

Considerations for Integrating Pediatric Dentistry into the Pediatric Primary Care Setting

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Abbreviations: MDI: Medical-Dental Integration, SDF: Silver Diamine Fluoride, NSCH: National Survey of Children's Health, SHCN: Special Health Care Need

Dental care is taught, practiced, and billed through a model that is completely distinct from that of medical care [1]. However, in recent years as patient care is now viewed more holistically, a growing body of literature promotes a model of medical-dental integration (MDI). MDI refers to embedding medical care within a dental setting or, conversely, integrating dental care into a medical setting. Integration of medical and dental services has been shown to increase access to care as well as improve patient care coordination [2].

Some models of this practice include having healthcare professionals perform healthcare services that are not typical to their practice. For example, having dental providers participate in select medical services and medical providers in specific dental services. However, because these activities fall outside the primary scope of practice for each group, challenges can arise. When providing medical primary care services in a dental setting, there is a distinct need for strong referral pathways to medical providers for ongoing follow-up care [3]. For example, if a dentist screens for diabetes and the patient's results indicate a likely diagnosis, the dental

provider must be able to connect the patient with appropriate medical services for disease management as the dentist is not able to manage the diabetes independently [3]. Additionally, dental offices often use software platforms that are not integrated with larger medical electronic health record systems. To share medical data efficiently with providers who will ultimately manage these conditions, dental practices would need record systems that are interoperable with medical electronic health records [3]. Finally, reimbursement poses challenges, as dental care is typically covered under an insurance plan separate from medical care [3].

Conversely, medical providers who offer preventative dental services face their own barriers. One survey of pediatricians found that 25.8% of respondents reported resistance from staff and colleagues to adopting preventative dental procedures in the primary care setting [4]. The suspected reason was the added burden of time, as medical providers already face pressure to complete numerous components of a medical visit and adding dental procedures further strains available time. Additionally, the study reported that medical providers had difficulty with the technical execution of



applying fluoride varnish [4]. Acknowledging that select preventative services such as the application of fluoride varnish do not replace comprehensive dental care, a strong dental referral network must also be established to ensure patients are able to obtain comprehensive dental care with a dentist, especially when oral disease processes are identified in the rendering of preventative care.

Knowing the challenges that can arise when implementing MDI, this paper aims to provide a guide outlining the key components that must be considered when establishing an MDI model in a pediatric primary care setting. This guidance is based on a successful program developed in an outpatient pediatrician's office within a children's hospital, where dental services administered by pediatric dentists were embedded into an existing outpatient primary care practice.

Clinical Practice

The American Academy of Pediatric Dentistry [5] recommends establishing a dental home no later than 12 months of age. According to Hagan et al. (2017) [6], children typically attend seven well-child visits within their first year of life. Navigating these frequent appointments can be challenging for many families, particularly those facing social barriers to care and for some families, finding an alternate dental office who accepts their insurance within their geographic region poses a significant challenge.

To address this need, an early-preventative dental care clinic model has been developed to provide dental services in coordination with existing medical appointments. The clinic targets children ages 0–3 years, with the goal of initiating dental care as soon as the first tooth erupts. The primary focus is on young children who are at high risk for developing early childhood caries. Because dental insurance is billed separately from medical insurance and can be complex for billing personnel without dental training, the program has been implemented in a clinical facility where most patients are enrolled in Medicaid. In addition, research has demonstrated significant racial disparities in oral health, with Black children experiencing higher rates of caries and untreated decay among Medicaid-enrolled young children attending well-child visits [7].

The pediatric dental team uses one to two exam rooms for the

dental clinic. This arrangement also permits flexible scheduling. Patients may be booked exclusively for dental care or for a combined visit (for example, receiving vaccines and a dental exam, which allows the primary care clinic to maintain its usual patient flow). Once the medical portion of the visit is completed, the child can be brought directly to the dental room for follow-up care.

Time pressure is often a key factor that is cited when discussing a pediatrician's ability to provide significant anticipatory guidance regarding oral health care [8]. In a dedicated dental appointment in a primary care setting, the pediatric dentist has the time and expertise to provide in-depth specific oral health advice to prevent oral disease progression as well as advise on treatment and modalities for active disease processes.

