“Expansion of Oral Health Care Services in Rural Southwest Virginia Through an Integrated Network of Community Resources: Summary”

by

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ABSTRACT

"Expansion of Oral Health Care Services in Rural Southwest Virginia Through an Integrated Network of Community Resources," is an on-going project funded through the U.S. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Rural Health Care Services Outreach Grant 1D04 RH 00844-01 (Funded amount $545,624 over 3 years). The Principal Investigator is Kenneth M. Cox, Au.D. The purpose of this project is to increase access to dental care for uninsured, low-income adults of Virginia's New River Valley.

Background: The service area for this project includes the New River Health District which is composed of the rural counties of Floyd, Giles, Montgomery, Pulaski and the City of Radford. Floyd, Giles and Pulaski counties are classified as Federal Medically Underserved Areas (MUA). The original project was initiated in response to a community needs assessment and surveys which found that access to oral health care was rated as one of the top five priority needs in the New River Valley, particularly for uninsured, low-income adults. Data also showed that 36% of the households included at least one person with the loss of 6 or more teeth; 46% had at least one person with tooth cavities; and 53% of households had no dental insurance. In addition, the four New River Valley hospitals report an inordinate number of dental related emergency room visits totaling 2,443 in the 24 months prior to the award of the grant, thereby corroborating the lack of readily available dental services for the target population in the project area. Over seventy dentists practicing in the project service area were unable or unwilling to serve a target population due to reimbursement problems. This situation was exacerbated because dental services are not mandated by the Virginia Department of
Health, no state mandated dental funding for the New River Valley, and adult Medicaid benefits lack any dental coverage in the Commonwealth of Virginia.

**Methods:** The project addressed Healthy People 2010 Oral Health Goal to “Prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services” by increasing access to oral health services for uninsured, low-income adults of the New River Valley. Project goals included the expansion of preventative and primary oral health services including oral health needs assessment, cancer screening, prophies, periodontal planing/scaling and soft tissue management, radiographs, restorations, extractions, dry socket treatments and nutritional/oral health counseling. A related objective was to increase access for oral health services through the Radford University Family Health Clinics, and the Mobile Health Unit. The secondary goal of the project was to train Network members, community providers and students in oral health education, screening and referral services.

A community network was developed including Radford University’s Waldron College of Health and Human Services, the Free Clinic of the New River Valley, Public Health Departments and Departments of Social Services in the New River Health District, the Dental Hygiene Schools of Virginia Western and Wytheville Community Colleges, and local network of twenty volunteer dentists. The project period is from May 2003 through April 2006. During this initial three-year period, the community network had a significant impact on increasing dental services through the Free Clinic of the New River Valley Dental program, increasing access points for oral health education, screening, and referral, and addressing the disparities in oral health among the low-income, uninsured, rural adults of the New River Valley.
**Results:** Year 1: During the grant the major services and activities provided through the project were consumer health education (10%), dental services, (70%), and screening / assessment (20%). The total unduplicated visits for dental services Year 1 were 1559, for Year 2 were 905, and for Year 3 (May, 2005-February, 2006) were 781. Turnover in staff and the difficulty in hiring and retaining dentists led to fewer numbers of patients being treated than originally anticipated.

**Conclusion:** During this project, over 3,245 patients (unduplicated patient visits) from May, 2003-February 2006 have been treated in the New River Valley who otherwise would have gone untreated. Project goals of expanding preventative and primary oral health services, and secondary goals of students in oral health education, screening and referral service, were not fully met. However, this project can serve as a model for other partnerships around the state and country for creating access to oral health.
Background and Significance

The principal purpose of this project is to address the expansion of existing preventative and primary oral health services in the New River Valley using the Free Clinic of the New River Valley. The project addresses Healthy People 2010 Oral Health Goal to “Prevent and control oral and craniofacial diseases, conditions, and injuries and improve access to related services” by increasing access to oral health services for uninsured, low-income adults of the New River Valley (Healthy People, 2000, as cited in Expansion of Oral Health, 2003). Oral health is defined as being free from “chronic oral-facial pain conditions, oral and pharyngeal (throat) cancers, oral soft tissue lesions, birth defects such as cleft lip and palate, and scores of other diseases and disorders that affect the oral, dental, and craniofacial tissues, collectively known as the craniofacial complex” (Oral Health, 2000, as cited in Expansion of Oral Health, 2003).

