:

This Health Demonstration project along with the "DAKOTA TELEMEDICINE SYSTEM" (DTS), proposes to enhance its current system and partner with two Veterans Administration health facilities, two Indian Health Services and Health Manpower Shortage Areas. The objectives are: ✓

1. New and expanded health care to Native Americans, Paralyzed and Disabled veterans and the general veteran population from two different regional areas utilizing one primary care network.

### Demonstration project will provide:

- A. Medical consultations with VA Health Facilities
  - B. Pre- and Post-operative consultations
  - C. 24-hour, 7 day emergency care
  - D. Health Education, support and wellness programs
  - E. Mental Health Access
  - F. Accessible Health Care
2. The effect on (REAP) Rural Economic and Area Partnerships as designated by President Clinton. The impact of health care on Native Americans and Health Manpower Shortage Areas.

**PROBLEM DEFINITION:** Veterans in rural communities travel hundreds of miles to obtain primary and specialty health care services at area VA health centers. Data from the US General Accounting Office, December, 1995, indicates living within 5 miles of a VA hospital or outpatient clinic significantly increases the likelihood that a veteran will use VA health care services. The use of VA facilities, in terms of likelihood of use and frequency of use, decline significantly among veterans living more than 5 miles from a VA facility. Only 11% of veterans live within 5 miles of a VA hospital providing acute medical and surgical care. Eighty-nine percent of veterans live more than 5 miles from a VA hospital which provides acute medical and surgical care. (See Exhibit 1-A). Veterans who live close to a VA facility are more likely to use a VA hospital and outpatient service users appear to be sensitive to distance. (See Exhibit 1-B). ✓

Every 1,000 veterans living within 5 miles of a VA hospital, 34 utilized the VA hospital for acute medical or surgical care. At greater distances from a VA hospital, 15 veterans out of 1,000 utilized VA hospital care. Similarly, the number of outpatient users per 1,000 veterans was significantly higher for veterans living within 5 miles of a VA outpatient clinic- 131 veterans for every 1,000 veterans- than at greater distances- less than 80 veterans per 1,000. (See Exhibit 1-C)

North Dakota is one of the most rural states in the United States. The population of 641,364 (1990 Census) is distributed over 7,655 miles. Fifty nine (59%) percent of the total population reside in communities with less than ten thousand people. Access to health care for the majority of North Dakotans residing outside urban areas (59%) is poor, exemplified by the fact that 43 of the 53 counties in North Dakota are designated as either partial or full Health Professional Shortage Areas. The low population density, poor access to health care, aging, less mobile population are in part contributing factors to North Dakota's claim to the highest per capita health care cost of any state in the country (Morgan Quitno and Families, 1994). The characteristics of ✓

isolation and poor access to rural health care are more prominent in North Dakota. The population that is 65 years and older is 14.3% compared to 12.6% nationally. The population that is <100% of poverty is 13.8% compared with 13.1% nationally. The population <200% of poverty is 36.4% with no national figure comparison.

There are two project goals:

1. To provide new and expanded health care to Native Americans, Paralyzed and Disabled Veterans, veterans 65 years of age and older and the general veteran population from two different regional areas utilizing one primary care network and one telemedicine network. This goal will be accomplished by utilizing a primary care network consisting of forty-five(45) existing hospitals and clinics in their local communities for primary health care needs.(Exhibit 4) When these veterans need specialty medical consultations, they may travel limited miles to one of the twelve (12) telemedicine locations.(Exhibit 5) At these locations veterans may consult with a VA medical specialist utilizing one of these telemedicine locations. These telemedicine locations will provide the veterans not only medical consultations but to include:  
**pre- and post-operative consultations, 24-hours a day, 7 days a week emergency care, health education, support groups and wellness programs, mental health access and most important accessible and convenient health care without traveling hundreds of miles.**
2. To demonstrate the impact this primary care network and telemedicine locations have on 2-(REAP) Rural Economic and Area Partnerships within the state of North Dakota. (See Exhibit 6) President Clinton agreed to work with Senator Dorgan of North Dakota to develop a pilot project to address the unique rural problems of economics, job loss and the out migration of people.

These two REAP areas, will use federal, community as well as private funding to help local communities diversify and create new employment opportunities. This demonstration project will show the impact on Health Manpower Shortage Areas and Native American Reservations where this project concentrates its efforts.

