A. PROJECT IDENTIFIER INFORMATION

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C. PROGRESS

The North Country Family Health Center (NCFHC), formerly The North Country Children's Clinic, sponsors comprehensive school-based health and dental programs for students from Pre-K to 12th grade. The enrollment of students in its dental programs was less than 11%) at the start of this project and presented an opportunity for enhancing the delivery of school-based dental services and integrating dental and health services. NCFHC operates countywide in predominately rural areas, with many geographically isolated smaller schools and a lack of dental care providers, especially those willing to accept Medicaid/ CHIP. These factors not only offered unique challenges, but also the potential for developing and implementing innovative approaches to service delivery that would be of benefit to other rural states and counties interested in establishing school-based comprehensive oral health service programs.

A formal contract was executed between the New York State Department of Health and NCFHC for integrating school-based dental services with school-based health center services. The contract specified the scope of work and deliverables. Bureau of Dental Health (BDH) staff provided technical assistance, guidance documents, data collection and CQI tools and instruments, formats for quarterly and annual progress reports, and evaluation plans.

The collaboration between the New York State Department of Health (NYSDOH) Bureau of Dental Health (BDH) and NCFHC was fundamental to the project. By partnering with NCFHC on the School-Based Comprehensive Oral Healthcare Services Grant, the use of state and federal funds were maximized as improvements were made to reach and serve more at risk children and a rigorous evaluation protocol was implemented to fully evaluate the effectiveness of different service delivery models.

Another benefit of partnering with NCFHC is that its school-based health center and school-based dental programs have been operational for many years and are approved by the NYSDOH. This ensured compliance with regulations, guidelines and recommendations, and no delays were incurred during implementation of program activities. Moreover, the NYSDOH presently funds NCFHC school-based health and dental programs and contracts already existed.

In addition to improving the oral health of school-aged children in a low income dental health professional shortage county, the project provides the NYSDOH, the BDH and HRSA with critical information and data that can be used to better design and implement future models for school-based health center comprehensive oral health care services that are sensitive to the unique characteristics and needs of rural communities and the demographics of children to be served.

The goals of the project were to engage community members, parents, and key stakeholders in working collaboratively to promote and improve integration between school-based health and dental services; expand the availability of comprehensive oral health services in targeted schools and in school-based health centers; develop and test innovative service delivery models to improve the utilization of dental services, minimize the duplication of effort, and streamline operations; and develop and implement a Continuous Quality Improvement (CQI) Plan for

quality assurance and continuous quality improvement. Specific objectives included strengthening infrastructure, implementing strategies to integrate dental services into school-based health services, identifying and addressing barriers to integration and care, and implementing a rigorous data collection and evaluation system to evaluate project activities, outcomes and impact.

BDH/NCFHC Workgroup:

Staff from the BDH and NCFHC established a workgroup to formulate and perfect project implementation activities; develop a strategic plan with goals, objectives, tasks, activities, and timelines; identify barriers to integration and the delivery of services; develop action plans for improving integration between health and dental and in expanding dental services to reach more at-risk school-aged children; implement a Continuous Quality Improvement Program and use of PDSA cycles to address deficiencies; develop an evaluation plan; and implement data collection systems for project evaluations.

Needs assessment of schools in the catchment area were also conducted, with the results highlighting opportunities for increasing on-site dental services using portable equipment and in working with schools for securing adequate space. Despite additional portable equipment funded from this grant, increasing on-site dental services met with resistance. The potential negative impact of efforts to change current systems seemed to outweigh the benefits. Schools without onsite dental services claimed a lack of space to be their greatest problem and until such time as space is created, the schools would offer transportation for their students to other School-based dental health programs as a way of increasing access to dental services.

The BDH/NCFHC workgroup also collaborated to finalize timelines and activities. Activities were carried out and tracked in a team effort through monthly team meetings between BDH and NCFHC. Monthly meeting notes and quarterly reports provided a tracking method to follow up on and adjust to limitations and challenges. The success of planned activities was also a team effort and hinged on key personnel. A Clinical Services Director oversees both the School-Based Health and Dental Programs, creating a natural integration of school-based health and dental staff and their programs. The Clinical Services Director provides supervision and guidance to both SBH and Dental staff; aligns school health and dental policies; increases opportunities for sharing information between health and dental staff; and provides a direct link between SBH and dental center staff and health center administrators, key school personnel and advisory council members.

Programmatic changes implemented over the course of the project consisted of implementation of a combined health and dental enrollment form and universal referral form; the introduction of cross training between health and dental staff in both the schools and at NCFHC; oral health education and program promotion during kindergarten registration, school open houses and in classrooms; the use of incentives and giveaways for participating students; new signage and a social media project; and improvements in tracking data. As staffing

challenges remained constant, reorganization of staff roles and programmatic changes helped to increase the number of children served and services provided.

- Year 1: the need for streamlining the enrollment process and improving data collection and reporting were identified.

  The needs assessment identified North, Ohio, and Starbucks elementary schools as potential expansion sites.

- Year 2: a single health/dental enrollment/consent form was implemented, with enrollment forms made available on NCFHC and school district websites. The enrollment form was greatly simplified and condensed from 6 to 2 pages, with medical and dental information no longer collected as part of the application process. Medical and dental information are now collected at the first visit and then entered into the electronic record.

  A facility wide universal referral form that enables bi-directional referral between health and dental was implemented. In rolling out this activity, the NCFHC dental director provided training on oral health assessments for medical staff.

