Dental Public Health Activity Descriptive Report

Practice Number: 16013
Submitted By: The Oral Health Forum/Heartland Health Outreach
Submission Date: October 2016
Last Reviewed: October 2016
Last Updated: October 2016

SECTION I: PRACTICE OVERVIEW

Name of the Dental Public Health Activity: Leading Chicago Children to Oral Health Improvement: A Community Based Public-Private Collaboration

Public Health Functions:

"X"	
	Assessment
x	1. Assess oral health status and implement an oral health surveillance system.
x	2. Analyze determinants of oral health and respond to health hazards in the community
x	3. Assess public perceptions about oral health issues and educate/empower them to achieve and maintain optimal oral health
	Policy Development
x	4. Mobilize community partners to leverage resources and advocate for/act on oral health issues
	5. Develop and implement policies and systematic plans that support state and community oral health efforts
	Assurance
	6. Review, educate about and enforce laws and regulations that promote oral health and ensure safe oral health practices
x	7. Reduce barriers to care and assure utilization of personal and population-based oral health services
	8. Assure an adequate and competent public and private oral health workforce
x	9. Evaluate effectiveness, accessibility and quality of personal and population-based oral health promotion activities and oral health services
	10. Conduct and review research for new insights and innovative solutions to oral health problems

Healthy People 2020 Objectives:

"X"	Healthy People 2020 Oral Health Objectives	
x	OH-1	Reduce the proportion of children and adolescents who have dental caries experience in their primary or permanent teeth
x	OH-2	Reduce the proportion of children and adolescents with untreated dental decay
	OH-3	Reduce the proportion of adults with untreated dental decay
	OH-4	Reduce the proportion of adults who have ever had a permanent tooth extracted because of dental caries or periodontal disease
	OH-5	Reduce the proportion of adults aged 45 to 74 years with moderate or severe periodontitis
	OH-6	Increase the proportion of oral and pharyngeal cancers detected at the earliest stage
x	OH-7	Increase the proportion of children, adolescents, and adults who used the oral health care system in the past year
x	OH-8	Increase the proportion of low-income children and adolescents who received any preventive dental service during the past year

	OH-9	Increase the proportion of school-based health centers with an oral health component
	OH-10	Increase the proportion of local health departments and Federally Qualified Health Centers (FQHCs) that have an oral health component
	OH-11	Increase the proportion of patients who receive oral health services at Federally Qualified Health Centers each year
x	OH-12	Increase the proportion of children and adolescents who have received dental sealants on their molar teeth
	OH-13	Increase the proportion of the U.S. population served by community water systems with optimally fluoridated water
	OH-14	Increase the proportion of adults who receive preventive interventions in dental offices
	OH-15	Increase the number of States and the District of Columbia that have a system for recording and referring infants and children with cleft lips and cleft palates to craniofacial anomaly rehabilitative teams
	OH-16	Increase the number of States and the District of Columbia that have an oral and craniofacial health surveillance system
	OH-17	Increase health agencies that have a dental public health program directed by a dental professional with public health training
"X"	**Other national or state Healthy People 2020 Objectives: (list objective number and topic)**	
X	Principle 2: Access to Care - Goal 2d	State Health Plan: People in Tennessee are able to obtain appropriate quality health care services to meet their needs.

State: IL	**Key Words for Searches:** Oral health promotion, disease prevention, access to care, school-based oral health, oral health, prevention, health equity

Abstract:

The Chicago Public School System (CPS) is the third largest school district in the United States with more than 600 schools providing education to approximately 400,000 children. Healthy CPS is an initiative created to demonstrate schools' commitment to a safe/healthy learning environment by offering access to daily physical activity, nutritious foods, school-based health services, health education, and supporting students with chronic conditions.

As a component of the Healthy CPS initiative, the Chicago Department of Public Health (CDPH) School–Based Oral Health Program (SBOHP) provides dental screening, oral prophylaxis, fluoride varnish treatment and dental sealants (if prescribed) to CPS students based on positive consent return. The program is operational in 547 out of the 600 CPS schools. Dental Referrals (walk-out letter) is given to each student seen. The letter provides a "snapshot" of the student's oral health and phone numbers for access to the Medicaid (Managed Care Organizations) oversight companies. Student oral health status is recorded as Oral Health Score (OHS) of 1 (healthy), 2 (non-urgent need), 3 (urgent need). Each contracted dental provider's team is responsible for calling parents of students with OHS-2 or 3, and providing either a referral to their dental practice or dental providers around the school. However, if the school is located in two specific Chicago zip code areas identified as having a very high number of children with urgent dental needs, students are enrolled in an intensive Case Management (CM) Pilot lead by the Oral Health Forum (OHF).

The OHF CM pilot was initiated in School-Year 2014-15 (SY15) targeting schools with a very high number of children with OHS-3. An environmental scan of health resources in the two zip codes showed no publicly-funded dental programs and limited access to 56 community dental providers. Building on community relations, two bilingual case managers have been actively working with families from 39 schools in the targeted area to enhance their ability to access dental care.

