



The Role of Pediatrics in Medical-Dental Integration

April 19, 2023

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Commentary From AAP Section on Oral Health

The journal *Pediatrics* has supported the journey of pediatrician involvement in oral health by publishing research to inform the work of the American Academy of Pediatrics (AAP) Section on Oral Health (SOOH). Over the past 20 years, the SOOH has evolved from a pediatric dentistry focused group to a multidisciplinary group of pediatricians and dental professionals who educate pediatricians and families about the importance of children's oral health, early prevention, and medical dental integration.

The Role of Pediatrics in Medical-Dental Integration

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Highlighted Articles From *Pediatrics*

- Grossman ER, et al. [Tetracyclines and permanent teeth: The relation between dose and tooth color.](#) *Pediatrics.* 1971;47(3):567-570
- Leske GS, Leske MCV. [The pediatrician in community dental health.](#) *Pediatrics.* 1974;54(2):182-189
- Hagler S. [A pediatrician's program for the prevention of dental caries in the first years of life.](#) *Pediatrics.* 1984;74(4):569-569
- Krol DM. [Educating pediatricians on children's oral health: Past, present, and future.](#) *Pediatrics.* 2004;113(5):e487-e492
- Savage MF, et al. [Early preventive dental visits: Effects on subsequent utilization and costs.](#) *Pediatrics.* 2004;114(4):e418-e423
- Fisher-Owens SA, et al. [Influences on children's oral health: A conceptual model.](#) *Pediatrics.* 2007;120(3):e510-e520
- Pahel BT, Rozier RG, Stearns SC, Quinonez RB. [Effectiveness of preventive dental treatments by physicians for young Medicaid enrollees.](#) *Pediatrics.* 2011;127(3):e682-e689

- Chou R, et al. [Preventing dental caries in children <5 years: Systematic review updating USPSTF recommendation](#). *Pediatrics*. 2013;132(2):332-350
- Coté CJ, et al. [Guidelines for monitoring and management of pediatric patients before, during, and after sedation for diagnostic and therapeutic procedures](#). *Pediatrics*. 2019;143(6):e20191000
- Keels MA, et al. [Management of dental trauma in a primary care setting](#). *Pediatrics*. 2014;133(2):e466-e476
- Clark MB, et al. [Fluoride use in caries prevention in the primary care setting](#). *Pediatrics*. 2020;146(6):e2020034637
- Krol DM, Whelan K. [Maintaining and improving the oral health of young children](#). *Pediatrics*. 2023;151(1):e2022060417

Pediatrics published the first of several landmark papers on oral health in the 1950s. On November 7, 1953, the AAP adopted a resolution supporting optimal fluoridation of drinking water. Multiple articles on community water fluoridation and pediatric dentistry authored by dental professionals dominated the oral health content of *Pediatrics* from 1948-1973, reflecting both the available interventions and the workforce most involved in children's oral health.

In 1971, Dr. Elmer Grossman¹ implicated tetracycline, administered to pregnant women and children under age 8, as the source of darkened teeth that were often noted by pediatricians and dentists. Due to this groundbreaking research, recommendations were updated, and pediatricians changed antibiotic prescription practices.

From 1970 to the late 1990s, *Pediatrics* focused on the role of pediatricians in oral health promotion and disease prevention. In 1974 the first medical-dental collaborative article "The Pediatrician in Community Dental Health"² was written by a pediatric dentist, Dr. Gary Leske, and an epidemiologist, Dr. M. Cristina Vera Leske. This landmark article defined the important role of the pediatrician in oral health and included 4 recommended areas for pediatricians to address with families: *the use of fluoride* (advocacy for fluoride including supplements), *healthy diet* (reducing sucrose intake including no lollipop rewards), *referral to dental care* (community resources, orthodontic, and referral follow-up), and *health services* (including medical-dental cooperation). Although some small changes have emerged, including the application of fluoride varnish by pediatricians, this article details much of the oral health guidance pediatricians continue to follow today.

