

# NARRATIVE

## A. PROJECT PURPOSE

### A.1 Problems and Needs

**Target population profile:** The proposed program targets one of the most economically distressed minority and rural areas in the country, the Cheyenne River Sioux Reservation. The reservation is home to four bands of the Teton Sioux in a geographically isolated area of north-central South Dakota. Its estimated 3.2 million acres are clustered in a checkerboard of other state, federal, and private land holdings, making it roughly equal in landmass to Connecticut. Distances are long, and there is no public transportation and little traffic. The reservation is so isolated that the largest school, Cheyenne-Eagle Butte, has dormitories which house 200 students who would otherwise travel up to 50 miles each way for each school day. The largest town on the reservation is Eagle Butte, the tribal seat, with a population of 5,000. With no metropolitan area, the nearest cities are Pierre (90 miles) and Aberdeen (171 miles).

The reservation lies within Ziebach and Dewey counties, ranked 8<sup>th</sup> and 85<sup>th</sup> poorest counties in the country<sup>1</sup>. The following data characterize an area of extreme isolation and poverty, with the percent of people living below poverty 217% higher than the state average for South Dakota (13.2%)<sup>2</sup>:

	<b>Ziebach</b>	<b>Dewey</b>
Population density (per square mile; state average 9.9 persons)	1.3	2.6
High school graduates	71.4%	77.4%
Higher degree	12.0%	12.2%
Per capita income (\$17,500 state average)	\$ 7,463	\$ 9,251
% below poverty (federal guidelines)	49.9%	33.6%

Based on Indian Service Population and Labor Force Estimates of the B.I.A. Labor Force Report, the tribal enrollment is more than 14,000, of which 11,000 live on or near the reservation; *78% of the labor force is unemployed, and 96% of those employed fall below poverty guidelines.*<sup>1,2</sup>

**Lack of skilled labor:** Until September 2002, there was no state provision authorizing Indian Health Services to build or operate long-term care facilities and obtain a license, which is required for Medicaid billing. Because of this, many elderly and frail residents from local reservations to remain in their communities, among their families, rather than be “shipped” to nursing homes elsewhere in South Dakota which have limited resources for addressing their cultural issues of care. With recent landmark legislative changes, however, reservation-operated facilities can be built. Already, design has begun on an intergenerational facility on the Cheyenne River Sioux Reservation that will include a nursing home, assisted living residence, and day care. Scheduled for completion next year, this facility alone is expected to require more than 100 skilled positions at all levels of health care.

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<sup>1</sup> Indian Service Population and Labor Force Estimates, 1999, B.I.A. Report. 200 Census Data lists the population at 8,470. The Cheyenne River Sioux Tribe has determined this is an undercount based on the 1999 B.I.A. Labor Force Report and enrollment data.

More generally, healthcare and education facilities long have struggled with the shortage of trained healthcare workers in rural areas and especially in the Native American community. Locally, this need is growing, as evidenced by the open calls for skilled workers at all levels from area health care facilities, including the Sioux Valley Hospitals and Healthcare System. With new nursing home facilities now in the development stages, a floodgate of calls has been opened for trained workers.

**Lack of access to technology-related training.** There is a serious and pervasive need for greater access to technology-based training for adults. This is critical given the isolation of most adults on the reservation, the lack of computers in the home or Internet connectivity, and the lack of centralized training centers in the more than 20 communities and scattered homesteads.

#### **A.2 Proposed Solution**

South Dakota Health Technology Innovations, Inc. in collaboration with academic institutions and health care providers propose to develop a complete Internet-based Certified Nurse Assistant training program, supplemented for some of the laboratory-based training with in-person nursing and professional support. The development team--including the University of South Dakota School of Nursing, South Dakota Health Technology Innovations, Inc., Evangelical Lutheran Good Samaritan Society, Sioux Valley Hospitals and Healthcare System, and Minnesota West Technical and Community College--is working closely with the South Dakota Nursing Board to gain state approval of the Internet-based Certified Nurse Assistant training modules. The program is expected to meet certification requirements of all 50 states.

The project team is collaborating with Minnesota West Technical and Community College to develop and gain approval of the laboratory-based modules. The college currently has a proposal pending with the National Institutes of Health to develop online nursing labs beginning July 2003. If funded, the virtual laboratory developed as part of that project can be used to develop the laboratory components of the proposed Certified Nurse Assistant training program proposed herein as well. Topics and anticipated modules are included in Appendix A.

The technology infrastructure and program management will be through CRST Telephone Authority, who will work through the Cheyenne River Community Technology Center (hereafter CTC), which houses 20 computers with Internet connectivity. Prior to participants' link-up to this career-training program, they will complete a 3-week "introduction to computer learning" program at the CTC to become familiar with computers and the distance learning training modality.