Data from the first year of the CM pilot revealed that 50% of the children with OHS-3 were in three of the 39 schools. The same three schools had a very high number of children with OHS-2. Based on this information, an incentive model (Oral Health (OH) Champion Program) was implemented in SY16 targeting the whole school community: children, families, teachers and school-personnel from the three schools. Changes in students oral health status (from SY15 to SY16) has been used to evaluate improvements. However, at the end of the 3-years CM pilot (SY17) the program will be better positioned to measure success.

Contact Person(s) for Inquiries:

Alejandra Valencia**,** Director**,** The Oral Health Forum/ Heartland Health Outreach**,** 1100 W Cermak Rd - Suite 518, Chicago, IL 60608**,** Phone: 773-491-2632**,** Email: avalencia@heartlandalliance.org

Mary Pat Burgess**,** Program Director**,** School-Based Oral Health Program/ Chicago Department of Public Health**,** 4314 So. Cottage Grove - Room 204, Chicago, Illinois 60653, Phone: 312-747-8304 (o)**,** Email: marypat.burgess@cityofchicago.org

SECTION II: PRACTICE DESCRIPTION

History of the Practice:

In 2011, the City of Chicago created a new public health agenda (Healthy Chicago Initiative) lead by the Chicago Department of Public Health (CDPH) to engage stakeholders in a common vision for a healthier Chicago. To align with this agenda, the Chicago Public Schools (CPS) System developed the Healthy CPS Initiative that focuses on developing healthier environments at the school level, promoting healthy habits, and improving existing school-based programs. As a result of this, CDPH in collaboration with CPS engaged in developing quality improvement efforts for the CDPH School-Based Oral Health Program (SBOHP) which included a variety of case management efforts to connect children that participated in the SBOHP with community providers to get dental treatment services beyond the scope of services provided by school program. An intensive CM pilot lead by OHF was developed to address the increasing urgent needs of children in specific areas of the city. The program was created with the support of the Otho S. A. Sprague Memorial Institute and the DentaQuest Foundation to help families navigate the system to access dental care for their children. Additionally, as part of the efforts to improve oral health outcomes for children from this specific area of the city, OHF implemented an OH Champion Program in three schools to increase awareness in the whole school community about the importance of oral health and healthy family habits to maintain a healthy smile.

This report will focus on describing the Whole School, Whole Community, Whole Child approach that Chicago partners are taken to improve oral health services for the most vulnerable children in CPS. It will also address the four initiatives/programs and how they tie together in the School-Year Oral Health Cycle Model to improve health outcomes. The initiatives/programs are: 1) Healthy CPS Initiative, 2) the CDPH School-Based Oral Health Program, 3) the Case Management (CM) Pilot program, and 4) the Oral Health Champion Program.

Healthy CPS Initiative

The CPS System is the third largest school district in the United States with more than 600 schools providing education to approximately 400,000 children. Healthy CPS is an initiative created by the Office of Student Health and Wellness (OSHW) to align efforts with the CDPH *Healthy Chicago Public Health Agenda*. Healthy CPS demonstrates a school's commitment to a safe and healthy learning environment by offering access to daily physical activity, nutritious foods, school-based health services, health education, and supports for students with chronic conditions.

CDPH School-Based Oral Health Program

In 2000, CDPH initiated the SBOHP within CPS. Initially, CDPH dentists delivered the school-based oral health services, including assessment/screenings, oral prophylaxis, fluoride treatments, and dental sealants. CDPH developed a referral network to care for those students in need of urgent care by using the Illinois Medicaid provider list and providing each student with a referral letter that provided them the name, number and address of two Medicaid providers in their zip code. It quickly became apparent that the demand for school-based oral health services far exceeded CDPH's dental capacity. Therefore, a professional service agreement was developed to allow CDPH to contract with private dental providers to reach more children in need of this service. Through this arrangement, the number of dental providers has grown from one in 2002 to 17 providers working under a 3-year contract agreement with CDPH. These providers bill Medicaid for oral health services rendered. The oral health referral network has also expanded to over 300 providers and sites where students can access follow up care. At present, CDPH SBOHP is considered the largest school-based oral health program in the country (more than 100,000 children seen each year with more than 500 schools served).

CDPH quality improvement efforts initiated in 2013 have resulted in substantive program improvements. Starting in School Year 2014-15 (SY15), the current provider contract period includes a requirement to comply with the following referral system conditions:

- Provide a written referral (if applicable) describing the student's oral health follow-up care needs
- Provide a minimum of 2 referral site options for dental care
- Contact the parent/guardian to ensure the parent received the referral and has the necessary information to seek the follow-up care the child needs
- Report parental contact to CDPH

The contracted provider level requirements outlined above will allow better information sharing between CDPH and parents of children needing follow-up care. However, we anticipated that even with an informed parent, there will still be challenges that parents will face in navigating the health care system.

