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Implementing a Patient-Centered and Cost-Effective School-Based Oral Health Program

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In 2008, former New York City Mayor Michael Bloomberg announced \$1.5 billion in budget cuts that included the elimination of the Oral Health Program (OHP) administered by the New York City Department of Health and Mental Hygiene (NYC DOHMH). Since it was established in 1903 until it was closed just over a decade ago, the OHP provided dental services for underserved populations in predominantly school-based settings. Given the shuttering of the 46 OHP dental sites throughout the five New York City boroughs, 17,000 school children in impoverished neighborhoods faced the loss of their dental homes. In response, the NYC DOHMH reached out to Federally Qualified Health Centers (FQHCs) within New York City for support in meeting the oral health needs of the affected children.

An FQHC is any health center that receives a grant established by section 330 of the Public Health Service Act of 1944.^{1–3} FQHCs are required to provide health care to all individuals regardless of their ability to pay for services, be located in geographic areas with few health care providers, and provide screenings to determine the need for dental care and preventive dental services.^{1,2} Family Health Centers (FHC) at NYU Langone (formerly Lutheran Family Health Centers) in the borough of Brooklyn, New York City is one of the most extensive FQHC networks in the United States, with nine primary care sites, six general

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dentistry clinics, and social support services across the life course. It is also home to the largest postgraduate dental program in the world, and has been cited as one of the eight notable FQHCs across the United States for its strategies to integrate oral health with primary care.⁴ Since answering the call a decade ago from the NYC DOHMH to provide dental services to children attending schools in underserved neighborhoods upon the closure of the OHP, FHC now operates 41 school-based dental clinics, with plans to expand into six new schools. This report presents the FHC model for implementing a patient-centered and cost-effective school-based oral health program that other FQHCs may elect to adapt for their own geographic and policy contexts.

PROGRAM DESIGN AND DESCRIPTION

An initial evaluation of the OHP model found it to be antiquated. First, the focus of most OHP school-based dental clinics was on dental emergencies and cleanings, with off-site referrals for the majority of services. This meant that children often needed to miss school to have their treatment needs met. Second, the OHP model resembled a medical care model with one dentist assigned to each clinic. The result was inefficient staffing of limited human resources, particularly dentists and dental hygienists.

Instead, the FHC model is a partnership backed by a business plan. From elected officials and school chancellors, to school principals and Parent Teacher Associations, key partners with an interest in child health and development are part of the FHC School-Based Oral Health Program. Moreover, each school-based dental clinic has a community advisory board (CAB) to better ensure that community members have input into the program. Experience has shown time and time again that attention to parent, teacher, and administrator concerns and suggestions have improved the program services offered to children. Members of the CAB include parents and parent coordinators, the FHC Vice President of Dental Medicine (M.M.), the FHC School-Based Oral Health Program Director (L.G.), members of the program management team (see below for these positions and roles), the advocacy coordinator, and administrators from managed care and corporate compliance.

Current Program Staffing

The FHC model is flexible. Rather than assign one dentist to each school, dentists travel to where children need their services. Further, oral health education and dental screenings are provided to every child in every local school, not merely enrolled children in eligible schools. Finally, the majority of the program staff are trained team members who are neither dentists nor dental hygienists, as detailed next.

At present, the program includes a senior coordinator who logs the hours worked by the staff, oversees the enrollment specialists, manages daily schedules and schedule changes, addresses parent questions and concerns, and acts as the liaison to the billing department. The five enrollment specialists review New York City Department of Education (NYC DOE) consent forms, contact parents/legal guardians when indicated, confirm insurance information (if any), create dental/medical records, and schedule enrolled children for services. The facilities coordinator oversees environmental compliance at all sites, schedules, and attends compliance inspections, repairs, or schedule repairs for broken

equipment, delivers supplies to schools, educates staff on environmental issues at sites, and manages and maintains waste disposal manifests. The outreach coordinator conducts the majority of the research needed prior to program expansion, attends outreach events, acts as the liaison to the school administrators, and coordinates dental screenings. The two outreach specialists offer free dental screenings at both eligible and ineligible schools in the local community, attend community and school events, health fairs, and parent workshops, collaborate with parent coordinators to plan events to educate parents and enroll students, guide uninsured families in navigating the system to obtain eligible coverage, and act as the liaison between the school administrators and the program. The dental assistant supervisor trains and manages eleven dental assistants and their schedules, updates school dental site logs and school paperwork, and orders supplies. Dental providers include 14 part-time dentists and two full-time and two part-time dental hygienists. Finally, three billers work to recover eligible payments, even as care is provided to all enrolled children regardless of ability to pay for services.

Patient-centered Dental Homes.—From the outset, the FHC School-Based Oral Health Program placed children at the heart of all of its activities. The ability to relate to and build caring relationships with children are essential qualities of all program staff. While the dental providers are assigned to certain schools according to their availability, they practice where they are needed most, so their schedules vary. Further, the dental assistants also remain assigned to given sites. This helps children to gain familiarity with the dental team and feel comfortable during visits to the school-based clinics. Pediatric dentists who are trained in behavior guidance techniques, both nonpharmacological and pharmacological, are hired when available, since they know how to alleviate anxiety, nurture a positive oral health attitude, and perform quality oral health care safely and efficiently for children and adolescents.⁵ As the program provides services regardless of the ability to pay, children who are homeless and immigrants with unauthorized status may also receive care.

