Oral Health Integration Into a Pediatric Practice and Coordination of Referrals to a Colocated Dental Home at a Federally Qualified Health Center

We have integrated preventive oral health measures into preventive care visits for children at a federally qualified health center in Boston, Massachusetts. The program, started in 2015, covers 3400 children and has increased universal caries risk screening in primary care to 85%, fluoride varnish application rates to 80%, and referrals to a dental home to 35%. We accomplished this by minimizing pressures on providers’ workflow, empowering medical assistants to lead the initiative, and utilizing data-driven improvement strategies, alongside colocated coordinated care. (Am J Public Health. Published online ahead of print August 17, 2017: e1–e3. doi:10.2105/AJPH.2017.303984)

Our goals were to integrate caries prevention into all well-child visits and increase the number of children who established a dental home at our federally qualified health center (FQHC). We therefore designed and implemented an Oral Health in Pediatric Primary Care program.

INTERVENTION

The intervention had three components, each conducted during preventive care visits, annually or more frequently: (1) universal caries risk screening and oral health education, (2) fluoride varnish application for all eligible children, and (3) expedited referrals to a colocated dental clinic for all children who did not have a dental home.

PLACE AND TIME

The program was implemented at The Dimock Center, a FQHC in the Roxbury neighborhood of Boston, Massachusetts, and was first funded in 2015 for children aged 0 to 6 years via a learning collaborative. Additional funding allowed further expansion in 2016 to patients aged 0 to 18 years. The program continues to operate successfully.

PURPOSE

Caries is the most prevalent chronic childhood disease in the United States, with low-income children and children of color aged 2 to 17 years affected disproportionately.1 In Massachusetts, Black and Hispanic children in kindergarten have a 1.7 times higher prevalence of caries compared with non–Hispanic White children. This disparity persists in the third and sixth grades.2 Although federal guidelines mandate that S-CHIP and Medicaid cover pediatric dental treatment, children with public insurance have lower rates of dental care utilization than their privately insured peers.3 Children have multiple well-child visits in early childhood, providing primary care providers frequent opportunities to offer anticipatory guidance, caries risk screening, and preventive treatment.

However, published literature suggests that these opportunities are infrequently utilized. Reasons included limited time during medical visits, lack of cross-training for primary care providers around caries prevention, and low reimbursement rates for fluoride varnish applications in

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the medical setting. Improved referral mechanisms between primary care providers and dentists could increase the number of children with a dental home, but lack of interoperability of electronic health records (EHRs) and competing priorities during the well-child visit have hindered these efforts. Our program offers caries prevention within the primary care setting and streamlined referrals to a colocated dental home to reduce oral health disparities in the children we serve.

IMPLEMENTATION

Patients complete risk screens on paper at each well-child visit to determine their caries risk and dental home status (Figure 1). The screen, adapted from the American Academy of Pediatrics Oral Risk Assessment Tool, is in English and Spanish. It was piloted by the clinic’s medical assistants, with changes incorporated on the basis of their suggestions. The medical assistant hands out the screen at the beginning of each visit, and provides standardized oral health education. Primary care providers review completed screens, reinforcing anticipatory guidance. At the conclusion of the visit, the medical assistant provides fluoride varnish treatment to all eligible children aged 9 months to 6 years as an opt-out process, based on standing orders.

Customized templates in the EHR prompt primary care providers to record screening results and patient’s dental home status within trackable fields. Our medical and dental clinics share a common EHR, eClinicalWorks (e-ClinicalWorks, Westborough, MA).

Patients who report that they have no dental home are offered appointments at Dimock’s colocated dental clinic. Appointments are ordered by the primary care provider via the EHR to enable tracking and scheduled by a designated referral coordinator within 2 weeks of the medical visit. This system was implemented following patient interviews conducted in 2016 to identify barriers to dental care. Besides lack of dental insurance, the most frequent barriers cited were long phone waiting times when calling for appointments and appointments offered several months out. Fast-tracked appointments were made possible through strategic coordination between Dimock’s pediatric and dental clinics. To date, 107 children were referred for dental services. Outreach calls were made to all of them, and 56 appointments were successfully made (52%). Of the 56 appointments, 20 initial dental visits have been completed (36%).