With this in mind, in the SY15, an active case management component was piloted in collaboration with the OHF targeting two specific areas in CPS with a very high number of children with urgent dental needs. The pilot program is funded by the Otho Sprague Memorial Institute and the DentaQuest Foundation.

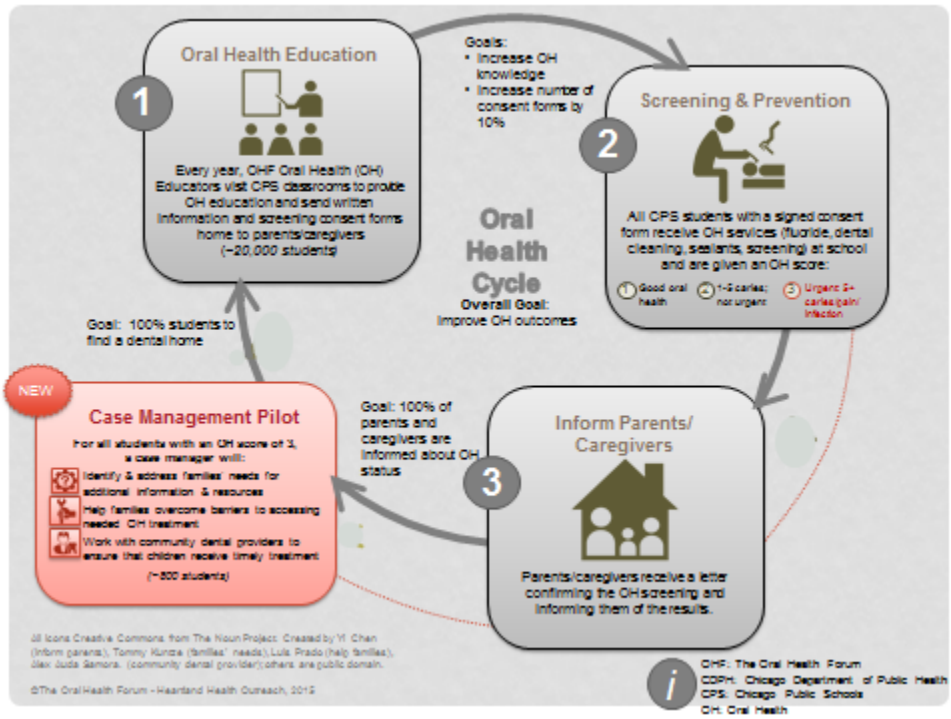
Justification of the Practice:

OHF is a community-centered initiative, housed within Heartland Health Outreach, committed to improving oral health programs and services for all Chicago residents through education, assessment, policy/program development, and collaboration. OHF is a leader in oral health advocacy and planning in the city.

OHF has been partnering with CDPH and CPS in several projects since 2010 to improve oral health outcomes for Chicago children. To complement the activities provided to students by the SBOHP, OHF developed an oral health curriculum that has been taught in CPS by oral health educators, dental hygiene students, and pre-dental students since 2012. OHF's 76-pages curriculum follows National Health Educational Standards and was approved by the CPS Office of Students Health and Wellness (OSHW) Review Committee as the only oral health curriculum that can be used to educate CPS children. It is important to emphasize that OHF's curriculum is age specific, using appropriate language for students to understand basic oral health and nutrition concepts. Five different group-lessons are presented: Pre-Kindergarten to Kindergarten, 1st-2nd grade, 3rd-5th grades, 6th- 8th grades and high school. The use of specific terminology and knowledge increase gradually. From grades 5th to 12th the curriculum includes sections on the use of head/facial protection to prevent injuries when practicing contact sports, the adverse consequences of tobacco and alcohol consumption, as well as piercing, and Human Papilloma Virus (HPV). The licensed curriculum is available for use by organizations through a licensing agreement. Please contact Alejandra Valencia. The oral health education program is funded by the Wrigley Company Foundation.

Additionally, OHF created a new targeted case management component to improve oral health outcomes among CPS students by connecting children with dental treatment needs with a dental home. The infographic (Fig. 1) below summarize how the different components fit together to improve the oral health status of children.

Figure 1. School Year Oral Health Cycle: A Community Based Public Private Collaboration.



System-wide, OHF oral health educators provide an engaging and informative oral health education session in English and, when needed, in Spanish to interested schools (*Infographic component 1*). OHF sends oral health education materials to parents to complement the education received by students in the classrooms. In addition to 25-minute presentations to the students, the educators also encourage students to bring back the consent forms for screening and preventive care offered in the schools. This strategic and intentional method is used to increase the number of children that utilize the open access, on-site SBOHP that provides preventive services, and more importantly identifies students experiencing dental disease and needing urgent or follow up dental care.

Infographic component 2 refers to the CDPH contracted providers that follow the OH education program and provide oral assessment/screening, oral prophylaxis, fluoride varnish treatment, and dental sealant(s) to all children (pre-k to 12th grade) that have a signed consent form. The results of each CPS student's dental screening are reported as an oral health (OH) score of 1, 2, or 3; 1 indicating that the student's OH is in good condition, 2 indicating the child has 1-4 dental caries, and 3 indicating that the student has 5 or more dental caries, an active abscess or reports pain and thus an urgent need for care.