Equipment and Supplies

The level of equipment needed depends on the scope of services the clinic intends to provide. The most basic setup includes disposable exam materials, toothpaste, toothbrushes, fluoride varnish, and a lap board for infant oral exams. This minimalist approach supports clinical assessments but does not permit radiographic diagnosis. If caries are suspected, the child would require a prompt referral to a dental office equipped with radiographs.

Alternatively, incorporating radiographic capability such as handheld or portable X-ray devices enhances diagnostic accuracy. Prospective MDI clinics should consult with their state Radiology Board regarding registration requirements and potential waivers necessary for operating these devices.

Minimally invasive dentistry techniques such as glass ionomer sealants and caries arresting medicaments, can augment preventative services and be utilized to complete caries control on young patients who are not yet cooperative for conventional restorative treatment or for children who have minimal restorative needs. For example, silver diamine fluoride (SDF) is a valuable tool for managing early childhood caries. As noted by the American Academy of Pediatric Dentistry [9], SDF can arrest small lesions or slow down caries progression until a child can tolerate outpatient restorative treatment.

In a primary care clinic environment, dental providers can



apply SDF with a small brush to control caries progression, followed by radiographic evaluation when appropriate, and it can all be managed onsite. The combination of radiographic imaging and caries-arresting therapies provides the optimal tools needed to perform active surveillance with strong diagnostic accuracy. Consent must be in place before performing any dental procedure and should be obtained through the standard process by which the medical providers in the office acquire patient consent to keep consistency across processes within the existing practice.

Regulatory and Licensure

Regulatory requirements are state-specific and can vary significantly. In some states, a separate branch license is required for each location where a dentist practices. Additionally, any individual operating dental radiographic equipment must meet the state's certification and training requirements. Radiographic equipment must also be registered for use at each physical site and is subject to inspection by the governing state radiology body. Finally, dental services provided must be compliant with the regulatory bodies that govern the organization where the medical facility is housed, such as the Joint Commission.

Support Personnel

Incorporating dental services into an existing primary care location does not necessarily require additional support personnel. Medical assistants can be trained to set up and break down the rooms used for dentistry, and creating visual guides for dental set-ups can support staff who are not familiar with dental materials. These guides help ensure that appropriate instruments and supplies are consistently prepared. Because all materials in this model are disposable, staff can efficiently break down rooms without needing training in dental instrument reprocessing.

In the model described in this paper, dentists exclusively operate the radiographic equipment, eliminating the need for dental support personnel. An alternative approach would be to utilize a dental assistant with radiological certification who could be assigned to the primary care clinic during dental clinic hours to obtain radiographs.

Referral Base

The effectiveness of this model is highly dependent on a strong internal referral infrastructure, supported by engaged and proactive primary care medical providers. These providers must be both willing and motivated to consistently identify and refer appropriate patients to the pediatric dental provider. Referrals may be facilitated through a formal internal consult order within the electronic medical record, or, when such functionality is not available, through a structured internal patient list generated and maintained by the medical team.

Billing

In the state where the clinic model referenced in this paper is located, any child enrolled in a Medicaid managed care plan automatically has dental benefits. When scheduling appointments in a prevention-based clinic, the front desk staff only needs to confirm during the phone screening that the patient has not received a dental exam or cleaning within the past six months to ensure the patient is within the appropriate frequency window for services.

In the state where the referenced model clinic is located, medical services are billed using the patient's medical insurance ID, while dental services are billed using the Medicaid number. To verify dental coverage, front desk staff follow the same verification process used for medical insurance, essentially duplicating the workflow already in place.

Front desk staff are not responsible for verifying benefits; their role is limited to ensuring the patient has participating coverage. In larger healthcare systems, eligibility and authorization for specific services can be verified by the authorization or billing teams. In certain states, it may be this simple, which is the case for the clinic in question, since there are only three managed care options in the state where the clinic is located; however, in other larger states this method may be more complex if there are a multitude of managed care organizations (MCOs).

In contrast, private dental insurance poses a greater challenge. Each private insurer uses different platforms for benefit verification, and coverage varies significantly by plan. Differences may include service frequency limits and varying



percentages of coverage, which is dependent on the patient's specific plan. These variations make dental benefit verification challenging for staff who are unfamiliar with dental insurance processes.

For this reason, MDI facilities must understand the administrative complexities associated with dental insurance to ensure accurate scheduling, billing, and patient communication.

Breaking Barriers

MDIs serve as a unique function to augment primary care services in special populations. While the model practice referenced in this paper has targeted high risk Medicaid patients in an urban setting, applications can include other vulnerable populations such as geographically isolated patients and patients with special healthcare needs.