According to the New River Health District’s 1998 Community Health Report Card, the number of New River Valley residents who were uninsured and low income is approximately 31,462 (Community Health Report Card, 1998 as cited in Expansion of Oral Health, 2003). A significant number of these people did not have adequate access to timely and appropriate oral health disease detection nor screening, prevention information, or direct dental care. This is typical of rural southwest Virginia communities where factors such as the lack of access to routine oral health care, lower levels of education (i.e. did not graduate from high school), limitations on dental services for Medicaid and Medicare, prevalent tobacco product use, and financial impoverishment all work to negatively affect this population’s overall oral health.
The New River Valley is located in the southwestern part of Virginia. This region takes its name from the New River and covers a land area of 1,457.9 square miles or 3,776.2 kilometers. The river is bordered on the north by the Allegheny Mountains and on the south by the Blue Ridge Mountains. The New River Valley consists of four counties: Floyd County (population 13,874), Giles County (population 15,657), Montgomery County (population 83,629) and Pulaski County (population 35,127) and the City of Radford (population 15,859). The total population located in the project service area is 165,146. Floyd, Giles, Montgomery and Pulaski counties and the City of Radford are all located in the states list of rural areas. In addition Floyd, Giles and Pulaski counties are classified as Federal Medically Underserved Areas (MUA) (Community Health Report Card, 1998; US Census, 2000, as cited in Expansion of Oral Health, 2000).

Since 1988, the Free Clinic of the New River Valley has provided direct dental health services and referral for oral health services to low income, uninsured residents of the New River Valley. Although approximately 1,100 patients received dental services at the Free Clinic in the year prior to the grant award, these services need to be expanded to meet the increasing demand for dental care and referral. Of all procedures performed, 39% were extractions for severe dental problems such as infection and advanced tooth decay. This highlights the overall severity of oral health conditions in the project service area. Only 2% were restorations due to time constraints (Expansion of Oral Health, 2003).

The target population can receive services from the Free Clinic of the New River Valley’s Dental Program. The Free Clinic was established in 1981 and is a private, non-
profit, community-based health organization. The Dental Program started as an all volunteer service in the late 1980’s, but was unable to meet the growing demand for critical dental services in the region. In 1997, funding was obtained from a private foundation to hire a part time dentist and a dental care coordinator. In FY 2001, the Dental Program staff logged 1,342 patient visits (Expansion of Oral Health, 2003).

Despite the fact that there are over seventy private dentists in the project service area, the majority (73%) do not treat the target population due reimbursement problems. This leaves the Free Clinic in the position of being the only significant dental provider for the target population. The target population served by this project is adults who are 18 and older, low-income (>150% Federal Poverty Guidelines), and lack dental insurance. The people who most generally fall into this category are those that have low education levels (i.e. did not graduate from high school), working low wage jobs and are not offered employer paid health insurance benefits; people who have lost their job and are looking for work; and low wage employees and low income elder caretakers will also be eligible for services through this project (Expansion of Oral Health, 2003).

Healthy People 2010 and the Surgeons General’s 2000 Report on Oral Health indicate that population groups with the above characteristics are most likely to experience decreased access to dental services and increased prevalence of oral health problems (Healthy People, 2000; Oral Health, 2000 as cited in Expansion of Oral Health, 2003). The number of individuals classified as 200% below poverty in the target population is 43,268 of which approximately 31,000 meet the eligibility criteria of the Free Clinic (Community Health Report Card, 1998, as cited in Expansion of Oral Health, 2003). In addition, education status data from the New River Health District shows that
over twelve percent of the total population in the project service area has received a High School diploma (county range 7.1% to 21.2%) (Community Health Report Card, 1998 as cited in Expansion of Oral Health, 2003).

Data obtained for the New River Health District from 1997-1999 Virginia Behavioral Risk Factor Surveillance Systems (BRFSS) revealed that 40% of New River Valley resident reported not having access to Insurance Coverage that pays for routine dental care (BRFSS, 1997-1999, as cited in Expansion of Oral Health, 2003). As such, in this region residents without dental insurance were twice as likely to have six or more teeth removed.

In January 2000, the Carilion Health System sponsored a local health needs assessment for the project service area, which was conducted by the Partnership for Access to Healthcare (PATH). PATH is a partnership of community leaders, healthcare providers, citizens and representatives from service agencies from the New River Valley and was formed in 1995. Carilion Health System, as a member of PATH, offered the use of their community health needs survey instrument. Martin Research, an independent organization, compiled the data. This local assessment consisted of distributing 6,500 community health surveys, a provider survey, conducting focus groups, and 118 personal interviews (Partnership for Access to Health Care, 2000, as cited in Expansion of Oral Health, 2003).