PROBLEMS AND NEEDS: This health demonstration project focus is on 47,181 of the above mentioned veteran demographics in the states of North Dakota, Northern South Dakota and eastern Montana. 43% of this population are veterans 65 years of age or older, 4% are Native American Veterans, 7% are Paralyzed and Disabled Veterans, and 16% of these veterans come from a designated REAP location. (Please see Exhibit #14 for patient descriptions).

PROJECT EXPLANATION AND ITS EFFECT ON THE POPULATION: This demonstration project will provide a health care delivery system that is accessible and convenient with multi-locations utilizing the 45-Primary Care clinics and hospitals and the 12 telemedicine locations. These telemedicine systems provides two-way, fully interactive, audio and visual communications. Medical communication will be accomplished from urban to urban, rural to urban, rural to rural, VA to VA, urban to VA, rural to VA, Native Americans to Native Americans, Native Americans to urban, Native Americans to rural, Native American to VA. This project will provide both patient type with that convenient health care location in their community without extensive travel.

ROLE OF THE PRIMARY CARE NETWORK: The primary care network comprises of 45 clinics and hospitals. Patients may obtain primary care needs such as: physicals, medication renewals, and minor procedures. These locations will support the local health care facility while generating income from contract services.

**ROLE OF TELEMEDICINE LOCATIONS:** The telemedicine locations comprises of 12 locations. Patients may obtain primary care needs such as: physicals, medications renewals. Unlike the primary care location, these locations can provide: Pre- and post-operative consultations, 24-hour 7- days a week emergency care, if necessary, immediate medical consultations with one or both of the VA Health Facilities or other tertiary care centers in Bismarck or Minot, provide increased health education programs, mental health access. Telemedicine is not unique in providing health care to veterans but what is innovative is the utilization of telemedicine and the primary care network utilizing one administration the "Dakota Telemedicine System."

**COMMUNICATION BETWEEN VA HEALTH FACILITIES:** This demonstration project will evaluate the role of telemedicine between Fargo, North Dakota - VA Health Facility and the Miles City, Montana - VA Health Facility. These two VA's are located in two different regions which also makes this project unique.

**GOALS AND OBJECTIVES (See Exhibit 10- Project Time Table)**

**TECHNICAL APPROACH:** The video conferencing equipment and network the Dakota Telemedicine System has chosen is state-of-the-art. V-Tel systems were chosen because of the open based PC architecture, resolution (edge of detail) capabilities, the motion handling capabilities, the accuracy of color reproduction, the ease of use and the technical service and support. V-Tel, endorsed by the Volunteer Hospital Association, has more systems installed in health care facilities than all other brands combined. V-Tel has set the standard or interactive multi-media video conferencing in the health care industry.

During the research and development stage of our project, 1/4, 1/2, 3/4 and full T1 lines, satellite options and microwave communications were considered. It was determined that a dedicated T1 network was necessary to achieve access, resolution and confidentiality.

U.S. West is the single point of contact for the Dakota Telemedicine System. If networking problems occur, a single phone call is placed from Medcenter One Health Systems to the U.S. West Repair Center. U.S. West has given the Dakota Telemedicine Systems a "High Priority" status when a trouble circuit is reported. This facilitates immediate response from U.S. West for repair. The DTS has only experienced one troubled circuit since the inception of the project. Additional information on the technical approach is contained in the budget narrative under equipment, software and support.

The Dakota Telemedicine System has a dedicated analog line which the rural sites utilize for scheduling telemedicine consultations. This telephone line is answered 24 hours a day, 7 days a week. When the call is received, the level of urgency, the time that is best for the rural provider and patient, and the specialty they are requesting is determined. The staff contacts the specialist, arranges for the consult and returns a telephone call to the rural site to confirm times and specialist that will be utilized.

**CONFIDENTIALITY:** Patient confidentiality is a "MUST". The Dakota Telemedicine System clearly understands from experience the need for personal patient privacy and data security. All telemedicine/teleconferencing systems are strategically placed in private emergency departments and/or patient exam rooms. The entire staff from the telemedicine locations are trained professionals understanding the importance and security of any information regarding consultations. Any breach of this confidentiality will lead to disciplinary action.