Letters containing the results of each student's oral exam are sent home to the parent or guardian along with referrals to dental services, if necessary (*Infographic component 3*). If the child has an OH score of 1 (healthy), the cycle will be complete and the child will restart the OH cycle in the following SY. However, if the child resides in the target area (described below) and has an urgent or non-urgent dental need, CDPH sends the list of students to be enrolled in the case management (CM) pilot to OHF (*Infographic New component*). The desired outcome is that a child entering the case management pilot with a score of 3 or 2 will move to an OH score of 1 in the following SY because needed care was completed and the child is maintaining good oral health.

Case Management Pilot

Data from the SY14 showed that there were two Chicago zip codes- 60629 and 60632- identified as having the highest number of students (nearly 800) with urgent dental needs (OH score of 3). The dental CM pilot launched in SY15 initially targeting CPS students –kindergarten through grade 12th- with urgent dental needs in 39 schools located in these two zip codes. The CM pilot is not limited just to a phone call, it really focuses on engaging and assisting families to overcome any barriers to access care for their children as well as increasing health promotion efforts. The objectives of the pilot project, also summarized in the infographic, were:

- Increase awareness in schools about the importance of oral health and the SBOHP,
- Increase participation in the program bolstering student access to preventive dental services
- Connect children with urgent need with a community dentist for follow up treatment.

In SY16, the CM pilot has expanded to include children with OH score of 2 (non-urgent dental care).

The Oral Health Champion Program

Descriptive data obtained from the first year of the CM pilot revealed that 50% of the children with urgent dental need (OH score of 3) were in three of the 39 schools in the targeted area. The same three schools had a very high number of children with OH scores of 2; ones that given time could become urgent need children. Based on this information, an incentive model was implemented in the SY16 targeting the whole school community: children, parents/guardians, families, teachers and school personnel from the three identified schools.

The objective of the OH Champion Program is to develop a more in-depth relationship with the three school communities to increase awareness about the importance of oral health as an integral component of general health and awareness about the high burden of oral disease experienced by children attending these schools.

Implementation Timeline and Milestones:

School Year	Milestone
2000	CDPH School Based Oral Health Program stablished – Services provided by CDPH staff
2006	CDPH SBOHP professional services agreement stablished (contracted dental providers)
2011	Healthy Chicago: A Public Health Agenda launched
2012	OHF Oral Health Education Curriculum developed and approved by CPS - OH education program began at CPS schools
	Healthy CPS Initiative started
2013	CDPH SBOHP quality improvement efforts began
2015	Case Management Pilot - Year 1 - Development of case management tools - Environmental scan of health resources in the two Chicago zip code areas (60629 & 60632) - Data sharing agreements between CDPH and OHF - Case management activities in 39 CPS schools
2016	Case Management Pilot – Year 2 - Oral Health Champion Program established in 3 schools - Initial engagement of community dental providers in zip codes 60629 & 60632 - Case management program expanded partially to zip code 60623 - Case management activities in 52 CPS schools
	Healthy CPS Indicator for CPS schools implemented

Inputs, Activities, Outputs and Outcomes of the Practice:

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	OUTCOMES

Healthy CPS initiative: Office of Student Health and Wellness, CPS
- Program Manager

School-Based Oral Health Program: CDPH
- Program Director
- 17contracted dental providers (SBOHP)
- Medical Director
- Epidemiologist

Oral Health Education component: OHF
- 2.5 FTE oral health educators
- Program Manager

- Pre-dental clubs, the Kennedy King College Dental Hygiene Program (up to 26 students) and other trained volunteers

Case Management Pilot and Oral Health Champion Program: OHF
- 2.5 FTE case managers
- Program Manager
- OHF's Director and Co-director

Funders:
- Otho S. A. Sprague Memorial Institute
- DentaQuest Foundation
- Wrigley Company Foundation

INPUTS	**PROGRAM ACTIVITIES**	OUTPUTS	OUTCOMES

Healthy CPS Initiative

The Office of Students Health and Wellness at CPS developed, implemented and managed the Healthy CPS Initiative. The Healthy CPS Indicator is the first ever comprehensive health focused measure that is included on the CPS school progress report. It was created to help schools streamline health and wellness initiatives already taking place at the school. In addition, parents and other stakeholders can quickly see if their schools are implementing key policies that support safe and healthy school environment. A School Wellness Team at each school uses the Healthy CPS Indicator to coordinate efforts that focus on chronic disease, health services, health instruction (sexual health and physical education) and wellness (LearnWELL).

A school must earn 4 badges to become a Healthy CPS school (see Fig. 2 below). The four badges are designed to align with policies focusing on health, safety, wellness, and academics to promote an ideal learning environment for CPS students, so that they may grow and succeed. Schools have to complete an interactive checklist each year to identify health and wellness priorities so the school can achieve Healthy CPS status. This checklist outlines all Healthy CPS criteria and will help identify areas for improvement within each badge.