Results of the assessment indicated that access to dental health care was one of the five greatest health priorities in the New River Valley. Working poor and low-income older adults whose Medicare benefits do not cover dental services were two of the priority population groups identified most in need of dental health services. Data
from the New River Valley Health Needs Assessment also indicated that respondents most likely to have been to the dentist in the past two years in the New River Valley were those with more than a high school education and with incomes greater than $35,000 per year (Partnership for Access to Health Care, 2000 as cited in Expansion of Oral Health, 2003).

Visiting a health care provider at least once per year and the number of visits made within the past year are used as indicators of an individual’s ability to access professional services (Oral Health, 2000, as cited in Expansion of Oral Health, 2003). Given the high percentages of individuals classified as 200% below poverty level in the New River Valley and given the high percentages of non-high school graduates (no diploma); this population matches the profile of individuals who have decreased access to oral health services and increased prevalence of oral health problems (Oral Health, 2000, as cited in Expansion of Oral Health, 2003).

Additionally, a study of access to health care (including dental care) conducted by the Southwestern Virginia Graduate Medical Education Consortium, 2001, sampled 1,569 households representing 4,103 individuals who reside in counties that border the New River Valley (Southwest Virginia Graduate Medical Education Consortium, 2001, as cited in Expansion of Oral Health, 2003). These individuals are similar to the target population for the proposed project in terms of income level and educational attainment. The study found that 36% of households included at least one person with the loss of multiple teeth (6 or more teeth missing), 46% had at least one person with cavities, and 53% of households had no dental insurance. The study further revealed that the average number of months since the last visit to a dentist was 24 months, with a few people
reporting that they had never seen a dentist (Southwest Virginia GMEC, 2001, as cited in Expansion of Oral Health, 2003).

In March of 2002 a local survey was conducted by the New River Valley Planning Commission to assess health needs including dental care. Three hundred forty nine (349) surveys were conducted with both current and prospective Free Clinic patients. Results indicated that over 700 people in 272 households had no access to dental care, and these individuals did not seek dental care because they could not afford to pay for it. In addition, approximately 78% indicated a need for basic dental services such as extractions, restorations, cleaning, periodontal work, and oral health education (New River Valley Planning Commission, 2002, as cited in Expansion of Oral Health, 2003). Finally, an August 2002 survey of the four local hospitals located in the New River Valley indicates that over the last 24 months 2,443 of uninsured, low-income residents are unable to access timely dental care, and as a result are being seen in emergency departments for dental pain and related oral health problems (NRVP, 2002, as cited in Expansion of Oral Health, 2003).

Lack of dental insurance, lack of financial resources and low educational level are the primary local barriers to accessing dental care. These points are confirmed by the local hospitals, the New River Valley Planning Commission Survey, and the New River Valley Health needs assessment focus groups where lack of knowledge, lack of insurance, and affordability of services were cited by patients. Additional data obtained for the New River Health District from the 1997-1999 Virginia Behavioral Risk Factor Surveillance Systems (BRFSS) revealed that 43% of New River Valley residents without
dental insurance reported that their main barrier to obtaining routine dental care was cost (BFRSS, 1997-1999 as cited in Expansion of Oral Health, 2003).

In most cases, Virginia’s Medicaid and Medicare programs do not cover dental services for adults and the elderly. Although the Virginia Department of Health provides funding for local public health clinics, in most circumstances these clinics do not offer adult dental services. Thus, focus of this project is targeted at adults who have limited access to dental services. As mentioned previously, there are over seventy private dentists in the project service area; however, the majority of these dentists are unwillingly to serve the target population on a pro bono basis. In terms of local economic development, the primary sector of growth is the service industry which provides lower wage jobs with limited options for dental insurance thereby exacerbating this situation even further (Expansion of Oral Health, 2003).

The only source of dental care for low-income adults in the project service area is the Free Clinic of the New River Valley. Limited funding by a foundation in 1997 increased the capacity of the Free Clinic’s dental program to hire a part time dentist. However, during the last five years of operation the number of services provided has remained constant thereby preventing the program from serving more patients and meeting the documented need in the project service area (Expansion of Oral Health, 2003).