The Certified Nursing Assistant training program is intended to train new employees in rural communities. Individuals interested in pursuing a full nursing degree could continue working on their LPN degree via distance learning through the Minnesota West Technical and Community College and their RN degree through the University of South Dakota's Internet-based nursing program. Each of these skill levels—Nursing Assistant, LPN, and RN—is needed within the community to satisfy employer needs and projected job openings at the new multi-care facility in Eagle Butte.

Although not directly a part of the proposed program, the University of South Dakota will coordinate healthcare career programs for high-school students based on its InMed program that helps Native Americans pursue medical degrees and other health care careers. Extended investigations of these careers will also be offered as part of an after-school science tutorial program. It is expected that these efforts will further impact on the need for healthcare workers locally and, in future years, serve as a feeder to the Certified Nursing Assistant program.

### **A.3 How the Solution Addresses the Problem**

In today's knowledge-based economy, practical knowledge and basic technology skills have become prerequisites for employment and career advancement. Unfortunately, access to any training almost always is a barrier to learning in rural, isolated areas. Some communities, such as the Cheyenne River Sioux Reservation, have made great investments in the necessary infrastructure that link geographically dispersed training sites. Building upon this infrastructure and collaborating with organizations that have expertise in health care, the proposed program has the opportunity to make a real difference in the economic health of the community and individuals.

Providing a venue for computer and healthcare training addresses the economic development needs of this community. The healthcare care training will prepare unemployed/underemployed adults for job opportunities in the area. The Good Samaritan Society is the largest nursing home and assisted living organization in the United States, and the Sioux Valley Hospitals and Health System has more than 10,000 employees in a four-state region. These organizations embrace this innovative, technology-based training as a way to address the critical shortage of skilled healthcare professionals and the increase in jobs that will be created by the new facility (letters of support attached).

### **A.4 Anticipated Project Outcomes**

*Outcome: The proposed project will improve the economic health of the Cheyenne River Sioux Reservation by harnessing existing technology infrastructures and creating lasting partnerships to deliver health care training to disadvantaged adults to prepare them in this area of expansion and critical shortage. The proposed project will also increase interest among youth in future careers in healthcare to impact on long-term needs of the area. A detailed table of linked objectives, activities, and measurements are presented in Appendix B.*

## **B. INNOVATION**

The proposed program works to create jobs in a severely economic depressed area through new telecommunications and information applications for healthcare. Throughout this proposal, we have presented a clear vision and specific activities that address the overwhelming challenges of isolation, poverty, and limited resources presented by the Cheyenne River Sioux Reservation. The proposed project is interactive—through the curricular design of the Internet-based Certified Nursing Assistant training. *We expect this program to serve as a model to other communities that face similar challenges.*

### **B.1 Technology to be used**

The on-line Certified Nurse Assistant training program can be accessed via the Internet through Minnesota West Technical and Community College. All that is needed to participate in

the training is a PC with multimedia capabilities and Internet access. The Cheyenne River Community Training Center has all the necessary computer equipment. The screening program and instructions for the program can be accessed at [www.pulluin.com/cc/](http://www.pulluin.com/cc/)

A modular program design was used to develop the program. This design has several key characteristics: it is broken up into *discrete blocks* or modules, each block or module is *loosely coupled* (as much as possible) with each of the other blocks and each block or module has the *maximum possible cohesion*.

Practically applied to the Certified Nursing Assistant program, this means a large and complex program is broken down into smaller blocks or modules (*discrete modules*) that are simpler to both create and maintain, and are far easier to understand. These small and relatively simple modules are the basic building blocks from which larger and more complex programs can be built. A full description including figures of the Main menu and descriptions is included in Appendix C.

### ***B.2 Overcoming Access—to Employment Training and Program Communications***

Program innovation is evident through the use of existing infrastructures to join geographically fragmented communities with no access to skilled training or computers. The project also creatively looks at extremely critical community issues, such as an 78% unemployment level unheard of most any community, and, in a practical and straightforward manner, creates skilled workers through technology to fill identified, open positions in the work force.

The CTC and CRST Telephone Authority will oversee recruitment and screening for the program. Outreach will be through community bulletin boards, newspapers, and radio and television stations. Applicants will be expected to have in-depth knowledge and familiarity with the community and a high level of commitment to the reservation community. Other outreach activities will include *community meetings* at Eagle Butte and four other surrounding communities on the reservation, held by the Project Manager. During these meetings, project management will describe the program and provide an overview of employment opportunities in health care.

After the grant period begins, the representatives from each partner and a representation of *participants* will form a program Advisory Board for the remainder of the program. This Advisory Board will meet monthly for the first year of the program and quarterly thereafter. Meetings will be conducted via V-Tel and conference calling to monitor progress and provide guidance as the project moves forward.