  Cross-training of health and dental staff was initiated. The Dental Director provided an in-service for medical staff to discuss efforts relating to integration and the BDH provided online educational opportunities for all SB staff.

- Year 3: cross training was expanded to routinely take place during medical and dental staff meetings; work began with EMR data collection and reporting with EMR-dental implemented in stages and custom dental reports tested; and the Continuous Quality Improvement (CQI) program became fully operational.

  A social media project was implemented to provide additional activities for improving integration of school based health and dental services. The social media project consisted of four activities: 2 videos, library books, oral health supplies for enrolled students, and improved signage.

  - Video 1 (***Rock Star Smiles*** [http://www.youtube.com/embed/gIqmxCzzCZE?rel=0 & vq=large]) is a 10 minute video targeting students in grades 4-12 using an age-appropriate and upbeat theme to relay oral health messages. It is also segmented into 3 chapters (***Caries Process and Tooth Anatomy***, ***Diet and Oral Hygiene***, and ***School Based Dental Services***) for ease of use in the classroom.

  - Video 2 (I***ntegrated School Based Health and Dental Services*** [http://www.youtube.com/ embed/d0d1YdL8bdY?rel=0&vq=large]) is used by Advisory Committee members to reach parents and school staff. The video showcases school based health and dental programs and their value to students and parents; includes testimonies from health center administrators, staff, school principals, and parents; shows the program in action; and demonstrates how to enroll in the program. The video production team consisted of a professional videographer and NCFHC's marketing director working in partnership with the project director from the Bureau of

Dental Health for technical support. The final products are available in different formats to enable sharing, including streaming hosted on YouTube, websites and emails.

- 300 children books were purchased and added to school library collections, with 12 schools each receiving 25 children's books on dental health.
- Signage was created to shift oral health behaviors and promote enrollment. Signs, posters and stickers were designed to appeal to students and families. The NCFHC marketing director designed logos and used colors specific to each school to promote school solidarity.
- Participation incentives, such as tooth brushes, tooth paste, floss, bags for oral health supplies were purchased for students who enrolled in the school based dental program.

Year 4: A communication plan was developed by NCFHC with technical assistance from BDH to establish communications between NCFHC School-Based Programs and the school communities to augment Advisory Committee activities in a goal-based strategic plan; EMR-dental records became fully operational and report generation was achieved

Over the course of the project, major gains were made in the collection and reporting of reliable program data. Early on in the project, gaps were identified between collecting and reporting dental data. NCFHC was focused more on providing care to school-aged children than on designing and using reports to extract data for program monitoring and evaluations. When the project started, all program information was collected on paper, with frequently missing data and inconsistencies in how students and services were reported, especially in the unduplicated count of children receiving dental services during the year.

Strategies were implemented to improve the capture and reporting of reliable data and in facilitating the transition from paper to Electronic Medical Records (EMR). Although the EMR created an opportunity to capture data electronically, it could not automatically capture or report all needed data. The EMR, which collects tooth level data from dental charts, did not have the capability to report these data. To address these problems, a team comprised of a BDH Public Health dental resident, BDH research scientist, project coordinator, NCFHC's Informatics Specialist, and the EMR contractor collaborated to develop two custom reports (program-level and child-level) to capture and report data using the EMR. The program level data report was built to mimic the Quarterly NYS School Base Program Report, with a few additional data elements added on restorative care and CQI tasks. A check box was also added to the electronic record for staff to report if preventive and/or restorative treatment plans were complete following each appointment. The child-level reports were used to track the condition of a student's dentition over time, plus age, race and insurance status.

Advisory Board:

Three separate NCFHC SBHC-dental advisory boards were formed at the start of the project, representing the school districts of Watertown, South Jefferson County, and Lowville. The advisory boards served as venues for communication between NCFHC and the schools it served.

- Year 1: advisory members completed a SWOT analysis and provided recommendations and input into the development of a single enrollment form.
- Year 2: actively encouraged enrollment in Comprehensive School-Based Health/Dental Centers; promoted school-based health and dental services as one entity; provided input into the continuous quality improvement program and QI review tool; and implemented innovative strategies, delivery models, and collaborations and partnerships with key stakeholders, community members, and parents.
- Year 3: finalized the strategic plan based on the results of the SWOT analysis and year 2 goals. The strategic plan contained guidance through a series of statements, mission, values and objectives and set out strategies, goals, timelines and activities.

  In response to dwindling membership on the boards, facilitate increased participation, and further integrate school based health and dental programs, the 3 advisory boards were merged into one and combined with the districts' school health advisory board (Watertown School Health and Dental Advisory Council), representing 12 schools and 3 school districts.
- Year 4: developed strategies to increase community and stakeholder engagement in the project; provided input into survey forms to obtain feedback from students, parents, and school staff about the program and suggestions for improvement; and provided input into the development of a communication plan for NCFHC School-Based Programs and school communities. Work transitioned from communication to engaging in discussions to identifying the most effective strategies for promoting school-based health, overcoming barriers, and achieving goals and objectives.

***Challenges*:**

Over the four years of the project, numerous challenges and limitations were encountered, many of which are common among school-based dental programs. Addressing these challenges and limitations provided opportunities for better understanding problems and developing strategies designed to overcome or minimize them, especially with respect to improving integration of health and dental within the school environment, increasing the enrollment of children in the school-based dental program, collecting and using reliable data in reports, monitoring progress, and conducting evaluations.