Private dentists in the project service area are reluctant to serve the target population because the patients lack dental insurance and are unable to pay for services. While there are a small number of dentists willing to serve patients on a pro bono basis, they cannot meet the current dental needs of this population. This is one reason why a
part time dental practice was established eight years ago at the Free Clinic. Evaluation of
the dental clinic’s services shows that the part time dentist provides the majority of the
services in comparison to the volunteer dentist (Expansion of Oral Health, 2003).

The services provided during those visits are oral hygiene services, oral health
needs assessment, oral cancer screenings, cleaning, periodontal planning/scaling, soft
tissue management, panoramic and periapical radiographs, composites, amalgams,
extractions, dry socket treatments, and nutritional/oral health counseling (Expansion of

The impact of the Project on providers not included in the plan has been positive
and beneficial. Because the Free Clinic Program cannot meet all the needs of the target
population, local providers are faced with either serving a patient who does not have the
ability to pay their fees, or denying services. Neither option is desirable for these
practices. Therefore, area dentists prefer a strong community program to which they can
make more referrals. As a result of increasing the number of oral health screenings
conducted throughout the project period, primary care physicians and some specialist are
likely to receive more referrals due to medical conditions that often co-occur with oral
health problems. However since area physicians and specialists are already volunteers
for the Free Clinic, this situation has been advantageous for the patients (Expansion of

Methods: A Health Resources and Services Administration (HRSA) Rural
Health Outreach Grant was awarded to Radford University (RU) in 2003, which regularly
receives and manages federal funds from multiple agencies including the Department of
Health and Human Services. RU was designated as the grantee from HRSA for this project in May, 2003.

The Free Clinic of the New River Valley was designated as a subcontractor for the grant. It has a 21-year history of grants management and implementation in the New River Valley. The Clinic receives the largest amount of United Way (UW) funds allocated to any of the 34 local non-profits. The Free Clinic has experienced UW funding increases of 39.0% during the previous four year period now totaling $128,000 per year, (25.0% of the Clinic’s yearly operation budget). In addition, Clinic administration and program staff have successfully managed large (> $50,000) yearly grants from the Virginia Health Care Foundation, Trigon Blue Cross, Carilion Health System, and the New River Valley Health Foundation. In June of 2002, the Free Clinic received a $500,000 building renovation grant from the Virginia Department of Housing and Community Development along with $50,000 in matching funds from the two local hospital systems. In July of 2001, The Free Clinic received the highest Charity Review rating from the Better Business Bureau after an evaluation process which seeks to ensure high standards of conduct by non-profits. The Clinic was successfully evaluated in five major areas: public accountability; use of donated funds; solicitation and informational materials; fund raising practices; and board involvement (Expansion of Oral Health, 2003).

There has been a long history of Network development and collaborative activities, and selecting network members was based on the following strategies. Local community needs assessment results were used to identify existing oral health services in the New River Valley and the potential to expand those services. Current membership in
the Partnership for Access to Healthcare (PATH) Organization was reviewed to identify organizations that may have an interest in the proposed project. Educational institutions with existing training programs (i.e., dental hygiene, nursing, social work) in or near the New River Valley that could support or enhance the local community needs in the area of oral health were invited to become members of the network. Contact was made with potential network partners to explain the project and invite them to assume an active role in project development and implementation (Expansion of Oral Health, 2003).

The above process supported identification of the current project network consisting of Radford University Waldron College of Health and Human Services, Free Clinic of the New River Valley, all Departments of Social Services in the New River Valley, New River Health District Health Departments, 20 local dentists, Dental Hygiene Program at Virginia Western Community College, and the Dental Hygiene Program at Wytheville Community College (Expansion of Oral Health, 2003).

Network members are part of the local health and human services consortium - Partnership for Access to Healthcare (PATH). A Dental Committee was established by PATH to evaluate local dental needs and develop ways to address those needs. The Committee was chaired by the former Free Clinic Director and is currently made up of the project Network Members as well as other community partners including the four local hospitals, Head Start, Pediatric Dental Care of Roanoke, and Information and Referral Services. The Committee reports to PATH on its findings and recommendations and enjoys the endorsement of PATH in seeking to expand the quantity and quality of dental care in the New River Valley. In addition, two area dentists were involved on
behalf of the volunteer dentists and the community colleges’ dental hygiene programs (Expansion of Oral Health, 2003).

In addition to the above planning process, the Waldron College of Health and Human Services sponsored three project-planning sessions held on the Radford University Campus. The Project Director and former Co-Director met regularly once the network was established. This planning process resulted in each Network member providing clearly defined roles for the proposed project (Expansion of Oral Health, 2003).

