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WHITE PAPER

From Silos to Synergy

Integrating Oral Health into Whole-Person Care Through Interprofessional Practice

Use Cases

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Use Cases

Tables and Figures

Introduction

This section of the Interprofessional Practice (IPP) white paper highlights 11 use cases of oral health–related IPP programs that are currently active across the United States. These cases, organized alphabetically by institution, showcase a wide range of implementation scales and scopes. Some involve just one or two health professions, while others engage multiple disciplines in collaborative care.

Given the diversity of clinical settings — each with unique resources and challenges — it is evident that there is no one-size-fits-all model for developing, implementing, or sustaining IPP initiatives. Instead, these examples illustrate the adaptability and potential of interprofessional collaboration in improving oral health outcomes.

This paper aims to serve as a practical resource, emphasizing the importance of integrating oral health into interprofessional clinical efforts. It offers both current examples and a foundation for future IPP development. For those interested in interprofessional education (IPE) — where students from various health professions learn with, from, and about each other — CareQuest Institute has published a complementary white paper and set of use cases to support the growth of IPE programs.

As the connections between oral and systemic health become increasingly clear, interprofessional collaboration remains essential to advancing comprehensive, whole-person care.

Given the diversity of clinical settings — each with unique resources and challenges — it is evident that there is no one-size-fits-all model for developing, implementing, or sustaining IPP initiatives.

Central Valley Regional Center Dental Desensitization Clinic

Expanding Access to Oral Health Care for Californians with Disabilities

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Background

Since its launch in 2023, the Dental Desensitization Clinic at the Central Valley Regional Center (CVRC) has pioneered a collaborative care model that addresses the critical oral health needs of individuals with disabilities. This model brings together Registered Dental Hygienists in Alternative Practice (RDHAPs) and Board-Certified Behavioral Analysts (BCBAs) to provide specialized, trauma-informed care for patients who have historically lacked access to dental services.

The Role of Regional Centers

California's 21 Regional Centers are nonprofit organizations contracted by the Department of Developmental Services (DDS) to coordinate services for individuals of all ages with intellectual and developmental disabilities.[1] These centers are essential in connecting clients to health care, housing, and other support services. Most adults only have Medicaid and Medicare insurance coverage. Some children are enrolled under a parent's dental plan, but the majority are enrolled in the state's Medi-Cal programs. CVRC serves six counties, has the second-largest catchment area, and with nearly 32,000 individuals served, is growing to be one of the biggest regional centers.

Current Gaps in Oral Health Care

Despite the infrastructure provided by Regional Centers and the Individual Program Plan process, access to oral health care for individuals with disabilities remains severely limited.[2] Most clients who qualify for services under DDS guidelines receive dental care only under general anesthesia, which is costly, high-risk, and unsustainable as a long-term solution.[3] According to a 2023 report by CareQuest Institute for Oral Health, there is a wide disparity between the dental health of people with disabilities and those without disabilities; findings revealed that this population is three times more likely to visit the emergency department for dental pain or other issues, and more than half (52.8%) of individuals with disabilities reported being denied health care, including oral health care, due to discrimination.[2] In California, only one third of Medi-Cal enrollees with disabilities received any dental care between 2014 and 2016, according to the California Department of Health Care Services.[4]

Innovative Solutions

The Dental Desensitization Clinic's model demonstrates that interdisciplinary collaboration can significantly improve outcomes. By integrating behavioral support with dental-related tasks and incorporating desensitization appointments to establish a dental home, the clinic reduces the need for general anesthesia and promotes long-term oral health. With the support of a dedicated grant, CVRC established the Dental Desensitization Clinic in 2023. The clinic was created with one overriding goal: to reduce the reliance on sedation, particularly general anesthesia, for individuals with developmental disabilities receiving dental care.

Objectives and Benefits

1. **Reducing sedation rates:** The clinic aims to minimize and, where possible, eliminate the need for sedation by gradually building patient tolerance and comfort in dental settings.
2. **Increasing positive interactions in clinical settings:** Patients become more comfortable entering dental operatories and sitting in the dental chair. Caregivers have reported that this progress often extends to improved cooperation during medical appointments and other clinical environments.
3. **Improving home hygiene:** Participants engage in personalized oral hygiene routines, including brushing, flossing, and water flossing. Caregivers have noted improved compliance with other hygiene tasks such as nail trimming and haircuts — indicating broader behavioral benefits.
4. **Enabling equitable dental treatment:** Graduates of the program gain access to comprehensive dental care based on their individual risk for caries and periodontal disease. They are also prepared to receive care from general or special care dentists, having completed nitrous oxide simulation training. This ensures they can be treated using minimally invasive and sensory-friendly techniques.

Program Components

The clinic's success is rooted in a collaborative care model that brings together RDHAPs and BCBAs. This interdisciplinary approach has proven effective in addressing the complex needs of a severely underserved population. We started the clinic with essentially a blank slate, and the program has been continually developed as we learn from one another and merge our knowledge and experience.

Examples of Accommodations for the Dental Office:
We have discovered that social stories are a useful tool not only to prepare patients for their visits and instill self-efficacy, but also to prove to dental providers that individuals with disabilities are able to obtain dental care without an automatic referral to sedation. Since we have struggles with finding offices to meet us halfway, we implemented generalization appointments where the BCBA accompanies the patient to their initial appointments to share and demonstrate recommended accommodations such as token rewards, schedules, weighted blankets, and the use of other adjuncts to decrease sensory overstimulation.