- **Staff turnover, shortage of dentist, and complex and lengthy credentialing of dental hygienists**

  The ongoing search for dentists continues to be challenging in this rural health professional shortage area, even with the availability of loan repayment incentive programs for dentists practicing in health professional shortage areas. Contributing to the unsuccessful recruitment of dentist is NCFHC's lack the ability to offer a competitive salary for dentists in comparison to the salary and benefits offered by a local military base dental center that hires civilian dentists. Additionally, the lengthy credentialing process for hiring dental hygienists prevents NCFHC from hiring part-time hygienists to fill staffing gaps that occur.

NCFHC was able to increase its capacity through reorganization and programmatic changes rather than an increase in dental staff.

- **Use of traditional dental delivery systems rather than innovative school-based delivery systems**

  Status quo program processes and policies inhibited access to more innovative school-base dental services. The traditional dental delivery system is familiar to staff, especially since they split time between the facility dental center and school-based health dental centers. The system used at the facility (scheduled appointments and six month recall appointments) is limiting to school-based dental delivery systems and hinders the reach of the school-based dental program. The school-based dental delivery system is a slight paradigm shift from the traditional dental delivery system in that traditional dental delivery systems use scheduled appointments while school-based programs do not require scheduled appointments. The advantage of school- based programs is, with parental consent, to have students always available during school hours without appointments.

  Recognizing these differences and providing staff with technical support to shift processes and policies contributed to increased enrollment. Strategies included revising enrollment, appointment policies, patient flow, and best practices for sealants in school-based dental programs.

- **Administrative staff turnover**

  The turnover of administrative staff and competing demands on school-based staff created limitations. To overcome these limitations, strong meeting agendas with specific topics and time frames, and the dissemination of follow-up meeting notes have been helpful to keep up momentum during staff changes and competing priorities.

  As a result of NCFHC reorganization, the Clinical Operation Officer now oversees both the school-based health and dental programs and their respective CQI programs, leading to improved integration between school-based health and dental programs.

- **Low participation rates in school-based dental programs**

  Programmatic changes were made with the implementation of a combined health and dental enrollment form and universal referral form, cross training between health and dental staff in both the schools and at NCFHC, expanded oral health education and program promotion, use of incentives and giveaways for participating students, new signage and a social media project, and improvements in tracking data. As staffing challenges remained constant, reorganization of staff roles and programmatic changes helped to increase the number of children served and services provided.

- **Labor intensive data collection and reporting processes**

  Data collection was transitioned from paper to excel work sheets to an EMR. Technical assistance and training helped to improve the collection and reliability of program data and submission of quarterly reports. EMR reports were designed to report all required

information and to facilitate program evaluations. NCFHC technical support staff was critical to filling the gap between report design and staff training and validating reports for accuracy and serving as a liaison to the EMR contractor.

C1: PLANNING AND IMPLEMENTATION

Delivery System Design

Although NCFHC school-based health and dental center programs have been in operation for two decades or more, prior to this project both programs operated as separate entities with coordination between the programs non-existent. At both the beginning and conclusion of the project, NCFHC had five different service deliver models in operation for its 6 school-based health center programs and 12 school-based dental center programs, which in itself posed unique opportunities and challenges for integration:

- 4 schools: health and dental services are both available at these 4 schools
- 2 schools: health and dental services are not available at these 2 schools and students transported to other schools for these services
- 2 schools: dental services are available at the 2 schools, but students are transported other schools for health services
- 2 schools: health services are available at the 2 schools, but students are transported to other schools for dental services
- 2 schools: dental services are available at 2 schools, but there are no schools available to which to transport students for health services

4 schools	**Health and Dental both on-site (North Elementary , Harold T. Wiley Middle School, Mannsville Elementary, Maynard P. Wilson Elementary)**
2 schools	**Health and Dental both off-site (Watertown High School, Case Junior High)**
2 schools	**Health off-site; Dental on-site (Starbuck Elementary, Ohio Elementary)**
2 schools	**Health on-site, Dental off-site (Knickerbocker Elementary, Sherman Elementary)**
2 schools	**Dental on-site; no Health services available (Clark Middle/Senior High, Lowville Academy Elementary)**

Ten schools have school-based health services available for their students and 12 schools have school-based dental services. Of the 12 schools, 4 have both comprehensive health and dental services on site; the remaining schools have combinations of on-site or off-site services, or dental services without access to school health services. In schools offering off-site dental services, services are available in neighboring schools and students are transported by school

buses. A plan was developed to evaluate the 5 different delivery systems for school health and dental services to learn more about participation rates, the types of services provided and follow-up dental care.

Interdisciplinary Care

A facility wide bi-directional universal referral form is used for referrals between health and dental. To facilitate greater understanding of the dental needs of students and their oral health status, the NCFHC dental director provided training on oral health assessments for medical staff.

Cross-training of health and dental staff was also done with the Dental Director providing an in-service for medical staff to discuss efforts of integration. Cross training was subsequently expanded and institutionalized to routinely take place during all medical and dental staff meetings. The BDH also provided online educational opportunities for all SB staff.

Interdisciplinary training programs for health and dental professionals in SBHC and SBHC-Dental Center programs included trainings on screenings, risk assessments, and completing referral forms. Training of non-clinical SBHC staff was also completed to enable SBHC staff to help in dental clinics with suctioning the mouth during sealant placement, as time permitted.