**Goals and Purpose:**

Goal 1: Provide direct access to treatment for prevention and control of oral and craniofacial diseases, conditions, and injuries and improve access to related dental services.

Goal 2: Increase the number of Network members, community providers, and students trained in oral health Education, screening, and referral services (Expansion of Oral Health, 2003).

The principal purpose of this project is to address, at the Free Clinic, the expansion of existing preventative and primary oral health services in the New River Valley. By implementing the following project activities we have positively impacted the oral health conditions in the New River Valley. The following was planned:

1. Increase dental services for low income, uninsured adults in the New River Health District from 1,342 visits to 2,418 visits for dental services by year three of the project. Goal not fully met- see discussion.
2. Increase access points for oral health screenings/services through coordinated Network member services. (Radford University’s Mobile Clinic and Interdisciplinary Clinic, other Network members).

3. Increase the dissemination of oral health preventative and educational materials to patients and caseloads of Network members as well as to local community businesses and organizations.

4. Provide support services to patients through the Department of Social Services and other Network members to reduce the barriers of accessing oral health services.

5. Increase training of Network members, community providers, and students in oral health education, screening, and referral services.

Project activities to increase access to oral health care:

1. Access to oral healthcare will be improved in the New River Valley by increasing the number of dental visits to the Free Clinic of the New River Valley from 1,342 visits to 2,418 visits by the end of year three, essentially an 80% increase in the amount of available dental services. Current level of volunteer dental services provided to the Free Clinic will be maintained and/or expanded by the local Network of dentists. Goal not fully met—see discussion section.

2. The Mobile Health Unit began service on July 1, 2001 and will increase access to health services (including oral health screenings and education) to the New River Valley counties each year during the project period.

3. Radford University’s Interdisciplinary Clinic will offer oral health screenings and oral health educational programs/materials to clients and families.
4. The Dental Hygiene Programs at Wytheville and Virginia Western Community Colleges will offer free dental hygiene services and will provide information on oral health as well as the dental services available through the Free Clinic of the New River Valley. Goal not fully met, see discussion section.

5. County level Departments of Social Services will help provide patients with support in reducing the barriers to access; such as transportation, reminders for appointments, as well as dissemination information on oral health and dental services provided through the Free Clinic of the New River Valley.

6. County level Health Department locations will be used as one of the access points for patients to receive services and educational programs through the mobile health unit. In addition, county health departments will provide oral health screenings and referrals to the Free Clinic of the New River Valley (*Expansion of Oral Health, 2003*).

Objectives for this project were and are directly tied to a comprehensive plan for oral health in the region, which includes prevention, control and improved access for oral health services. Through the project Network, the adults in the New River Valley who are low-income, less educated, rural, medically underserved and uninsured had access to increased dental services. The project will also provided greater access for oral health screenings and oral health preventative and educational materials through the Network members, community organizations and businesses (*Expansion of Oral Health, 2003*).

Recommendations for project decisions were reviewed and decided on by the Project Director and former Co-Director, thereby establishing clear lines of authority and decision making. The Project Director coordinated and administered the overall project
per the responsibilities listed in this document. The Project Co-Director was responsible for coordinating the subcontracted services and resources of the Free Clinic of the New River Valley Dental Program in accordance with Project objectives. The current Executive Director of Free Clinic is now coordinating the sub contract (see discussion section). The dentist, dental assistant, and receptionist report to the Executive Director, who in turn relies on the Project Director to communicate progress, feedback and strategies for implementing project objectives. The graduate assistant and office assistant report directly to the Project Director (Expansion of Oral Health, 2003).

The Free Clinic of the New River Valley Dental Program contributed the use of two fully equipped dental operatories, laboratory and x-ray equipment throughout the project period; and by the second year of the project added additional fully equipped dental operatories (total 4) through a building donated by Montgomery County (dental space increased from 500 square feet to 2000 square feet). The Free Clinic is also providing the salary of the part-time Dental Coordinator as in-kind support for the project. The clinic Board of Directors unanimously supports the development and long-term viability of the Dental Program as a way to support the Clinic’s mission. In addition, twenty area dentists have supported the program by volunteering their time to treating patients. Lay volunteers help have provided clerical, scheduling, and patient intake services and donations of supplies and finances come from a variety of community and business sources (Expansion of Oral Health, 2003).

