A Commentary on Pediatric Oral Health in North Carolina

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Pediatric oral health care in North Carolina has taken a unique path to its current form and will require similar innovation to counter headwinds to its continued success. This commentary describes that path and attempts to set a vision and strategy for the future that leverages Community Care of North Carolina’s infrastructure and continues to promote the expansion of clinical guidelines for pediatric preventive oral health care for vulnerable populations.

The integration of oral health into pediatric primary care visits in North Carolina goes back to 1998 and a collaboration between the North Carolina Partnership for Children and the state’s dental public health program. This pilot project was funded by the Appalachian Regional Commission, and its success led to statewide expansion through the Medicaid program in 2001. “Into the Mouths of Babes” (IMB) is the statewide expansion of the successful “Smart Smiles” pilot project in western North Carolina. It began as a collaboration of the North Carolina Academy of Family Physicians, North Carolina Pediatric Society, North Carolina Medicaid, North Carolina Oral Health Section, UNC-Chapel Hill School of Dentistry, and UNC-Chapel Hill Gillings School of Global Public Health. The program trains primary care clinicians (PCCs) to provide oral preventive care, including oral evaluation, risk assessment, fluoride varnish application, and parent counseling to Medicaid-insured children from tooth eruption until 3 ½ years of age. The linchpin of the program is the application of fluoride varnish to newly-erupted primary teeth, an evidence-based practice now recommended for all children through age 5 by the US Preventive Services Task Force [1].

Impacts of the IMB program on the oral health of children enrolled in Medicaid are impressive. The utilization of preventive oral health services (POHS) by participating primary care clinicians has grown from approximately 8,500 visits in 2000 to more than 161,000 visits in 2016 [2]. Studies find that IMB not only increases access to POHS, but decreases dental-caries related treatments and improves oral health status of young children.

A cost-effectiveness analysis of the IMB program showed that IMB reduces dental treatments for caries but, on average, results in an increase in total costs (prevention as well as treatment). The cost per hospitalization for dental treatment avoided by IMB was $2,331 [3]. The costs to the system and the family, in terms of quality of life, weigh in on the side of the argument for preventive versus acute oral health care in children. It is the value of these components that can be weighed against the $2,331 cost per hospitalization avoided.

CHIPRA and Children’s Oral Health

The Children’s Healthcare Insurance Program Reauthorization Act (CHIPRA) Quality Demonstration grant in 2011 enhanced IMB and children’s oral health by connecting Community Care of North Carolina’s (CCNC) network infrastructure and quality improvement supported by CCNC data analytics. Under CHIPRA, the model of dissemination of best practices in pediatric oral health care included practice support (“Academic Detailing”) and training of quality improvement teams and care managers. At the practice level, clinicians receive IMB training on providing oral preventive care.

A state advisory team of leaders from the dental programs at the major academic medical centers in North Carolina and the Division of Public Health Oral Health Section and Division of Medical Assistance, among others, was convened to meet quarterly to advise the CHIPRA oral health initiative. The Workgroup facilitated linking PCCs to community dentists, reviewed state data, and collaborated on training.

Quality improvement efforts targeted both increasing varnishing rates and connecting children to a dental home. This included routine referral to a dentist at age 1 year. Primary care practices were encouraged to routinely ask about the patient’s dental home and refer if no dental home was identified.

The CHIPRA grant funded the development of the Oral Health Maintenance of Certification (MOC) part IV Activity: Promoting Dental Homes for Young Children Through Screening, Varnishing, and Referrals. The activity was offered free of charge to pediatricians and family physicians...
who committed to improving the quality of oral health in the populations they serve. Between 2011 and 2016, 103 clinicians participated in this MOC IV activity (CCNC, unpublished data, 2016).

In 2013, the CHIPRA project expanded IMB training responsibilities to the CCNC network quality improvement specialists (QIS). These 14 network QIS participated in “train the trainer” sessions with the IMB project coordinator to offer IMB training directly to primary care medical practices in their networks. Between 2013 and 2015, the QIS trained 130 practices (CCNC, unpublished data, 2015). This training partnership increased the number of children receiving oral preventive care at well-child visits as well as the number of Medicaid-insured children visiting the dentist.

To date, more than 3,000 physicians, physician assistants, nurse practitioners, nurses, and office staff have been trained to provide POHS since the 2001 statewide implementation of the program (IMB, unpublished data, 2017).