The implementation of facility-wide electronic medical and dental records has facilitated the provision of interdisciplinary care. School-based health and dental center staff have access to both electronic records at the schools and are able to now follow-up with students on any referrals, treatment or recommendations made. For example, the SBHC nurse will query the patient if he/she is scheduled for and/or receiving the recommended treatment services indicated in the electronic record and if there are any problems that need to be addressed with the dental staff. Conversely, dental staff may note that a child was seen for asthma and follow-up with the child on his/her current status and use of any newly prescribed or maintenance medications. Problems identified are immediately reported to the SBHC nurse.

Patient/Community Education

Communication with community members, parents and school staff are met though participation at PTO meetings and use of school and NHFHC web sites for describing the school-based health and dental programs, posting enrollment forms, and providing educational information and videos on oral health, nutrition and dental health, and dental sealants.

The video on *Integrated School Based Health and Dental Services* is used by Advisory Committee members to reach parents and school staff. The video showcases school based health and dental programs and their value to students and parents; includes testimonies from health center administrators, staff, school principals, and parents; shows the program in action; and demonstrates how to enroll in the program.

In class presentations on oral health and the school's dental program are also conducted on a regular basis by SCHC-dental staff.

C2: CONTINUOS QUALITY IMPROVEMENT

An evaluation workgroup made up of staff of the BDH was form to plan and develop a Continuous Quality Improvement (CQI) Plan and quarterly review tool. In year 1, the group reviewed program processes and available measures, followed by clarification and guidance necessary to develop the CQI plan. Internet searches were carried out on CQI and a draft CQI plan and review tool was developed. The workgroup finalized the plan and tool and introduced them to NCFHC project staff.

The following resources were used in the development of the SBCOH CQI Plan and Tool:

- ***Oral Health Quality Improvement in the Era of Accountability***: http://www.wkkf.org/resource-directory/resource/2012/01/pacific-center-for-special-care-report
- ***Final Report: Quality Oral Health Care In Medicaid Through Health IT***: http://www.norc.org/PDFs/QualityOralHealthCareMedicaid[1].pdf
- ***Characteristics of a Quality Oral Health/Dental Program***: http://www.nnoha.org/nnoha-content/uploads/2013/09/Factsheet-Characteristics-of-a-Quality-Oral-Health-Dental-Program.pdf
- ***Ad Hoc Meeting on Aligning Dental Quality Initiatives***: https://www.cdhp.org/resources/291-ad-hoc-workgroup-on-aligning-dental-quality-initiatives
- ***Dr. Rosenthal's Toolkit: Clinical and Management Tools for Effective School-Based Dental Programs***: http://www.healthinschools.org/en/School-Based-Oral-Health/Dr%20Rosenthals%20Toolkit.aspx
- ***Quality Measurement in Dentistry: A Guidebook***: http://www.ada.org/sections/dentalPracticeHub/pdfs/dqa_guidebook(1).pdf
- ***Returning the Mouth to the Body: Integrating Oral Health & Primary Care***: http://www.gih.org/files/ FileDownloads/Returning_the_Mouth_to_the_Body_no40_September_2012.pdf
- ***Safety Net Dental Clinic Manual***: http://www.Dentalclinicmanual.com

At the start of year 3, the SBCOHS CQI Plan and CQI Review Tool were fully implemented by NCFHC to identify and address gaps. The CQI tool is an important component of the project and provides a well-defined process for quality improvement; assures the operation of quality oral health programs and the delivery of oral health services that are fully integrated into School-Based Health Center Programs; and utilizes and incorporates the results of both process and outcome evaluations into performance improvement efforts.

There are 5 major domains and 164 indicators in the CQI tool which are reviewed each quarter:

- Integration Between School-based Health and Dental Programs
- Quality Assurance
- Services Provided
- Data Collection and Evaluation
- Program Sustainability

Within each component are performance standards and within each performance standard are specific questions or items to be evaluated each quarter. Each item is reviewed and determined

if it is fully met, partially met or not met. Action plans are developed for items that are either partially met or not met utilizing either Plan-Do-Study-Act (PDSA) or Focus-Analyze-Develop an action Plan-Execute (FADE) quality improvement models to improve performance and address gaps.

Information for the completion of the quarterly reviews were derived from program records; patient charts; electronic dental records; and patient, parent, school administration, community and staff satisfaction surveys.

NCFHC's feedback of the CQI Plan and review tool were favorable:

- Even though there were 164 indicators, the review tool provided guidance in identifying areas in need of improvement.
- The tool provided an opportunity to view and compare progress and improvements across four quarters.
- It allowed the reviewer to make notes that can be used for developing action plans.

In year 3, the results of CQI reviews were shared with NCFHC and school based dental and health staff. Results and action plans were also shared with the advisory committee and school principals.

C3: SUSTANABILITY

The NCFHC SBCOH Project routinely bills NYS Medicaid fee-for-services and managed care programs and the NYS Child Health Insurance Program for all enrolled children receiving program services. Private third party insurers are also billed. If the child's parents have no public or private form of insurance, an income-based sliding fee scale is used for treatment services only and the parents are provided with assistance in applying for insurance coverage. No child, however, is ever turned away as a results of the parent's inability to pay.