Figure 2. Healthy CPS Badge

Indicators for Healthy CPS status
Chronic Disease Badge:

The Healthy CPS Chronic Disease badge measures whether schools are effectively providing a safe and supportive environment for students with chronic conditions including asthma, food allergies and diabetes. This is accomplished through:

- Student identification
- Proper accommodations
- Staff training as it relates to chronic condition management and emergency response

Instruction Badge:

The Healthy CPS Instruction badge measures whether schools provide students dedicated instructional time for the following content areas:

- Nutrition Education
- Physical Education
- Sexual Health Education

LearnWELL:

The Healthy CPS LearnWELL badge measures whether schools provide access to healthy foods and physical activity to students throughout the school day. This is accomplished through:

- Healthy fundraisers, rewards and celebrations
- Nutrition standards for any food served in school
- Utilizing and integrating school gardens school-wide (where applicable)
- Daily and active recess
- Integration of physical activity throughout the school day

Health Services:

The Healthy CPS Health Services badge measures whether schools are providing student access to direct healthcare services that impact learning. This is accomplished through:

- Screening (Vision and Hearing)
- Vision Exam Program
- Dental Exam Program (School-Based Oral Health Program)
- Medical compliance (physical exams and immunizations)

In addition to this, the state of Illinois has mandated dental examination compliance for students entering kindergarten, 2nd and 6th grade.

CDPH School-Based Oral Health Program

The CDPH SBOHP is part of the Healthy CPS initiative. At the beginning of each school year the CDPH SBOHP Director divides evenly all CPS schools among the 17dental teams that provide services in schools. Providers are responsible for contacting the schools to arrange the school visits and collect all consent forms returned from parents/guardians. Ideally, after at least 40% of eligible children at the school have returned the consent form, providers are able to schedule the dental visit.

After completing all dental examinations and services at each school, providers have a seven day window to report collected data to the CDPH office using the Sealant Efficiency Assessment for Locals and States (SEALS) software. Similarly, CDPH administrative team will have a seven day window to enter data and create the case management lists that are sent to OHF identifying children to be included in the CM pilot. Depending of the number of students on the list, OHF's case managers will have approximately two weeks to finalize each of the schools and send data to CDPH.

Oral Health Education

At the programmatic level OHF educators:

- Make contact with schools to establish a go-to person to coordinate the oral health education visit.
- Work closely with school's academic and events calendar for optimal schedule.
- Contact the schools several ways to schedule school visits. First a letter is sent to the principal by email followed up with a phone call and visit to the school to speak with someone in person to schedule the oral health education.
- Prepare dental hygiene kits (toothbrush, floss, toothpaste and sugar free gum, if appropriate) for each student.
- Teach in each individual classroom for 25 minutes with time for questions and answers.
- Distribute teacher evaluation forms for each classroom and pre/post-tests to 5th grade classrooms.
- Collect feedback forms and pre/post session tests to be entered into an evaluation spreadsheet.

Dental Case Management Pilot

Two case managers hired by OHF, who are fluent in English and Spanish, actively worked at the programmatic, community, and implementation level in the first year of the pilot (SY15).

At the programmatic level case managers designed specific accountability/tracking forms to facilitate their work. These included developing:

- Tracking system to manage students
- Call script
- Schools and dental offices mapping spreadsheet
- School profiles for 39 schools in 60629 & 60632
- Barriers to dental care/ solutions chart

At the community level case managers established relationships and disseminated information about the program. Some of the activities included:

- Emailing and visiting all schools (39) in the designated communities and additional schools in the surrounding areas (5).

- Informing staff about the program and identifying at least one go-to person at each school.
- Completing a service site assessment of dental offices in the two zip codes (56); details on each dental office included eligibility criteria, payment, appointment process and other variables.
- Completing a program presentation and listening session with community dental providers and dental insurance representatives.
- Developing relationships with community-based organizations in the target area to address additional barriers.

Active case management implementation: Case managers contacted parents/caregivers of child (ren) identified with urgent dental needs in the 39 assigned schools and parents/caregivers of children with non-urgent restorative treatment needs in three highly affected schools.

- Case managers assisted parents in overcoming various barriers to care.
- Case managers documented each contact with parents.

Data collected were compiled and analyzed for barriers to care: insurance status, non-receipt of referral letter, transportation, knowledge of health status, and where to go for care among others.

Additionally, OHF contacted community dental providers and organized a community dinner to inform dental providers about the oral health status of children in their own community. Feedback was gathered regarding difficulties and challenges perceived by providers in treating children in these communities. Thirteen dental offices were represented in the meeting.