**Personnel**

**Project Director.** The Project Director, Dr. Cox, was responsible for the organization, operation and implementation of the project. The Project Director (or his
desigee) provided scheduled meetings (individual and group) with the Network members to obtain feedback on project objective implementation; provided support to the Network by addressing constraining factors involving implementation of project objectives; coordinated with the Waldron College of Health and Human Services programs that support project objectives; directed the research and purchase of oral health education screening and referral materials; developed and maintained patient information regarding access for oral health services; developed and disseminated project information on the Network members, the community and news organizations; obtained and analyzed baseline data as described in project objectives; supervised the clerical/fiscal technician and graduate student; and provided centralized coordination for the Project (Expansion of Oral Health, 2003).

**Office Assistant:** A clerical/fiscal technician was hired to enter financial transactions, generate billing and order supplies for the Project. In addition, this position provided project record management under the supervision of the Project Director (Expansion of Oral Health, 2003).

**Graduate Assistant:** A graduate assistant was hired for 10 hours per week, 42 weeks per year. This position supported the project through input of project data and aided in report generation and/or presentation; participated in Network member support; researched oral health educational and training materials; and scheduled oral health training sessions for Network members, community providers and students (Expansion of Oral Health, 2003).

**Co-Director:** The Project Co-Director, Richard Pantaleo (resigned and replaced Amy Forsyth-Stevens Executive Director of the Free Clinic, but not Co-Director of the
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grant), was the Executive Director of the Free Clinic and spent 5% of his time managing and supervising all Dental Program staff on a daily basis through July, 2005. Positions supervised included the dentist, dental care coordinator, dental assistant, receptionist and other relevant support staff and volunteers. In addition, the Free Clinic Board of Directors Health Care Committee monitored the performance of the Program on a monthly basis, and provided guidance and feedback on day-to-day operations (*Expansion of Oral Health, 2003*).

**Dentist:** A full-time dentist was utilized to expand services to the target population (see discussion section). The principal duties and responsibilities of the dentist included dental care and dental program administration. The dentist provided the following dental services to eligible adult patients at the New River Valley Free Clinic:

1. emergency care for acute conditions: (2) diagnostic examination of hard and soft tissues, (3) x-rays, (4) occlusal analysis and oral cancer screenings; (5) development of treatment plans; (6) restoration of viable teeth using amalgam or composite resin; (7) extractions of non-viable teeth; (8) administration of oral hygiene education; and (9) coordination of patient referrals for specialized medical/dental treatment. Dental program administration included working with the Dental Care Coordinator, the Free Clinic Dental Committee and volunteer dentists. In addition the dentist communicated as needed with Network Members and aid in the fulfillment of project objectives. The dentist also provided instruction to students, staff, faculty and network members in clinical procedures of dentistry; assured compliance with all applicable law and regulations governing dentistry; and attend PATH Health Care Committee meetings.

Dental Care Coordinator (In-Kind, all three project years) coordinated day-to-day
operations including dental appointments, referrals (incoming and outgoing), volunteer dental services and patient follow-up. Also he was responsible for facility standards of health and safety and related policy/procedure development (Expansion of Oral Health, 2003).

**Dental Assistant** A full-time dental assistant was required to support the expansion of dental services for the project. The principal duty and responsibilities of the dental assistant included assisting the Dentist in providing dental care. In addition, the dental assistant assisted the Dental Care Coordinator with compliance with OSHA standards; documented patient information and treatments; maintained dental chart filing; training along with orientation of dental volunteers. The Dental Assistant will be selected by the hiring committee though the Free Clinic of the New River Valley (Expansion of Oral Health, 2003).

**Office Assistant:** A part-time receptionist was required for the project. All dental visits were by appointment in order to maximize the number of visits. The receptionist assisted with reception duties, patient scheduling and secretarial duties (Expansion of Oral Health, 2003).

**Equipment, Supplies, Travel:** Two polycom units (video/audio teleconferencing) and one intraoral dental camera were purchased for telehealth consultations (goal not fully met). This system was designed to increased patient access to oral surgery consults. Examples of patient conditions needing oral surgery consults: difficult dental extractions, suspicious oral lesions, and/or advanced infection. Oral health education supplies were needed to supplement education and training on oral health primarily to Network members, community providers, and students. Examples of
educational/training supplies included training videos, CD-ROM information, anatomic models, computer media and pamphlets. Educational materials were catalogued and maintained in the George Harvey Community Health Resources Center (located in the Waldron College of Health and Human Services, Radford campus). Standard office supplies such as pens, pads, telephone message pads, were needed for day-to-day operation of the project (*Expansion of Oral Health*, 2003).