	Medicaid and CHIP	Other 3rd Party Insurers	Sliding Fee Scale
2010-2011 - Prior to Project Start			
Billable Visits	304	156	137
Dollar Value of Billable Visits	$27,644.00	$14,066.96	not available
Revenues Received	$18,599.00	$ 9,808.18	$ 537.00
2012-2013			
Billable Visits	1,098	742	362
Dollar Value of Billable Visits	$125,264.00	$ 86,392.00	$ 26,551.00
Revenues Received	$126,214.00	$ 45,696.00	$ 2,130.00
2013-2014			
Billable Visits	684	617	284
Dollar Value of Billable Visits	$ 75,096.00	$ 70,214.00	$ 6,049.00
Revenues Received	$ 66,821.00	$35,959.00	$ 1,016.00
2014-2015: 1st three quarters only			
Billable Visits	590	210	223
Dollar Value of Billable Visits	$ 74,329.00	$ 25,481.00	$ 27,481.00

Revenues Received	$ 30,331.00	$ 12,145.00	$ 482.00

Despite routinely billing all third party public and private insurers and utilizing a sliding fee scale for dental treatment services if parents have no other forms of insurance for dental care, the Project failed to reach sustainability over the course of the grant. Reimbursements for billed services consistently fell below the total dollar values of all dental services incurred on behalf of children enrolled in the program and, with the exception of one year, fell well below covering the direct costs to operate the program

	2010-2011*	2012-2013	2013-2014	2014-2015**
Total Amount Billed	$41,171.96	$238,207.00	$151,359.00	$127,762.00
Total Revenues Received	$28,944.18	$174,040.00	$103,796.00	$ 42,958
% Collected of Billed	70.3%	73.1%	68.6%	33.6%
Total Direct Costs to Operate Program	$75,001.50	$193,169.00	$144,082.00	$122,726.00
Amount Covered by Reimbursements	38.6%	90.1%	72.0%	38.1%

* prior to project start – serves as baseline; missing dollar value of billed amount for sliding fee scale

** first 3 quarters only

D. EVALUATION

The progress of the project was monitored on a continuing basis against the completion of all project objectives and accomplishment of process and outcome indicators.

Process Evaluations

- ***Access to dental care:***

Prior to the start of the project, NCFHC provided dental services at eight (8) schools. Participation in the program was low with only 11.6% of children in these 8 schools enrolling in the dental program. By the end of the fourth year of the grant, dental services were available in 10 of the originally planned 12 target schools, with 18.0% of children in these schools receiving dental services. Prior to the grant, 79.5% of all school children in the 12 targeted schools had access to school-based dental services; at the end of the four-year grant, 93.5% of students had access to dental services.

	2011-2012	2012-2013	2013-2014	2014-2015
# of schools served during the year	8	8	9	10
School population at these schools	4,836	3,521	4,555	5,664
Children enrolled in the dental program	560	254	642	1020
% of children served by School-Based Dental Programs	11.6%	7.2%	14.1%	18.0%

More than half of all billed School-Based dental services were for low income children enrolled in either the Medicaid Program or Child Health Plus, with the proportion of dental services

provided to low income children increasing over the life of the project from 50.5% in year one to 57.5% in year three. Children covered under private 3rd party insurance accounted for one-fifth to one-third of all billed dental services, while those served under a sliding-fee scale accounted for one-fifth or less of all billed dental services. These data indicate that the NCFHC School-Based Dental Program was successful in reaching and serving low income children, with over half of all children served designated at low income-high risk.

DISTRIBUTION OF BILLED SERVICES FOR SCHOOL-BASED DENTAL BY TYPE OF INSURANCE			
	Medicaid and Child Health Plus	**Private 3rd Party Insurer**	**Sliding Fee Scale**
2011-2012	**50.5%**	**34.6%**	**14.9%**
2012-2013	**52.4%**	**28.8%**	**18.8%**
2013-2014	**50.1%**	**33.8%**	**16.1%**
2014-2015	**57.5%**	**20.6%**	**21.9%**

- ***Expansion of services to reach more children:***

School-based dental services were successfully expanded to three additional schools over the course of the grant using funds from the HRSA grant to purchase portable equipment to eliminate the need for students to travel to other schools to receive dental services. The needs assessment highlighted opportunities for increasing on site dental services using portable equipment and working with schools for securing adequate space. Due to the additional portable equipment available from this grant, opportunities for on-site dental services were more feasible than in the past. With the assistance of the advisory board, discussions were initiated to secure adequate space for portable dental services in schools that offer off-site dental services.

Until the EDR was fully implemented in the schools, tracking the number of children transported from their school to another school to receive services was difficult and time consuming. In the past, the policy was to track those students attending particular dental clinics, rather than by the school they attend. In September 2013, with the EDR fully implemented in schools, the students began to be tracked by their school as well as where they receive dental services.

Several strategies were implemented during the four years of the grant to increase enrollment in the school dental programs:

- Use of a single enrollment consent form for school-based health and/or dental clinics;
- Cross-training of health and dental staff and combined monthly meetings twice a year to discuss efforts of integration to improve efficiency;
- Incorporation of dental information into health education and health information into dental, with emphasis on the interrelationship between oral health and general health;
- A combined electronic medical records system;
- Standardization of quality improvement and continuous quality improvement protocols and procedures;

- Computer-generated reminders of upcoming medical or dental appointments to provide to students whenever they are being seen for medical or dental services; and
- Uniform systems for follow-up on non-returned consent forms.

- ***Improved integration between school-based health and dental programs:***

NCFHC formed an internal work group to revise the current health and dental enrollment forms into a single enrollment form; the form was implemented at the start of the 2012-13 school year and made available online at NCFHC and school websites. An automatic fill feature greatly simplified the completion of the form for families with multiple children enrolled in the program.