Oral Health Champion Program

OHF engaged with the school Wellness Councils and incentivized participation of one or two oral health champions through a $2,000 mini-grant for each of the three schools. The Oral Health Champions work with OHF to bring oral health to the forefront of school activities throughout the school year. Their positions at the schools are all different. In one school the OH Champion is the assistant principal, in another the social worker and in the last one the office assistant. Champions have facilitated connection of OHF's staff with parents, teachers, and school personnel to improve health outcomes for children in these schools. Some of the activities that OHF's staff has employed in the three schools are: interactive presentations at parent breakfasts and teacher in-service days, classroom oral health education for all children, community health fairs and one on one connection with parents at report card pickup day. Through the support of the school and OH Champions, OHF staff organized a dental van visit at each of the three schools to provide treatment for uninsured children or children having difficulty gaining access to a community dental office. After receiving urgent treatment from the dental van provider, OHF case managers will assist parents in identifying a dental home in their community for on-going care.

A variety of incentives were utilized to increase participation in the above activities. These included spin toothbrushes for children, electric toothbrushes for parents, teachers and school personnel, sugar-free gum, and healthy refreshments at all meetings.

INPUTS	PROGRAM ACTIVITIES	**OUTPUTS**	OUTCOMES

Data from SY16 has not been reported yet. Complete data will be updated soon.

- School Based Oral Health Program (SY15):
  - Number of schools participating: 547
  - Number of students participating: 115,238
  - Number of students receiving sealants: 57,114
  - Number of students with urgent referrals: 7,168
  - Number of students with non-urgent referrals: 36,049

- Oral Health Education Program SY15 (OHF):
  - Number of students reached with sound oral health education at CPS: 22,217
  - Number of students reached at Chicago Park District Summer Camps and health fairs: 4,641
  - Number of teachers' evaluations collected:220
  - Teachers' evaluation average score (1-5 scale): 4.87
  - Number of 5th grade classrooms with pre and post-test collected: 20

- Case Management Pilot (SY15):
  - Number of schools assigned to OHF for case management: 39

- Number of children assigned to OHF for case management: 1,715 (Urgent need=1,069, non-urgent need=646)
- Number of parents/caregivers reached: 1,349 (79% of children assigned)
- Number of parents/caregivers reporting not knowing/not remembering receiving dental referral letter: 1,023 (76% of reached parents)
- Number of parents/caregivers reporting having taken their child (ren) to the dentist (self-reported): 1,220 (90%)

INPUTS	PROGRAM ACTIVITIES	OUTPUTS	**OUTCOMES**

The evaluation plan for the intervention will use SY14 data as baseline to measure progress and effectiveness of the CM Pilot (initiated in SY15), and the "Oral Health Champion" program in three schools (initiated in SY16). Complete data for these two interventions is not yet available as it is still in the pilot stage, which is planned to last for three years. At this time intermediate measures of progress can be reported; a full report is expected to be available at the end of SY17. Participation rate in the SBOHP in the three schools targeted with the OH Champion Program has significantly increased in the last two school years:

- **School 1**: 56% percent of enrolled children participated in the SBOHP in SY16 as compared to 48% in SY14.
- **School 2**: 62% of enrolled children participated in SY16 as compared to 31% in SY14.
- **School 3**: 67% of enrolled children participated in SY16 as compared to 55% in SY14.

Table 1 summarizes number of students receiving a dental exam in the three schools and oral health scores for SY15 and SY16. Findings show an overall decrease in the number of children with urgent dental needs from 575 (SY15) to 425 (SY16). An increase in the number of healthy children (OH score 1) is also seen from 772 (SY15) to 869 (SY16). However, it is important to highlight that participation in the SBOHP requires a positive consent from parents, therefore students who participated in SY15 needed consent to participate again in SY16. This means not all students who participated in SY15 necessarily participated in SY16.

Table 1. Number of Students with a Dental Screening and Oral Health Scores by School: SY15 and SY16.

Schools	**# Students Dental Exam SY15**	**Oral Health Score**			**# Students Dental Exam SY16**	**Oral Health Score**		
		1	**2**	**3**		**1**	**2**	**3**
School 1	933	343	322	268	826	333	257	236
School 2	670	229	245	196	668	256	263	149
School 3	434	200	123	111	466	280	146	40
Total	**2,037**	**772**	**690**	**575**	**1,960**	**869**	**666**	**425**

To determine OH status changes at the individual level, CDPH epidemiologist evaluated individual student participation in both school years and changes in their oral health status (see Table 2). This was possible because information collected and reported through the Sealant Efficiency Assessment for Locals and States (SEALS) software is downloaded into a CDPH database and maintain over time. Information summarized in Table 2 refers only to children who participated in the SBOHP in both years of the two consecutive year pilot.

Table 2. Changes in the Oral Health Status of Students from Three Schools Participating in the Chicago School-Based Oral Health Program: SY15 and SY16.