Once a child is enrolled in the program, s/he is scheduled for all preventive and recall services as necessary. These services include dental examinations and x-rays (radiographs), treatment plans, dental cleanings (prophylaxis), fluoride treatment, oral health instruction, nutritional counseling and education, sealants on permanent molars, dental fillings, root canals on primary teeth, stainless steel crowns, dental extractions, and emergency treatment. Referrals for services not provided by the program include root canals on permanent teeth, oral surgery, orthodontics, and any procedure that requires a child to be sedated.

For routine restorative work, the parent is contacted by an enrollment specialist prior to scheduling. For extensive dental needs, eg, root canals on primary teeth or placing stainless steel crowns, the dental provider contacts the parent directly. Dental extractions are scheduled at the end of the school day when the parent/legal guardian is able to be present, so that post-extraction, the parent/legal guardian may take the child home for comfort and monitoring. After every dental visit, a letter of notification of treatment is sent home to the parent in the child's preferred language. Every effort is made to create patient-centered dental homes.⁶⁻⁸

School Selection Process

In 2009, at the outset of the FHC School-Based Oral Health Program, 12 schools in disadvantaged neighborhoods were selected that were close to FHC central operations in Sunset Park, in the southwestern portion of Brooklyn. The process of adding a new school to the program is presented in Figure 1, and includes three phases: (1) business development; (2) due diligence; and (3) implementation.

Research is conducted to identify low socioeconomic areas of New York City, schools with a high percentage of children who qualify for free lunch, and Health Resources & Services Administration (HRSA) designated Dental Health Professional Shortage Areas (D-HPSAs). Periodically, the program receives referrals from school principals, parents, and parent coordinators.

If a school is located in a D-HPSA, the process moves forward; if not, dental screenings are provided at the school. The next step in enlisting a new school is to meet with the principal or parent coordinator to introduce the program and discuss its benefits for the students. If the school administration is interested in the program, the New York State Department of Health (NYS DOH) is contacted to ensure that there is no other dental program associated with the site. Upon NYS DOH confirmation of the absence of any other dental program at the site, the program works with the principal to furnish a letter of support, identifies a room and prepares a sketch that meets the requirements for a school-based dental clinic, and asks the principal to sign an oral health clinic program approval form. Next, an NYS DOH application for a school-based dental clinic is initiated and letters of support are garnered from local FQHC sites. Application forms are then prepared and submitted to the following agencies and organizations: (1) NYC DOE (also needs to be reviewed and approved by the Office of Space Planning); (2) NYS DOH; (3) Sunset Park Health Council (home of FHC); and HRSA. The last step is to receive a notice of grant award from HRSA before the program can expand to a new school.

Assessing costs and cost-effectiveness.—From the outset of the FHC School-Based Oral Health Program, a business plan was in place. Costs of equipment, supplies, and personnel are carefully tracked. The school size (student body) is used to estimate the number of enrolled students based upon a 30% enrollment rate. The projected clinic days per week is estimated based upon the number of enrolled students, the projected number of clinic days per enrolled student, and 35 weeks of school per year. The projected provider full-time equivalents (FTEs) and dental assistant FTEs are based upon the annual projected clinic days, 185 days of operation, and 94% school attendance of students. Finally, the estimated number of annual encounters is based upon the number of enrolled students and 3.7 encounters per student.

Because the former OHP model used referrals for most dental services and needs were deferred, the oral health of enrolled students was initially much poorer than expected. With the FHC model, the majority of dental services are provided on site. Where referrals are indicated, the children's medical record is brought to the senior coordinator, who contacts the parents and schedules specialty appointments. Coordinators then send appointment details via certified mail and follow-up with parents who miss scheduled appointments until

the children receive the required services. Because children are scheduled to maximize the efficiency of the providers, 30,000 visits per year are completed on a shoestring budget. The program is so cost-effective that within 2 years, there are fewer caries to treat and equipment costs are recouped. A cost-effectiveness evaluation is underway comparing the FHC model to a screening alone model using the relative difference in costs divided by the difference in oral health outcomes.⁹

IMPLICATIONS FOR SCHOOL HEALTH

This report describes how schools may partner with FQHCs to create dental homes on site using a business plan to deliver patient-centered and cost-effective oral health care. FQHCs have also created dental homes for children ages 0–5 years using several of the strategies outlined here: training of teams to deliver quality care to children, infrastructure support (financing for equipment, supplies, staff, and outreach), and technical assistance (support for increasing operations efficiency and capacity for care).¹⁰ Implementation science holds promise for scaling up effective programs to meet population needs, and adapting them for the geographic and policy contexts where children live, learn, and play.^{11,12}

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Figure 1.
The Expansion Process for the Family Health Centers at NYU Langone School-Based Oral Health Program