Travel funds were needed to maintain communication with Network members through scheduled group and individual meetings. In addition, funds were needed to attend the required 2-3 day Outreach Grantees conference held in the Washington D.C. area and to participate in one annual national conference to disseminate project results/procedures (*Expansion of Oral Health*, 2003).

**Evaluation**

An expert evaluator was recruited by the project to review/evaluate the organizational, operational, and implementation strategies as per the Project’s stated goals and objectives. The evaluation was scheduled include two on-site visits per project year and a written annual report of findings (see discussion section for problems).

The CIPP Evaluation Model (Stufflebeam, 1971, as cited in *Expansion of Oral Health*, 2003) was selected as the framework for the evaluation of this project. CIPP represents C = context, I = input, P = process, P = product. Context is considered in the evaluation as well as measurable data (Input, Process, Product). Context variables include environmental factors that directly or indirectly effect the projects operation. Input variables are the raw materials and resources available to implement the objectives. Process variables are the methods and activities employed to reach the objectives. The
last component, Product variables, includes specific project outcome data. Both formative and summative evaluation strategies were to also be implemented (Stufflebeam, 1971, as cited in Expansion of Oral Health, 2003).

**Process Measures** include constraining and enabling factors based on the implementation of each Objective (C = Context, CIPP model) (Expansion of Oral Health, 2003).

**Examples of Project Outcome Measures:** Number of dental visits, number of dental procedures, referral source data, number of oral health information packets disseminated by Network members, number of Oral health screenings provided by Network members, number of oral health referrals (by referral source),umber of patient contracts through out Network members including the Mobile Health Unit, Waldron Family Health Clinics, number and type of Network member, community providers and students trained in oral health education, screening procedures, and referral services (Expansion of Oral Health, 2003).

Utilizing data obtained from the CIPP Model (above) quality assurance regarding the administrative/management plans, effectiveness of coordination of network activities and the planning process will be implemented through the evaluation / documentation of the constraining and enabling factors (context) associated with each of the project goals. This information will be obtained from network members, patient, students and other community organizations during the project period (Expansion of Oral Health, 2003).

**Results:**

*Year 1:* During the first year of the grant the major services and activities provided through the project were consumer health education (10%), dental services,
(70%), and screening / assessment (20%). May 1, 2003 through February 29, 2004 there were 1,215 unduplicated patient visits provided by temporary part-time dentist. The following is a breakdown of the ethnicity of the populations served: African American (10%), Asian (3%), Hispanic (2%), and Caucasian (85%). March and April 2004: Patient unduplicated visits provided by full-time Dentist- 344 visits. Ethnicity of Population Served: African American (5%), Asian (1%), Hispanic (2%), and Caucasian (92%).

Total unduplicated visits for Dental Services Year 1: 1,559.

Year 2: During the first year of the grant the major services and activities provided through the project were consumer health education (10%), dental services, (70%), and screening / assessment (20%). From May 1, 2004 – December 31, 2004 there were 526 patient unduplicated visits provided by full-time dentist. Ethnicity of population served January 2005, April, 2005: African American (6%), Asian (2%), Hispanic (1%), and Caucasian (91%). Patient unduplicated visits (1/05-5/05): 379. Total unduplicated visits for dental services Year 2: 905.

Year 3: During the third year of the grant the major services and activities provided through the project were consumer health education (10%), dental services, (70%), and screening / assessment (20%). May 1, 2005 through February 29, 2006 there were 781 unduplicated patient visits provided by dental staff. The following is a breakdown of the ethnicity of the populations served: African American (6%), Asian (3%), Hispanic (2%), and Caucasian (95%). Total unduplicated visits for Dental Services Year 3 (through February, 2006): 781. For the three year grant cycle, through February 2006, 3,245 patients (unduplicated patient visits) were seen. In addition several
duplicated visits, i.e. patents returning for multiple visits, were carried out as well (data not reported in this paper).