Oral Health Score SY15	**Oral Health Score SY16**	**TOTAL % (#)**
1	1	69 (301)
	2	23 (100)
	3	8 (34)
		435
2	1	33 (122)
	2	54 (203)
	3	13 (50)

		375
3	1	26 (74)
	2	25 (71)
	3	49 (139)
		284
TOTAL		**1,094**

A total of 1,094 children participated in the SBOHP in SY15 and also in SY16. Findings regarding their OH status in SY16 revealed that 40% (435) have an OH score of 1 (healthy), 34% (375) have an OH score of 2 (non-urgent need), and 26% (284) have an OH score of 3 (urgent need).

Changes in their OH status from SY15 to SY16 revealed that in these three targeted schools, 69% of the children that were healthy in SY15 remained healthy and 31% developed either an urgent or non-urgent treatment need. Of the children who had a non-urgent treatment need (OH score of 2) in SY15, 33% became healthy, 54% remained having a non-urgent need, and 13% progressed to having an urgent need. Of the children who had an OH score of 3 (urgent need) in SY15, 26% improved to healthy status, 25% change to having a non-urgent need, and 49% remained having an urgent need.

OHF and CDPH are currently in the process of obtaining claim data from the major Illinois MCO to triangulate findings from this pilot intervention.

We anticipate that by the end of SY17 with complete data, CDPH and OHF will be better positioned to evaluate the effects of this three-year CM pilot. However, data support significant improvements have already occurred in the targeted area. The changing environment in Illinois Medicaid program as well as state's low reimbursement rates for services and other factors pose substantial limitations on the parent/guardian's ability to access care for their child (ren). Information gathered thought he CM pilot has been widely disseminated among stakeholders in Chicago and the state. Collaborations with organized dentistry at the city and state levels to reduce the burden of oral diseases in these children are in the development stage.

Budgetary Information:

1. What is the annual budget for this activity?

   Annual Budget is estimated around $500,000 (oral health education and case management)

2. What are the costs associated with the activity? (Including staffing, materials, equipment, etc.)

   a. Staffing: 80%
   b. Materials: 10%
   c. Equipment, office supplies, other: 10%

3. How is the activity funded?

   CDPH SBOHP administrative staff is paid by the City of Chicago. All contracted providers are able to submit claims to Medicaid, if the child is enrolled, to sustain their activities at the schools. As of August 2016, 62% of CPS children are Medicaid Active, 17% are Medicaid Inactive and 21% are Uninsured.

   The CM pilot and the oral health education program are all grant funded through the Otho S.A. Sprague Memorial Institute, the DentaQuest Foundation and the Wrigley Company Foundation. No case management services have been billed through the program.

4. What is the plan for sustainability?

   Lack of access to clinical care and attention to oral health issues in many Chicago communities, schools and by individuals have been persistent for years. Buy-in by community, increased priority on oral health, behavior change, and connection to appropriate services take a long time to accomplish. As a result of these complex challenges, it is anticipated that at minimum, a three-year investment in targeted communities is needed for

individual, family and school level improvements in oral health status. We expect by the end of SY17, with complete data, this program will be able to show additional significant progress on oral health status of children attending schools in 60629 and 60632. Initial targeted communities will be able to sustain the basic oral health cycle (education (1), screening and prevention (2), and informed parents (3)). The case management component will be reassessed at the end of the three-year period. Advocacy efforts to improve access points to restorative treatment will continue using collected data.

Because of the innovative collaborative approach and successes experienced thus far, OHF's intention is to replicate the model in other high-need communities in order to reach the ultimate goal of leading all Chicago children to healthy oral health status.

Lessons Learned and/or Plans for Addressing Challenges:

a. Utilization of school-based services: Chicago has the largest school-based oral health program in the country; however, due to many factors, the program is highly underutilized with only 25% of the student body obtaining services. The active case management program and the OH champion program have brought better understanding of the many factors effecting utilization of school based services:

    - Lack of parental knowledge regarding the services offered and the significance of those services.
    - School personnel lack information about the SBOHP, the OH status of children in their own school, and how they can be empower to improve the oral health of their children.
    - Services competition between community dental providers and the SBOHP due to Medicaid rules.
    - Community dental providers misinformed about the services they can bill for after a child has been seen in the SBOHP.

b. Culturally sensitive case managers: According to the initial demographic assessment of the population in the schools, in November of 2014 at the start of the project, OHF hired two case managers- one Latino bilingual community liaison and one African American case manager. However, when the first list of children with urgent dental needs was evaluated, demographics of this group of children showed that 97% were Latinos with Spanish speaking parents. The program staff shifted instead to two bilingual case managers that could communicate with parents and better understand cultural and other barriers they faced in accessing care. Additionally, case manager have to be able to work late afternoon hours in order to be able to reach working parents.

c. Data driven intervention: The OH Champion mini-grant program was added in the second year of the intervention based on findings from the first year of the pilot. It is an intensively focused intervention targeting the most disadvantaged children in the two zip code areas. In order to improve community outcomes, it is important to monitor all parts of an intervention and modify or add components according to findings.

d. Data sharing agreements: Initially OHF planned to start providing case management to children by January 2015, however, difficulties on agreements with CDPH, City of Chicago Legal Department and HIPAA concerns delayed starting this stage of the project until March 2015. Collaborations between public and private partners targeting school-age children will require clear data sharing agreements in place before starting any project to avoid any difficulties and protect children.

e. Health equity approach: When developing and implementing this intervention, our ultimate purpose was to raise the opportunities that the most disadvantage children in CPS had to attain their higher level of oral health. We have faced many challenges, however, keeping our main purpose in mind has helped us to invest our limited resources and efforts where has been most needed.