The quality improvement analyst posts periodic reports in the pediatric clinic and reviews them at monthly staff meetings. Consensus is obtained to conduct appropriate improvement cycles to improve outcomes.

EVALUATION

A total of 1840 out of 2163 eligible children have been screened since the start of the project. Since caries risk screenings were instituted in 2015, the monthly screening rate increased from 0 before starting the project to 60% in month 1 (40 children screened out of 62 eligible) and is now at approximately 85% (Figure 2). The proportion of all patients at high risk of caries according to screening results is 54% (994 at high risk out of 1840 screened). The proportion of patients with no dental home referred to the Dimock dental practice rose from 0% to 35% by month 6. The rate of fluoride varnish application for eligible children seen each month increased to more than 80% after 18 months and is currently at 79% (Figure 2).

ADVERSE EFFECTS

Patients and staff report high program satisfaction. There is widespread acceptance of the EHR template changes and the utilization of medical assistants to lead this project. Risk screening, fluoride varnish application, and dental referral rates were very sensitive to continuous quality monitoring. All these rates dropped if the monthly reports and improvement cycles were delayed. Dental referral rates have increased more slowly than expected. This is likely related to parents’ assumption that dental screenings offered in schools and child care facilities are sufficient, and because we are unable to offer wide access to dental appointments for children younger than 2 years.

SUSTAINABILITY

Funding and technical support allowed us to develop operational efficiencies and
infrastructure, ensuring sustainability of key activities. The medical assistants’ and quality improvement analyst’s roles are critical. Primary care providers participate enthusiastically, as program activities do not generate increased pressure on their workload. Strategic coordination and colocation of medical and dental services improved referrals. The main recurring cost incurred is quality improvement staff time. At Dimock, this position is incorporated into the operating budget with expenses distributed among several quality improvement projects, minimizing the cost impact on this program.

PUBLIC HEALTH SIGNIFICANCE

Poor oral health, while linked with racial and ethnic minority status, also correlates highly to disparities in dental care access. There is a nationwide shortage of dentists who accept Medicaid, possibly associated with poor reimbursement rates. In a 2012 survey, 1844 (42%) of Massachusetts dentists reported that they accepted Medicaid. Of these, almost half reported that Medicaid makes up less than 10% of their patient population. A 2016 market analysis conducted by Dimock confirmed the shortage of dentists accepting Medicaid in Dimock’s service area and the long wait times for dental care at FQHCs. We therefore anticipate that increasing the number of referrals for Medicaid-eligible children to dental homes will remain challenging. As a consequence, caries prevention in the medical setting assumes particular significance.

In conclusion, we have sustainably integrated preventive oral health measures into well-child visits by minimizing pressures on providers’ workflow, empowering medical assistants to lead the initiative, using data-driven improvement strategies, and leveraging the colocation of our medical and dental clinics. We continue to work to mitigate barriers to dental referrals.

CONTRIBUTORS

Sengupta conceptualized, designed, and led the project, and drafted the article. Nanavati led the iterative improvement cycles described in the article and conducted the data analysis. Cerciol managed the expedited referrals process described in the article and led the patient satisfaction surveys. Simon provided clinical expertise during the improvement cycles through a learning collaborative, critically reviewed the article, and provided content editing.

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HUMAN PARTICIPANT PROTECTION

This analysis, which was conducted to inform a public health program, used de-identified data and therefore was not classified as human participant research and was not subject to institutional review board review.

REFERENCES


FIGURE 2—Percentage of Pediatric Patients (Aged 9 Months to 6 Years) Receiving Fluoride Varnish During Preventive Care Visits in the Dimock Pediatric Clinic: Boston, MA, 2015–2017

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