Discussion:

Several problems were associated with this project and lessons learned are explored in this section. RU is requesting a six month no-cost time extension from HRSA on the grant through October, 2006. Several goals of the grant were not fulfilled during the 3 year time period due to turnover of key personnel at the Free Clinic of the New River Valley as well as water damage to the Free Clinic itself. Specifically, within the 2004-2005 time frame, two full time dentists were hired and resigned. A third full time dentist was hired in August, 2005, but a delay in licensing reciprocity caused a slow down in service provision until November 2005. Plus the first dentist was not hired until 8 months into the project (January, 2004). Carry over funds were requested and granted for years 01 to 02, and years 02 to 03. In addition to the dentists’ resignation, damage to the Free Clinic of the New River Valley due to a water main break left the dental clinic unusable for approximately two months.

In August 2003 the office assistant hired for the grant took another job at RU and subsequently the position went unfilled until September, 2003. Similarly in October 2005 the office assistant resigned and took a position at another university, and her replacement was not hired until January, 2006.

Another problem during the grant period was the resignation of the Executive Director (and project Co-Director) of the Free Clinic of the New River Valley at the end of July, 2005. An interim director was named; however, the search for a full time director was impeded by a tragedy in the family of one of the Board members of the Free
Clinic. A new Executive Director, Ms. Amy Forsyth-Stevens, was named in December, 2005.

An additional result of the turnover of the personnel and slow down in service provision was the evaluation component of the grant. The project was originally scheduled to be evaluated twice per year during the life time of the grant. A meeting was held on July 30, 2003 with the designated evaluator but subsequent meetings were not scheduled. The evaluator will visit during the spring, 2006 and again in the summer, 2006 for final evaluation using the planned outlined in the evaluation section.

The Project Director, former Co-Director and Network members met quarterly at the Partnership for Access to Healthcare (PATH) meetings, which are held at New River Valley hospitals and other healthcare facilities. The Project Director (or his designee) also met individually with Network members on an “as needed” basis.

**Utilizing Results**

Replication of the proposed project will be supported by conference dissemination of project methodology and current results (end of Year 3). Additionally, The Virginia Health Care Foundation has designated the Free Clinic of the New River Valley Dental Program as one of its *Models That Made It*. Funding has already been made available for other communities throughout Virginia who are interested in replicating this approach to the provision of adult dental care. Enhancing this successful model with the current project’s Network development and its expansion of oral health services can be easily disseminated to the other communities in Virginia looking at the Free Clinic of the New River Valley’s Dental Program (Virginia Health Care Foundation, n.d., as cited in *Expansion of Oral Health, 2003*).
Sustainability Plan

Several strategies were originally suggested in order to assure the continuation of expanded dental services to low-income adults in the New River Valley. The following strategies were originally suggested to ensure sustainability beyond the federal grant period. *First*, the Free Clinic will commit to sustaining dental services indefinitely as evidenced by the cost-sharing commitment during the project period. Under this model, The Free Clinic would continue annual support at a minimum of $45,000 after the project period ends. A *Second* suggested source of funding for the project was from the Carilion Hospital Foundation, which has provided substantial financial support to the Free Clinic’s medical and pharmacy programs. A *third* suggested source of likely post-grant revenue was the Virginia Health Care Foundation, which originally awarded the 3-year start-up funding for the existing dental Program, and was so impressed with the program’s performance that it features the Free Clinic Dental Program as one of the Foundation’s state-wide *Models that Made It*. This designation showed that the Free Clinic was the replication mode of choice for other communities throughout Virginia who were interested in applying for funding to develop their own dental program. The *fourth* suggested source for sustainability United Way funds distributed to local non-profits.

None of these sustainability plans, unfortunately, have been implemented at this time due to turnover in personnel. However, with the approval of the no-cost extension, these among other issues will be addressed (*Expansion of Oral Health, 2003*).

**Conclusion:**

The primary purpose of this project was to address the expansion of existing preventative and primary oral health services at the Free Clinic in the New River Valley.
The goals were to provide direct access to treatment for prevention and control of oral and craniofacial diseases, conditions, and injuries and improve access to related dental services, and increase the number of Network members, community providers, and students trained in oral health education, screening, and referral services. Due to extenuating circumstances (i.e. repeated turnover of key personnel and facilities damage at the Free Clinic) delays were encountered in meeting the goals of the grant. As a result, RU has requested a no-cost time extension from HRSA for six months to complete the goals and evaluation components of the grant.
References:

Radford University, Department of Communication Sciences and Disorders. *Expansion of Oral Health Care Services in Rural Southwest Virginia Through an Integrated Network of Community Resources*, 2003. Department of Health and Human Services, Health Resources and Services Administration (HRSA), Rural Health Care Services Outreach Grant 1D04 RH 00844-01.