**ABILITY TO SERVE AS A MODEL:**

**Foundation Model** -The "Dakota Telemedicine System" has provided this demonstration project as a foundation for providing over 200 medical consultations in the past year (February 1995 to February 1996). This foundation includes the telemedicine locations of Linton, Wishek, Bowman and Fort Yates.

**Demonstration Model**-The above mentioned foundation model will be replicated using the research and development in the establishment of the "Dakota Telemedicine System". This research will provide expertise in equipment purchases and placement, confidentiality, record keeping, staff requirements, database, and evaluation.

**Ability to Serve as a Model for the Nation** -This demonstration model when completed will:

1. Demonstrate the working relationships between a primary care network and telemedicine locations in providing access and expanded health care for veterans within their own communities (unique to the Nation).
2. Demonstrate the effectiveness of the Miles City, Montana, VA and the Fargo, North Dakota, VA located in two separate service areas working together to provide medical consultations for veterans in the primary care networks and telemedicine locations (unique to the Nation). ✓
3. To serve as a model for the Nation on the impact VA Medical Centers, primary care clinics, hospitals, and telemedicine locations have on Rural Economic and Area Partnerships (REAP). These REAP areas are designated by President Clinton and Senator Byron Dorgan of North Dakota. These REAP areas are the only two in the Nation and will show the economic impact (decreased job loss and the out migration of people) of contract services with the VA health facilities. | \* el

**APPLICANT QUALIFICATIONS:** The Dakota Telemedicine Systems (DTS) will encourage and improve the use of advanced telecommunications to help improve medical services and medical education benefits to Veterans of North Dakota, South Dakota and Montana. The delivery of health care and health education to these Veterans poses a significant obstacle with distance and accessibility to Veterans Administration Health Care Facility. In order to circumvent this obstacle, 11 health care organizations and its Dakota Telemedicine System have joined forces to improve the Veterans health care access and provide medical education to the Veterans in these three states.

The Dakota Telemedicine System's (DTS) primary sponsor is Medcenter One Health Systems located in Bismarck, North Dakota. Medcenter One Health Systems is a large integrated tertiary care facility and employs more than 120 multi-specialty physicians. The DTS consists of current configuration the main location (hub) in Bismarck and the spoke sites, community Hospitals of Linton, Wishek, and Bowman, North Dakota. An additional site is being installed in the Standing Rock Sioux Reservation in Fort Yates, North Dakota. The DTS has been in operation since February 1, 1995 (14 months). At the time this application was prepared, over two hundred and fifty specialty medical consultations have been completed. ←

In comparison to other private telemedicine projects, the DTS is unique in that the program has the administrative commitment through dedicated corporate funding and support as well as an additional component which other telemedicine programs lack, medical direction. The DTS employs a full-time medical director who is committed to the success of the program. It is this medical directors job to work with physicians at the hub site as well as the rural sites. To address obstacles, which are lack of physician understanding with regard to technological capabilities of

the system, concern about losing patients to other centers and willingness to participate in patient care activity for which they cannot be reimbursed. The DTS employs a full-time Telemedicine Coordinator and Secretarial staff. (The positions are outlined in the budget narrative).

In addition to the dedicated individuals of the Telemedicine department at the hub site, each rural site has a designated site coordinator. Job description included in budget narrative.

Other important differences with the DTS: an initial commitment to the delivery of health care to rural North Dakota beyond the scope of continuing education and mental health services. Specifically, the use of medical peripherals has been emphasized in order to encourage physician participation from the outset of the program. This has been done by a "hands on" orientation of all primary care providers at the rural sites as well as specialty consultants at the hub site.

A second difference in the DTS has been with regard to the direct participation of the rural sites in determining what educational programs are needed. Wishek, Linton, and Bowman have requested the following educational programs: CME via the Grand Rounds presentation at Medcenter One, ACLS courses twice a year for each hospital, monthly emergency physician participation in EMS run review at all sites, nursing CME through the Medcenter One School of Nursing and the North Dakota Nurses Association, and additional outreach services through Medcenter One for rural residents (See Appendix II). Additional interest has been expressed in utilizing the paramedic school for paramedic students who are taking the course at the rural site. Administration and staff at the rural sites estimate 10 to 12 participants per session with regard to the video conferencing capabilities of the DTS. Once the medical and educational links are established, the DTS estimates approximately six to eight hours of use per day for the 12 sites during the first 12 months of the project.