### ***B.3 Telecommunications in Health Care***

**CRST Telephone Authority** is a local telephone company wholly owned by the Cheyenne River Sioux Tribe, and a long-standing member of NTCA. As was mentioned earlier, CRST Telephone Authority is a 40-year old, profitable enterprise that is the most successful tribal-owned telephone company in the United States. It provides telecommunication services to approximately 3,000 customers located within the CRST Reservation over its 200-mile network of underground fiber optic cable. CRST Telephone Authority also provides Internet access and

cable television services, and its 24 employees provide the full range of services associated with a modern telecommunications company: help desk, invoicing, installation, repair, and servicing. The CTC will be served by CRST Telephone Authority's fiber network and T-1 connection to the World Wide Web.

## **C. COMMUNITY INVOLVEMENT**

### **C.1 Partnerships**

The proposed program boasts strong partnerships that bring to the project expertise in information technology, education, and state-of-the-art infrastructures upon which to build. Appendix D lists what each partner brings to the project.

**CRST Telephone Authority**, the most successfully run tribal-owned telecom company in the United States, has served the Cheyenne River Sioux Reservation for more than 40 years. CRST Telephone Authority began leasing computers in June 2000 through Lakota Network and over a two-year period, has leased more than 280 computers. A 2001 survey by the CRST and the National Telephone Cooperative Association (NCTA) served as a base for the needs assessment presented herein.

The **Cheyenne River Community Technology Center** opened in May, 2002. The center houses 20 computers with internet connectivity. The CTC enables self-learning by the community as well as provides formalized training that targets un-and under-employed adults, particularly women. Then Center is also open to the public for a modest usage fee. CTC's current focus is on four priority areas; (1) career instruction, job preparation and job skills training for adults, especially women; (2) life enhancing courses such as health and wellness, person financial planning, effective parenting; (3) accessibility to the entire community; and (d) creating an awareness and interest in technology-related education.

**South Dakota Health Technology Innovations, Inc.** in Vermillion, South Dakota is a research and development company specializing in the development of Internet and computer-based healthcare education and training programs. The company has developed Internet-based training programs for and in collaboration with federal agencies and major health care facilities.

**Sioux Valley Hospitals and Health System**, Sioux Falls, South Dakota is a regional health care provider with facilities in four states and more than 10,000 employees. The organization provides healthcare services to a large Native American population. The System has numerous job opportunities.

**Good Samaritan Society**, Sioux Falls, South Dakota, is the largest nursing home and assisted living care provider in the United States. The organization is also involved in the development of the healthcare career-training program with South Dakota Health Technology Innovations and is a potential employer for graduates of the program.

**The University of South Dakota School of Medicine and School of Nursing**, Vermillion and Sioux Falls, South Dakota, have numerous outreach programs into the Native American community to encourage students and adults to pursue healthcare careers.

*The proposed program will be replicated to other Native American and rural communities elsewhere in future years. The involvement of nationwide projects and partners will facilitate this replication and provide significantly greater impact. Leaders of these communities will serve on the project advisory board.*

### **C.2 Consideration of Participant Needs and Representation**

Throughout months of project planning, the project team has worked with a wide range of stakeholders to ensure that all possible points of view are taken into account. Parents, teachers, businesses, tribal agencies, educational institutions, and not-for-profit organizations have been actively engaged in project planning.

Creating effective partnerships and engaging a broad range of stakeholders throughout the project life are essential to the success of the project and to the sustainability of the CTC. In the operation of the proposed project, CTC will continue to nurture and deepen existing partnerships and relationships, as well as actively identify and engage other diverse perspectives to add to the quality of the project. Similarly, input will be solicited from CTC users, referral sources, employers, and others whose insights can enrich the project.

## **C. EVALUATION AND DISSEMINATION**

### **D.1 Plan for Evaluation**

CTC will establish benchmarks by which to measure progress for the project. These are included in the table, “Objectives, Activities, and Measures” presented in Appendix 1 of this proposal. The advisory board will identify additional thresholds and benchmarks in the first two months of the grant.

### **D.2 Evaluation Questions**

Four questions will be posed for this project. Within these parameters, impact and process evaluations will take place. *Is distance learning technology effective for building job readiness skills in resource-poor areas and filling a critical local need for health care workers? How effectively is the health care training being implemented? Are project interventions (activities) achieving the expected immediate outcomes? What did the project accomplish?*

### **D.3 Evaluation Strategy, Data Collection, and Analysis**

The **process** evaluation will be measured with a client course evaluation that measures the effectiveness of materials and services. These simple questionnaires will be given to participants at the completion of the training portion of the program. The questionnaire will include questions regarding program satisfaction, program content, increases in skill levels, and improvements in financial status. Increases in knowledge are determined through simple yes/no responses to additional questions.