Rural Settings

Rural communities face persistent barriers to accessing dental care. In addition to the limited availability of providers who participate with public insurance, there are also workforce shortages due many times to geographic isolation. Approximately 67% of rural areas in the United States are designated as Dental Health Professional Shortage Areas [10], resulting in long travel distances and delayed or forgone care for children. In this context, MDI offers a practical and scalable approach to improving access by leveraging the existing pediatric primary care infrastructure.

Studies have shown that children living in rural geographic regions experience higher rates of untreated dental caries and are more likely to present with advanced disease requiring urgent or surgical management, underscoring the importance of earlier preventative care [11]. Children in rural settings are more likely to attend well-child visits than routine dental appointments, highlighting primary care as a critical access point for preventative oral health services [12]. By shifting oral health services upstream and embedding them within routine medical care, MDI can reduce disparities in oral health outcomes by decreasing reliance on emergency services, and promoting more timely, coordinated care for underserved pediatric populations in rural areas and further decrease long term cost by focusing on prevention [13].

Patients with Special Healthcare needs

The National Survey of Children's Health (NSCH) data found that nearly 14 million, or 18.8% of U.S. children were reported to have a special health care need (SHCN) from 2016 to 2019. Furthermore, the sociodemographic profile of the SHCN population differed significantly from that of children without such needs. For example, children and youth with SHCN were more likely to live in poverty (23.9% versus 19.4%), more likely to have public health insurance coverage (46.7% versus 32.9%), and less likely to live in a household with two married parents (56.1% versus 67.7%) [14]. These findings highlight important sociodemographic and health related patterns among the SHCN population and their families. They also raise an important question: should care for children with SHCN increasingly be delivered through organized systems of care that intentionally include oral health services?

A systematic review by Harnagea and colleagues found that integrated care models can improve access to oral health services, increase preventative interventions, and enhance communication between medical and dental providers [13]. Similarly, the National Academy of Medicine has emphasized the need to improve access to oral health care through expanded collaboration between medical and dental providers and through innovative delivery systems [15]. Children with SHCN also experience disproportionately higher rates of oral disease and unmet dental care needs. Previous national studies have shown that children with SHCN have poorer reported oral health and greater unmet dental needs than children without special health care needs, even when accounting for insurance coverage and utilization patterns [16]. These disparities reflect persistent barriers related not only to access but also to provider preparedness, reimbursement structures, and the complexity of care required for these patients.

Caregivers may not always be able to accompany the child to appointments due to employment constraints, transportation challenges, or complex family structures such as foster care. Small dental offices may not have the administrative infrastructure needed to routinely manage these complexities, particularly when appointments require additional time for



medical review, behavioral accommodation, or coordination with other providers.

In integrated systems, many of the administrative and social barriers encountered in private dental practices have already been addressed within the primary care infrastructure. This integrated approach reduces administrative burden and allows dental providers to focus more directly on clinical care. Shared electronic health records, coordinated scheduling, and interdisciplinary communication further support continuity of care for children with SHCN.

For children with SHCN, oral health is frequently influenced by underlying medical conditions, medications, and physical or cognitive limitations that affect daily oral hygiene. Integrating dental services within pediatric primary care environments therefore creates opportunities for earlier identification of oral disease, preventative counseling, and coordinated management of oral conditions that might otherwise go untreated. Ultimately, a medico-dental model could help reduce unmet oral health needs while improving overall health outcomes for this vulnerable population.

Conclusion

Pediatric dental preventative and minimally invasive dentistry services can be effectively integrated into existing primary care settings, supporting the delivery of comprehensive, coordinated care within a true medical–dental home model. Embedding dental services within pediatric primary care environments enhance access while promoting continuity and collaboration across disciplines.

The integration of dental services into pediatric medical settings can be accomplished with minimal additional infrastructure, making this model both feasible and scalable within existing healthcare systems. Leveraging current clinical space, workflows, and referral pathways reduces operational barriers while maximizing impact.

Preventative and minimally invasive dentistry approaches are particularly well suited to addressing oral health disparities and play a critical role in serving vulnerable populations, including children with special healthcare needs, geographically isolated patients, and those at high risk for dental disease. This model offers a practical and sustainable strategy for improving oral health outcomes in vulnerable

pediatric populations.

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