With DTS's past experience in operation, staff and technology will share its knowledge with all twelve providers of this project. (See exhibit 11 for current staff positions).

**PARTNERSHIPS AND COMMUNITY SUPPORT:** This demonstration project involves two non-profit urban hospitals, eight non-profit rural hospitals, and five veteran health care facilities. The partners also include two Indian Health Services Units. (Additionally, 33 rural clinics and hospitals comprises the Primary Care Network.)

Medcenter One Health Systems and its sponsored Dakota Telemedicine System will be the administrators of both the Primary Care Network and Telemedicine locations.

The two non-profit urban hospitals, Medcenter One in Bismarck and Trinity Medical Center in Minot will provide medical consultations with specialists as a part of their financial commitment. (See Budget). These two urban hospitals along with the other Primary Care Network (minus 2 VA's) will be able to receive payment for services based on CAMPVA or negotiated fee schedule set by the VA. (See Exhibit 15 and 16 for organizational chart and letters of support).

**SUPPORT OF END USERS:** This demonstration project will establish relationships between Veteran's Health Facilities, Indian Health Service Units, Urban Hospitals and Clinics and Rural Hospitals and Clinics.

The experience Medcenter One Health Systems has in the Dakota Telemedicine Project and outreach clinic operations will bring all these health services together to expand medical knowledge of staff and the community.

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With the implementation of these telemedicine sites and the utilization of the Primary Care Networks, community hospitals and clinics can increase services offered to their respective locations. Telemedicine locations will provide the security to patients living in these rural areas by providing specialty care in their home town utilizing telemedicine. This technology will provide providers an extra opinion and confidence in treating patients. This telemedicine locations provide health care facilities the edge on recruiting providers with providing the state of the art link with a tertiary care facility to address difficult health care issues.

**EVALUATION OBJECTIVES:** (See Exhibit 13 for evaluation objectives).

**DATA COLLECTION:** Data will be collected in all twelve telemedicine sites by site coordinator. Evaluations will be implemented three times as indicated in project time table. After its collection of data, evaluation development, implementation and data analysis will be completed by the University of North Dakota Center for Rural Health, Brad Gibbens, MPA. (See budget narrative for explanation of data collection).

**DISSEMINATION OF RESULTS:** Evaluation reports will be provided to all participating telemedicine locations, presentation will be made to VA's, Indian Health Administrations, Community Telemedicine locations and urban sites utilizing demonstration project telemedicine equipment, reports and papers will be submitted to conferences and meetings, presentations will be made to VHA and V-Tel Advisory Panels, presentations to REAP Area Administrations on the impact the demonstration project has on designated areas.

**REDUCING DISPARITIES IN ACCESS TO AND USE OF THE NII:**

This demonstration project focus's on 47,181 veterans in three states of North Dakota, South Dakota and Montana.

- \* 43% of this population are 65 years of age or older (See Exhibit 2, 2A and 2B)
- \* 4% of this population are Native American Veterans living on one of four reservations this project serves
- \* 7% of this population are Paralyzed and Disabled Veterans (See Exhibit 9)
- \* 16% of this population are from designated REAP areas which have unique problems of economics, job loss and out migration of people (See Exhibit 7)

**Profiles of Communities this demonstration project benefits:** This project reflects the Communities of less than ten thousand people. Access to health care for the majority of Veterans residing outside urban areas (59%) is poor, exemplified by the fact that 43 of the 53 counties in North Dakota are designated as either partial or full Health Professional Shortage areas. The low population density, poor access to health care, and aging, less mobile population are in part contributing factors to North Dakota's claim to highest per capita health care cost of any state in the country. (Morgan Quitno and Families, 1994).

**Project Impact to these Veterans in these Communities to help overcome barriers:**

1. Increased health care facilities for Veterans to obtain health care in their local community.
2. Established emergency care.
3. No established mental health, support groups, or wellness programs.
4. Decreased travel requirements, instead of traveling hundreds of miles, health care in your local community hospital or clinic supported by contract services from the VA Health Care Facility.
5. Veteran patients 65 years of age and older, Native American Veterans, Paralyzed and Disabled Veterans whom have increased problems with access to health care may obtain locally.