The **outcome** evaluation will rest upon the number of newly employed nursing assistants and the number who remain employed (e.g., move toward self sufficiency) for up to one year following the completion of the program. Specific client outcomes include: (1) acquire knowledge through technology; (2) be prepared for employment; (3) secure employment; and (4) increase per capita or household income. The **impact** evaluation looks at number of people

trained, number of people mentored, and number of jobs secured by Certified Nursing Assistants training through this program.

Data for the process, outcome, and impact evaluations are collected to coincide with the completion of training. Thereafter, individual evaluations are quarterly and the responsibility of the staff providing technical assistance. South Dakota Health Technology Innovations, Inc. will also be doing extensive educational evaluation work on the effectiveness of the programs.

Community-level data collection will allow for a national-level analysis of common features of funded projects. The following data will be collected for the Cheyenne River Sioux Reservation, the project target area: (1) percent of persons living on the reservation who are unemployed and receiving public assistance; (2) percent of persons living on the reservation who are underemployed and receiving public assistance; (3) technology applications; (4) number of jobs secured as a result of the project interventions; and (5) descriptions of the major employers and average wage rates and employment opportunities with those employers.

A separate descriptive evaluation will comprise personal vignettes of the participants to “humanize” the program and compile success stories resulting from these technology-based interventions.

Semi-annual evaluation reports will be compiled and made available to funders and program management. The format will be developed by the evaluator and funder, and include insights and lessons learned concerning project interventions (e.g., recruitment, training, partnerships, and other identified areas).

#### **D.6 Evaluators**

An outside evaluator will be contracted for the project from among participants who have worked with the project planning. Discussions are underway currently.

#### **D.7 Dissemination**

Dissemination will be an important portion of the evaluation. The evaluator will develop a report on the program for general distribution to funders and other interested parties. Program staff and consultants will develop an Operations Manual that documents planning, implementation, partnerships, and lessons learned. This Manual will support dissemination to other demographically similar communities.

### **E. PROJECT FEASIBILITY**

#### **E.1 Technical Approach/Rationale**

Telemedicine is a rapidly growing field in which, Sioux Valley Hospitals and Health System and other healthcare providers utilize a variety of technologies to deliver healthcare services to remote, isolated, and resource-poor areas such as the Cheyenne River Sioux reservation. As discussed previously the three primary partners in the Internet training program will allow a participant to become a Certified Nurse Assistant, LPN and RN all via distance using telecommunications technologies.

## **E.2 Infrastructure**

CRST Telephone Authority was established in 1958 by the Cheyenne River Sioux Tribe as a 100% Native American owned telecommunications company. The company began with assets of approximately \$100,000 in 1958 and assets now exceed \$10,000,000. The 40 years of progression has seen significant improvements in infrastructure throughout the reservation. CRST Telephone Authority has worked diligently to provide the most modern state of the art telecommunications services currently available to its customers. In 1999, the company upgraded all five (5) telephone exchanges to new Nortel digital switches to be y2k compliant. Over 250 miles of fiber optic cable has been installed as a backbone to haul local and long distance traffic throughout the service area. The company has over 1,800 miles of buried underground copper cable that offers continuous and reliable service during the harsh winter weather of the South Dakota plains. The company service area today consists of 4,600 square miles, including 20 communities and over 3,400 subscribers.

## **E.3 Qualifications**

**J.D. Williams**, General Manager of CRST Telephone Authority and Executive Officer of Lakota Technologies, Inc., will provide management of the CTC project in Eagle Butte. He has 20 years' experience in telecommunications management and business development with CRST Telephone Authority and Lakota Technologies. A Native American with long-standing roots on the reservation, Mr. Williams is a foremost community leader with an abiding commitment to community development. He is active in rural telecom and tribal policy development locally, regionally and nationally.

**Melissa Neigel**, Manager of the CTC, has been instrumental in ensuring its smooth functioning. In addition to day-to-day management—scheduling training, marketing CDC to the community, tracking and reporting on CTC usage, securing volunteers, and working with clients—she also works to create new partnerships and collaborative programs. Working with volunteer trainers, Ms. Neigel has developed culturally relevant curricula for all classes.

**Mona L. Thompson**, Assistant General Manager of **CRST Telephone Authority**, is an integral part of all operational details regarding the CTC and has assisted with marketing and hiring procedures. She also assists CDC in a voluntary capacity by instructing a job preparation training course.

## **E.4 Timeframe**

The timelines, milestones and responsibilities for ensuring completion of each project tasks are shown in Appendix E.

## **E.5 Sustainability**

The prospects for continued support of the project after federal funding ends are bright, despite the short duration of that funding. For instance, the project involves several public and private sector partners that will continue and expand the project as a method of producing skilled IT and healthcare workers for their organizations. Once developed and tested the Internet-based training programs and mentoring are relatively inexpensive to deliver. The primary costs will be in recruitment and initial training of staff. Many of these activities will be absorbed by the grant.