A facility-wide referral form was developed to enable a bi-directional referral systems. In fall 2012, the medical and dental staff implemented bi-directional referrals. In rolling out this activity, the NCFHC dental director provided training on oral health assessments for Medical staff. During this training, discussion led to opportunities for the dental staff to refer any medical issues their patients may present. Encounter forms were revised to capture and track these referrals.

Cross-training was introduced to health and dental staff. The Dental Director provided an in-service for medical staff to discuss efforts of integration and BDH provided online educational opportunities.

- ***Outreach and Promotional Activities:***

NCFHC's advisory board proved to a valuable resource for promoting school-based health and dental services, ensuring adequate space within the schools for the provision of services, and for encouraging program participation.

NCFHC's Marketing Director and school staff worked together to develop a school-centered strategy for promotion of the school based health and dental program. Acknowledging that schools and NCFHC are equal partners and have common goals for providing students with high quality dental and health services.

The specific strategies include:

- A marketing strategy to use school logos and colors on NCFHC promotional materials and enrollment forms, with school logos and colors are more pronounced than NCFHC's logos.
- School principals, school staff and parents encouraging NCFHC staff to provide promotional activities during school events. These events were well attended by parents and students, such as kindergarten registration, fall open houses and sport events.
- Schools posted NCFHC's school based health and dental enrollment form on their school district web site.

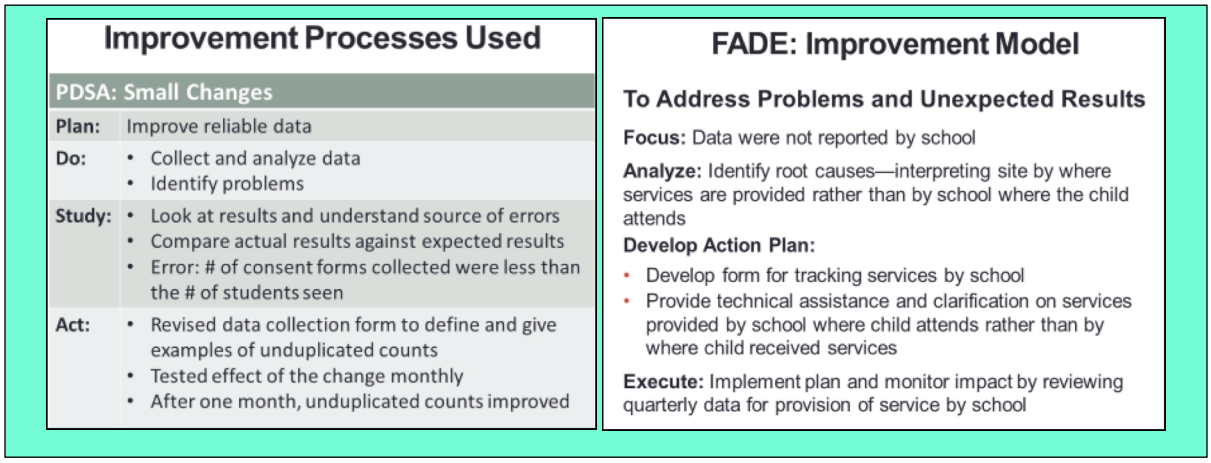
These opportunities were further developed into goals, objectives, activities and timeframes and incorporated into the goals and objectives of the NCFHC School-Based Integrated Health and Dental Program Strategic Plan.

To encourage more children to participate in the school-based dental program, tooth brushes, tooth paste, floss, and bags for oral health supplies were purchased for students who enrolled in the program.

- ***Continuous Quality Improvement:***

The CQI tool was an important component of the project and provided a well-defined process for quality improvement, with the results of findings incorporated into performance improvement efforts.

The 5 major domains and 164 indicators in the CQI tool were reviewed each quarter along with performance standards to determine if the standards were fully met, partially met or not met. Action plans were developed for items that were either partially met or not met utilizing either PDSA or FADE quality improvement models to improve performance and address gaps.



Improvement Processes Used

PDSA: Small Changes	
Plan:	Improve reliable data
Do:	• Collect and analyze data • Identify problems
Study:	• Look at results and understand source of errors • Compare actual results against expected results • Error: # of consent forms collected were less than the # of students seen
Act:	• Revised data collection form to define and give examples of unduplicated counts • Tested effect of the change monthly • After one month, unduplicated counts improved

FADE: Improvement Model

To Address Problems and Unexpected Results

Focus: Data were not reported by school

Analyze: Identify root causes—interpreting site by where services are provided rather than by school where the child attends

Develop Action Plan:

- Develop form for tracking services by school
- Provide technical assistance and clarification on services provided by school where child attends rather than by where child received services

Execute: Implement plan and monitor impact by reviewing quarterly data for provision of service by school

The results of the reviews showed steady improvements in meeting the 164 indicators within the five domains. Monthly teleconferences with NCFHC staff took place to review results, develop action plans for improvements, and monitor progress. Findings from the reviews were incorporated into the operation of NCFHC's Quality Assurance Program and added to its dashboard for monitoring purposes.

Using the results of the CQI quarterly reviews to identify gaps and deficiencies and develop appropriate action plans to improve performance contributed to substantial improvements in the project. At the time of implementation, out of 164 CQI indicators, less than half (47.6%) were fully met, a third (33.5%) were partially met, and nearly one-fifth (18.9%) were not met; by the end of the 3nd quarter of 2014-2015, all indicators were fully met (100%).