Current Landscape

Among the goals of CCNC are the promotion of best-practice guidelines and support of practice-level quality improvement activities within its networks.

Implementation of the IMB program did not require any changes in professional practice acts in North Carolina. The scope of practice for physicians allows them to provide oral health services, using dental codes D0145 (evaluation and counseling) and D1206 (application of varnish). Billing and payment mechanisms are integrated into the medical system. Physicians bill on the medical claim and are paid for POHS from the medical budget. A national CPT code for fluoride varnish (99188) is now in use, which facilitates payment for this service by private insurance companies. The payment mechanisms created by public insurance programs have paved the way for medical providers to bill private insurance companies for this service.

Because of the highly collaborative and evidence-based nature of this work, the dental and primary care communities have a better understanding of concerns and limitations in each respective area of practice. For PCCs, a priority oral health risk assessment and referral tool (PORRT) has been widely disseminated as part of IMB training to facilitate referral of young children to a dental home. Physician barriers to early dental referral included a perception of limited capacity and that many general dentists prefer not to treat young children. Simultaneously, work was done to educate general dentists in accepting referrals for children under 3 years old. Locally, work was done to link PCCs with pediatric and family dentists for purposes of referral, and continuing this work will require innovative solutions.

Outcomes

As in many other initiatives, the measures are primarily process measures. For pediatric and family medicine practices that are part of the statewide CCNC network, performance measures for children and youth who have Medicaid include the percent of patients with at least 4 fluoride varnish claims during the first 42 months of life and the percent of patients aged 2 to 21 years with at least one dental visit with a dental practitioner. This latter measure is currently the best indicator that a child has a dental home.

CCNC reports that as of the latest data collected and analyzed (unpublished data, 2017) about 43% of children had 4 or more varnishings during their first 42 months of life (15,877 out of 36,337 children). In general, annual dental visits for children 2 to 21 years of age are above the national HEDIS mean. In particular, the annual dental visit rate for 2 to 3-year-olds is at 38% while the 2015 HEDIS mean for this age group is 35% (CCNC, unpublished data, 2017).

Future Work

In a 2014 article in this journal titled “Healthy North Carolina 2020: Are We Making Progress Toward Our Objectives,” Howell noted that in just 3 years, North Carolina had already met the targets for 4 objectives, including the percentage of children aged 1–5 years enrolled in Medicaid who received any dental service during the previous 12 months [4]. This begs the question, where do we go from here?

In a recent (2017) Pediatrics journal article by Arthur and Rozier, the authors cite the excellent work being advanced in pediatric preventive oral health care, facilitated by state Medicaid program support [5]. Table 1 shows some strategies CCNC and the CCNC Pediatric Oral Health Workgroup

| TABLE 1. CCNC Pediatric Oral Health Workgroup Current and Future Initiatives |
| Primary Care | Ensure that the appropriate number of eligible infants and toddlers receive preventive oral health services from primary care. |
|             | Understanding and improving well-visit rates for the state Medicaid population is a priority. CCNC Pediatrics is actively working on increasing the rates of well-child visits which will increase the opportunities for children to receive preventive oral health services. CCNC Pediatrics will continue to promote delivery of these services to primary care practices. CCNC Pediatrics is also trying to address barriers to families accessing primary care and receiving those services. |
| Into the Mouths of Babes | Collaborate with colleagues in the Oral Health Workgroup to expand IMB benefits to include children up to 6 years of age, as recommended by the US Preventive Services Task Force. |
| Referrals | Continue efforts to improve the referral linkages between medical and dental providers and increase communication between the 2 provider types though the North Carolina Oral Health Section Carolina Dental Home and Perinatal programs, in partnership with the North Carolina Early Childhood Oral Health Collaborative and Perinatal Taskforce. |
hope to deploy, with stakeholder support, in the coming year(s).

The IMB partnership has moved beyond the original blueprint for the program as it continues to consider methods to improve access and quality of oral health services for children in the state.

Going forward, CCNC plans to build on past successes by continuing to provide education to families and PCCs, as well as analysis and sharing of oral health data for quality improvement. The plan also focuses on advocacy for continuous improvement of communication between the primary care and dental community for effective referrals, so that there is a consistency in messaging and understanding of the importance of this work.

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