Available Information Resources:

Healthy Chicago Initiative:
http://www.cityofchicago.org/city/en/depts/cdph/provdrs/healthychicago.html

Healthy CPS initiative:
http://cps.edu/oshw/Pages/HealthyCPS.aspx

Oral Health Forum:
https://www.heartlandalliance.org/oralhealth/

Whole School, Whole Community, Whole Child Model

Provide a description of how you are implementing each of the ten components of the WSCC Model. If you are not implementing any activities for a component, please signify that by checking the "Not Part of Our Program." You may find the resource, "Recommendations for Integrating Oral Health into the WSCC Model" useful for completing this section.

Component	Description of Activity(s) & Process	Not Part of Our Program
Health Education – Integrate oral health into the health education curriculum or other subjects,(i.e. biology, nutrition, food service, phy ed).	OHF developed an oral health curriculum that has been taught in CPS by oral health educators, dental hygiene students, and pre-dental students since 2012. OHF's curriculum follows National Health Educational Standards and was approved by the CPS Office of Student Health and Wellness (OSHW) Review Committee as the only oral health curriculum that can be used to educate CPS children.	
Physical Education & Activity – Enforce the use of head/ facial protection to prevent injury during sports or related activities.	The Healthy CPS LearnWELL (district brand for obesity-prevention activities) badge measures whether schools provide access to healthy foods and physical activity to students throughout the school day. Further, this badge is based on district policies related to physical education and school wellness policies. A LearnWELL school meets policies around: • Healthy Fundraisers, Rewards and Celebrations • Nutrition standards for any food served in school • Utilizing and integrating school gardens school-wide (where applicable) • Daily and active recess • Nutrition education • Integration of physical activity throughout the school day Additionally, OHF's curriculum from grades 5th to 12th includes a section on education regarding the use of head/facial protection to prevent injuries when practicing contact sports.	
Nutrition Environment & Services – school nutrition policies promote optimal dental health.	Healthy CPS LearnWELL badge (read above) Additionally, nutrition education is included in the OHF's oral health education curriculum for all grade levels.	
Health Services – Promote a medical/dental integration that includes dental sealants and fluoride.	CDPH system-wide School-Based Oral Health Program provides oral health screening/assessment, oral prophylaxis, fluoride varnish treatments, and dental sealants (if applicable) for all consented children	

	at CPS.	
Counseling, Psychological & Social Services – Educate/emphasize the impact that poor oral health has on the ability to learn and on self-esteem.	OHF's Oral Health Champion Program has invested in an intensive education effort for all members of the school community: students, parents, teachers, nurses and school administration in the three schools to increase health literacy and understand the short and long term impact of oral health diseases and the high burden of oral diseases affecting children in these school communities. Additionally, the SBOHP has been promoted to CPS school counselors and case managers.	
Social & Emotional Climate – Establish an environment where oral health prevention practices and programs are supported and valued.	The Oral Health Champion Program, through a variety of interventions and touchpoints are increasing oral health as a priority of concern and laying the foundation for long term prevention oriented health supporting environment.	
Physical Environment – Assure the students and staff have fluoridated water available throughout the day.	Chicago residents get their water from Lake Michigan, and the City Water Department treats water (adds fluoride) and distributes it to homes, schools and businesses. The process is monitored but there is some concern over lead in school water (because of old pipes) that has become of concern in some CPS buildings. Water fountains are available at all CPS schools, but students may not utilize them as some schools are currently undergoing water testing (lead).	
Employee Wellness – Support tobacco cessation programs for students & staff using tobacco/e-cigarettes.	CPS policies also promote the tobacco-free school Board of Education rule through the display of signage at all schools and creation of other messaging. CPS works closely with the Chicago Department of Public Health and Chicago City Council to decrease the accessibility of tobacco products including e-cigarettes near schools. Healthy Chicago Employee Wellness Plan does have tobacco support for city staff. OHF's Oral Health Curriculum for high school students includes education about the consequences of tobacco use.	
Family Engagement – Promote school and family support for oral health screenings and regular dental visits.	OHF's OH education program continues oral health education to family members by sending home an informative brochure for parents on the topic of positive oral health habits. Additionally, the OH Champion Program is working closely with parents/caregivers and younger siblings in the three targeted schools on OH promotion activities.	
Community Involvement – Establish partnerships with local dental	Intervention in zip codes 60629 and 60632 involved working with community providers as well as community based organizations to	

	professionals to assure access to dental care & preventive interventions.	improve health outcomes for children in this Chicago area.	