CQI COMPONENTS	1st QT 2013-2014	3nd QT 2014-2015

INTEGRATION BETWEEN SBHC AND SBHC-D PROGRAMS – 40 ITEMS		
FM:	13	40
PM:	26	0
NM:	1	0
QUALITY ASSURANCE - 33 ITEMS		
FM:	15	33
PM:	11	0
NM:	7	0
SERVICES PROVIDED – 47 ITEMS		
FM:	38	47
PM:	5	4
NM:	4	0
DATA COLLECTION AND EVALUATIONS – 25 ITEMS		
FM:	1	25
PM:	8	0
NM:	16	0
PROGRAM SUSTAINABILITY – 19 ITEMS		
FM:	11	19
PM:	5	0
NM:	3	0
GRAND TOTAL: 164 ITEMS	**1st QT 2013-2014**	**3nd QT 2014-2015**
FM:	78 - 47.6%	164 - 100%
PM:	55 - 33.5%	0
NM:	31 - 18.9%	0

NCFHC's feedback of the CQI Plan and review tool were favorable:

- Even though there are 164 indicators, the review tool provided guidance in identifying areas in need of improvement.
- The tool provided an opportunity to view and compare progress and improvements across four quarters.
- It allowed the reviewer to make notes that can be used for developing action plans.

- ***Dental services provided through the School-Based Dental Program:***

Over the course of the four-year grant, the percentage of children receiving preventive services increased from a low of 74% to a high of 100%. During the 2014-2015 school year, all children enrolled in the program had prophylaxis and the application of topical fluoride or fluoride varnish.

Among the 236 children found to be in need of treatment services, all completed their treatment plan prior to the end of the grant year.

- ***Program Satisfaction:***

During the 4th quarter of 2014-2015, surveys were distributed to 166 student enrolled in the school-based dental program and 80 parents with children in the program. The student survey obtains information on the student's level of comfort with the program and dental staff, his/her understanding the dental information provided, and if he/she would recommend the program to a friend. The parent survey gathers information on how the parent first learned about the school-based dental program, reasons for enrolling the child (children) in the program, ease of application process, opinions about different aspects of the program, usefulness of any written materials received, overall satisfaction with the program, intent to continue to have the child (children) participate in the program, and likelihood of recommending the School-Based Dental Program to other parents.

All 166 surveys were returned, but analysis of the responses have not yet been completed. A total of 31 (38.8%) surveys were returned by parents, with 90% (28) of those returning the survey indicating being satisfied or very satisfied with the program and 94% (29) indicating that they would recommend the program to a friend/other parent.

Outcome/Impact Evaluations

- ***Reduction in disparities:***

Prior to the start of the project, 48.4% of children identified with untreated decay in 2010-2011 received treatment services. By 2012-2013, of the 483 children with untreated decay, 90.1% had completed treatment plans by the end of the year. This percentage increased to 100% by the end of the fourth year of the grant, with all children identified with untreated decay referred to a dentist completing their treatment plans by the end of the year. The project was successful in reducing untreated decay by ensuring that all children received appropriate treatment services.

The NCFHC School-Based Dental Program was also successful in reaching and serving low income children, with over half of all children served designated at low income-high risk. It was also successful in increasing the percentage of children participating in the program.

- ***Delivery models and impact on participation:***

Based on the needs assessment completed for the 12 targeted schools, 5 different service delivery systems for school health and dental services were identified. The most effective model with respect to participation in the school-based dental program is when both health and dental are co-located in the same school; the least successful are when health and dental are both off site at different schools or when there is no school-based health program on site in the school.

Service Delivery Models	School	Dental services	Health services	Equipment Resources	Available Students 2014-15	Students Enrolled in Dental 2012-13	Students Enrolled in Dental 2014-15

Health and Dental both on site					2,082	1,017 58.8%	502 50.1%
	North	onsite	onsite	permanent	511	83	56
	Wiley	onsite	onsite	permanent	576	422	146
	Mannsville	onsite	onsite	permanent	388	259	157
	Wilson	onsite	onsite	permanent	607	253	143
Health on-site Dental off-site					1,696	159 9.2	252 25.2%
	Watertown HS	at Wiley	onsite	permanent	1,111	101	127
	Case Jr. High	at Wiley	onsite	permanent	585	58	125
Health off-site Dental on-site					500	124 7.2%	42 4.2%
	Starbuck	onsite	at North	portable	165	72	12
	Ohio	onsite	at North	portable	335	52	30
Health and Dental both off-site					723	12 0.6%	0 0.0%
	Knickerbocker	at Wiley	at North	portable	394	12	0
	Sherman	at Wiley	at North	portable	329	0	0
Dental on-site; no Health services					1,057	418 24.2%	205 20.5%
	Clark Jr/Sr HS	onsite	none	permanent	409	289	152
	Lowville	onsite	none	portable	648	129	53
Totals					**6,058**	**1,730 28.6%**	**1,001 16.5%**

E. RESOURCES AND CAPABILITIES

Past Work Experience

NCFHC operates countywide in predominately rural dental health professional shortage areas, compounded by a lack of dental care providers willing to accept Medicaid/ CHIP. Its school-based health and school-based dental center programs have been operational for over 2 decades, are well respected within the community, and serve predominately low income children with limited access to health and dental services. Because both programs are approved by the NYSDOH, compliance with regulations, guidelines and recommendations, are insured.