In a 1984 Letter to the Editor, Dr. Sumner Hagler³, a visionary pediatrician in private practice, published "A Pediatrician's Program for the Prevention of Dental Caries in the First Years of Life." Dr. Hagler analyzed 100 of his patients for whom he had prescribed supplemental fluoride and provided education to both "parents and grandparents on how to assist children in tooth brushing, the use of gel toothpaste containing a bit of fluoride as soon as a child's first tooth erupts, a prohibition against giving bottles after nighttime tooth brushing, and a reduction in children's sugar intake" and included educational materials from the American Dental Association. Dr. Hagler reported that 94% of participating children were caries-free at 3 to 4 years of age (the age of the recommended first dental visit at this time) and 92% liked or loved to brush their teeth. The 6% of children with caries gave a history of "moderately heavy sugar intake". He encouraged other pediatricians to implement his recommendations for reducing the burden of cavities in children.

Dental referral at 3 years of age was first included in [Bright Futures recommendations](#) in 1991 and advanced to 1 year of age in 1995. The first oral health pocket guide was created in 2004. The 2004 recommendation advised that the first oral exam occur either after the eruption of the child's first tooth or by 1 year of age.

Since 2000, coverage of oral health in *Pediatrics* and other health publications has expanded dramatically as the profession has integrated oral health into children's overall health and wellness. Topics reflect the breadth of oral health needs of children, especially children with special health care needs or living in underserved areas.

In 2004, 2 articles, "Educating Pediatricians on Children's Oral Health: Past, Present, and Future"⁴ and "Early Preventive Dental Visits: Effects on Subsequent Utilization and Costs,"⁵ defined oral health curriculum content for pediatric professionals and the efficacy of early preventive dental visits. These reports laid the groundwork for new educational resources for primary care providers, including the frequently used [Smiles for Life: A National Oral Health Curriculum](#) created by the Society of Teachers of Family Medicine. Smiles for Life is endorsed by the AAP and other primary care and dental organizations. These publications and tools assisted in the spread of the concept that primary care can and should be providing preventive oral health services to reduce caries among children.

In a 2007 publication in *Pediatrics*, Dr. Fisher-Owens⁶ introduced a model to address population health, "Influences on Children's Oral Health: A Conceptual Model." She described categories of influence on oral health, such as community resources and environmental factors. Her work has been widely cited and taught internationally and is used by the National Institutes of Health and the World Health Organization as a basis for oral health work. Around this same time, awareness of the impact of widespread commercial marketing of caries-causing foods and beverages further catalyzed awareness of the need to prevent and address children's oral health in the pediatric medical home.

Dr. Pahel's "Effectiveness of Preventive Dental Treatments by Physicians..."⁷ led to Dr. Chou's⁸ article on the US Preventive Services Task Force "B" recommendation for fluoride treatment to prevent dental caries. These publications, together with creation of Current Procedural Terminology code 99188, made mandatory insurance coverage of fluoride varnish application in primary care offices possible without a requirement for family copay. This facilitated the adoption of preventive measure for children under 5 years of age by pediatricians. The late pediatrician Dr. Amos Deinard worked ceaselessly over many years to ensure that Medicaid insurance in all 50 states covers fluoride varnish application in pediatric offices.

As a result of an outpatient anesthesia death in 2017, the dental anesthesia guidelines were updated and published by Dr Coté⁹. As publications about oral health began to shift to prevention, Dr Keel's "Management of Dental Trauma in A Primary Care Setting"¹⁰ was and continues to be a valuable resource for pediatric first responders to children experiencing oral trauma.

"Fluoride Use in Caries Prevention in the Primary Care Setting"¹¹ in 2020 and "Maintaining and Improving the Oral Health of Young Children"¹² in 2023 provide a comprehensive summary of the current science of pediatric oral health and medical/dental collaboration. Both publications emphasize recommendations for pediatricians to utilize fluoride varnish, teach oral health prevention methods including the use of fluoridated toothpaste for all ages, encourage families to see a pediatric dentist after the eruption of the first tooth, and advocate for community water fluoridation.^{11,12}

The editors of *Pediatrics* have recognized the importance of oral health to optimal physical and mental health in its publications. The journal has assisted pediatricians to integrate oral health into their practice. Much work remains to enable all children to have excellent oral health as a foundation for their physical and mental health, but this commentary celebrates how much has been accomplished.

References

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3. Hagler S. [A pediatrician's program for the prevention of dental caries in the first years of life.](#) 1984;74(4):569-569
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