- ***Leadership:***

At the start of the project, the School-Based Dental Director had been on staff of the NCFHC for well over 30 years. Although highly experienced in running school-based dental programs and knowledgeable of the communities served, the Director tended to be very resistant to implementing changes to streamline the program and improve overall operations. Much handholding was required to convince NCFHC dental staff to revise, simplify and combine the school-based health and dental enrollment forms. It was also a challenge to get the buy-in of the Dental Director in implementing the CQI Program, quarterly reviews, and the PDSA/FADE models of improvement.

The retirement of the former Dental Director, the availability of new and highly motivated dental staff, and new NCFHC Executive Director and staff, resulted in an increased willingness to try new things, evaluate efforts, and improve program operations and integration. The success of the program can be largely attributed to the change in NCFHC dental staff and their increased commitment to continuous quality improvement and integration; the availability of a creative media director; support of the program, integration and the media project by new Center administration; the cross-training of medical and dental staff; the enthusiastic adoption of the CQI Program by both Center and dental staff; and the availability of HRSA carry-forward monies for a social media project.

The utilization of a variety of BDH staff well trained in continuous quality improvement, school-based dental health programs, and evaluations also lead to the availability of expanded technical assistance and program success.

Key players involved in the project included the Medical director, Dental director, Executive director, Marketing director, Information technology specialist, and Fiscal administrator.

- ***Advisory Board:***

Three separate NCFHC SBHC-dental advisory boards representing the school districts of Watertown, South Jefferson County, and Lowville were established at the start of the project and served as venues for communication between NCFHC and the schools it served. Advisory members completed a SWOT analysis and provided recommendations and input into the development of a single enrollment form, actively encouraged enrollment in Comprehensive School-Based Health/Dental Centers, and promoted school-based health and dental services as one entity.

Because of decreasing board membership and participation, the 3 advisory boards were merged into one and combined with the districts' school health advisory board (Watertown School Health and Dental Advisory Council), representing 12 schools and 3 school districts. Having a single, combined Board resulted in increased participation, further progress in integrating school based health and dental programs, and expanded community and stakeholder engagement in the project. Work also shifted from communication to engaging in discussions to identifying the most effective strategies for promoting school-based health, overcoming barriers, and achieving project goals and objectives.

- ***Skills and Knowledge of Evaluation Staff:***

During the course of the four year project, NCFHC transitioned to electronic medical and dental records. GE Centricity Practice Solution (CPS) united practice management and medical record systems, including patient registration, scheduling, health information, and reporting and billing. Vis-Dental is the dental plug-in and allowed for capturing and reporting dental-specific information. BDH evaluation staff worked very closely with the EMR contractors on the dental system and design and generation of dental reports for monitoring progress and evaluating outcomes. The BDH also provided data collection training to improve the ease of collecting and reporting data to track quality indicators, incorporated data needed by the SBHC dental

program into the electronic record, validated customized electronic dental reports, established an evaluation workgroup and completed a data collection plan. Under the direction of Jay Kumar DDS, MPH, and Barbara Greenberg MA, MS, a Program Research Specialists IV, an evaluation workgroup was formed for this grant project. Members of this group included, Anne Varcasio RDH, MA, Public Health Specialist IV, Project Coordinator, and rotating Dental Public Health Residents (Ismail Jolaosa DDS, Vincius Traveres DDS, MPH, Priyanka Kandhari DDS, MPH, and Shivani Arora DDS). The goals of this workgroup were to assist in planning, formulating an evaluation plan and a Continuous Quality Improvement (CQI) Plan, which together guided this project towards a strong evaluation component. The dental residents played a pivotal role in designing evaluation strategies for the project. Due to staff turnover, however, several planned project evaluations were unable to be completed.

Policies and Procedures

NCFHC has in place a policy and procedure manual that covers all aspects of the health center and its programs. The components of the school-based dental program policy and procedure manual are consistent with those of NCFHC and the provision of dental services, including clinical standards of care, credentialing of providers, HIPAA and confidentiality of records, staff training, patient enrollment procedures, referral procedures, data collection, maintenance of patient records, procedures for reimbursement from public and private insurers. Policies and procedures for both school health and school dental were standardized, with policy and procedure manuals revised to include uniform sections.

Readiness to Initiate the Project

Because NYSDOH presently funds NCFHC school-based health and dental programs and contracts already existed, no delays were incurred in the implementation of project activities.

Some differences between school-based dental and health programs highlighted limitations and opportunities for integration and contributed to only minor delays with some activities.

APPENDIX A – SUPPORTING DOCUMENTS

Combined Enrollment Form

Cover letter: http://www.nocofamilyhealth.org/wp-content/uploads/2015/09/2015-Enrollment-Cover-WatertownALL.pdf

Enrollment Form: http://www.nocofamilyhealth.org/wp-content/uploads/2015/09/Enrollment-Form-2015-2016.pdf

Video Programs

Video 1 - Rock Star Smiles: this is a 10 minute video which is also segmented into 3 chapters Caries Process and Tooth Anatomy, Diet and Oral Hygiene, and School Based Dental Services for use in the classroom. "Rock Star Smiles" targets students in grades 4-12 using an age appropriate and upbeat theme to relay oral health messages.
http://www.youtube.com/embed/gIqmxCzzCZE?rel=0&vq=large

Video 2 - Integrated School Based Health and Dental Services: for use by members of the advisory committee to reach parents and school staff. The video showcases school based health and dental programs and their value to students and parents and includes testimonies from health center administrators, staff, school principals, and parents; shows the program in action; and demonstrates how to enroll in the program.
http://www.youtube.com/embed/d0d1YdL8bdY?rel=0&vq=large