Because nitrous oxide is the safest form of sedation, and research shows that approximately 90% of individuals with IDD do well with nitrous oxide alone for most dental procedures,[3] we needed to find a way for patients to practice this skill through a nitrous oxide simulation. We established a method of connecting the nasal mask on both ends to one tube and cut a slit to insert the slow speed suction to create the sound and feeling of the air on the patient's nose. Later, we also purchased disposable masks to send home for additional desensitization practice.

Case Study Examples

Case Study 1: Brian — 16-Year-Old Male*

Background:

Brian is a 16-year-old male who began receiving services at the dental desensitization clinic. His family sought support due to a history of dental trauma and significant behavioral challenges during dental visits. Brian has a diagnosis of autism spectrum disorder and mood disorders; these contribute to difficulties with emotional regulation and task engagement in novel or high-demand environments.

Brian is a vocal communicator who is able to use spoken language. He requires prompting to use functional communication responses, such as requesting a break or asking for help during difficult tasks. He is able to label familiar items, follow simple one-to-two step directions, and respond to familiar routines when given visual or verbal cues. However, he may exhibit delays in initiating communication independently, particularly during times of stress or increased demands.

Brian benefits from predictable routines, visual supports, and structured transitions to navigate his environment successfully. Social interactions are limited and often adult-directed, with support needed to engage in reciprocal conversation or peer-to-peer exchanges. While he has not previously completed formal dental treatment, his parents have maintained adequate home care routines, including brushing, flossing, and the use of a fluoride rinse. His treatment plan focused on building tolerance for dental procedures while also supporting his communication development, behavioral regulation, and emotional flexibility within a structured and supportive setting.

Initial Presentation:

At his first visit, Brian demonstrated difficulty following dental directions and tolerating basic procedures. He engaged in yelling behavior and completed only 10% of presented dental directions (Figure 1).

Intervention Approach:

Brian attended 2–3 sessions per month with a focus on desensitization to dental procedures. We used a variety of evidence-based strategies, including modeling, gradual exposure (e.g., allowing Brian to feel or see the instrument before use), visual supports, and positive reinforcement.

We introduced a token economy system to increase task engagement and build motivation. Brian used a 15-token board, where he earned tokens on a variable ratio 2 (VR-2) schedule — meaning he received a token after an average of every two successful responses. This schedule helped maintain motivation and effort with performing tasks while keeping the reinforcement unpredictable. Once Brian earned all 15 tokens, he received a reward, such as a small prize or time on his tablet. Each session introduced one new skill, presented in multiple formats to help Brian tolerate and predict dental procedure stimuli.

Progress Over Time:

Brian made rapid gains across several domains. His ability to follow dental directions improved significantly, stabilizing at 100% compliance the third session (Figure 2). His yelling behavior dropped to zero occurrences per session by the third visit.

His behavior was primarily focused on escaping from distressing situations triggered by dental stimuli and procedural demands. During the initial session, he showed little tolerance for tools including suction, polish, and X-rays.

Brian's performance on the Dental Appointment Checklist, which includes tolerance for polishing, water, suction, X-rays, and intraoral photos, showed a steady and ascending trend (Figure 3).

*Patient names and identifying information have been changed.

Figure 1: Progress in Following Dental Directions Through Dental Desensitization — Case 1

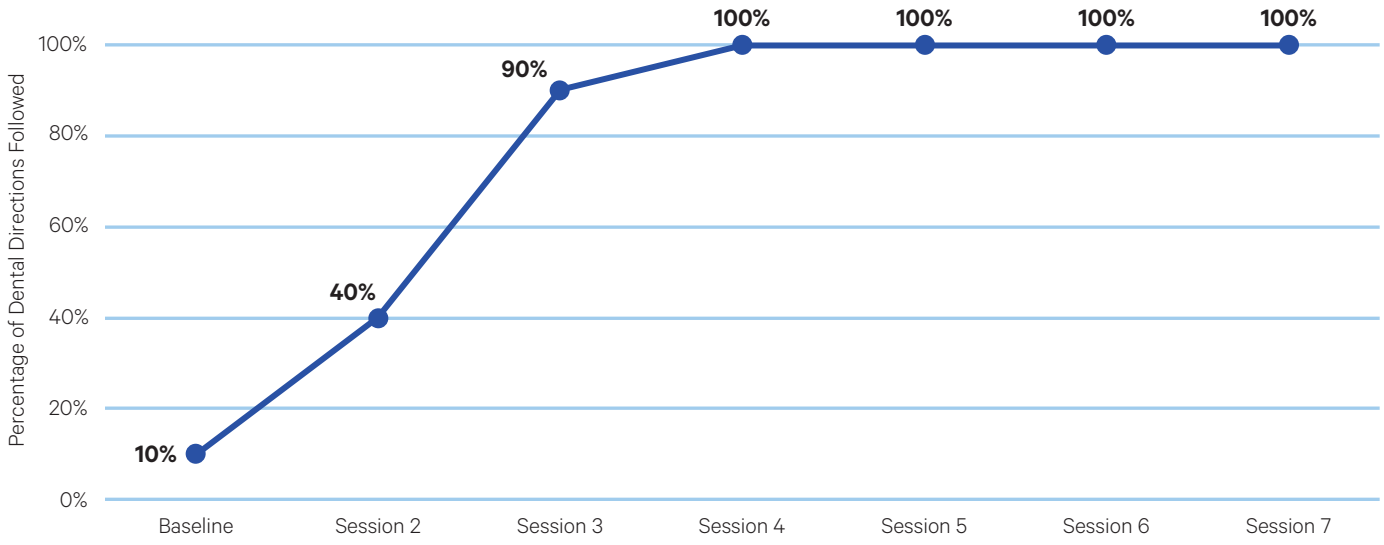


Figure 2: Progress in Crying/Yelling Reduction Through Dental Desensitization — Case 1

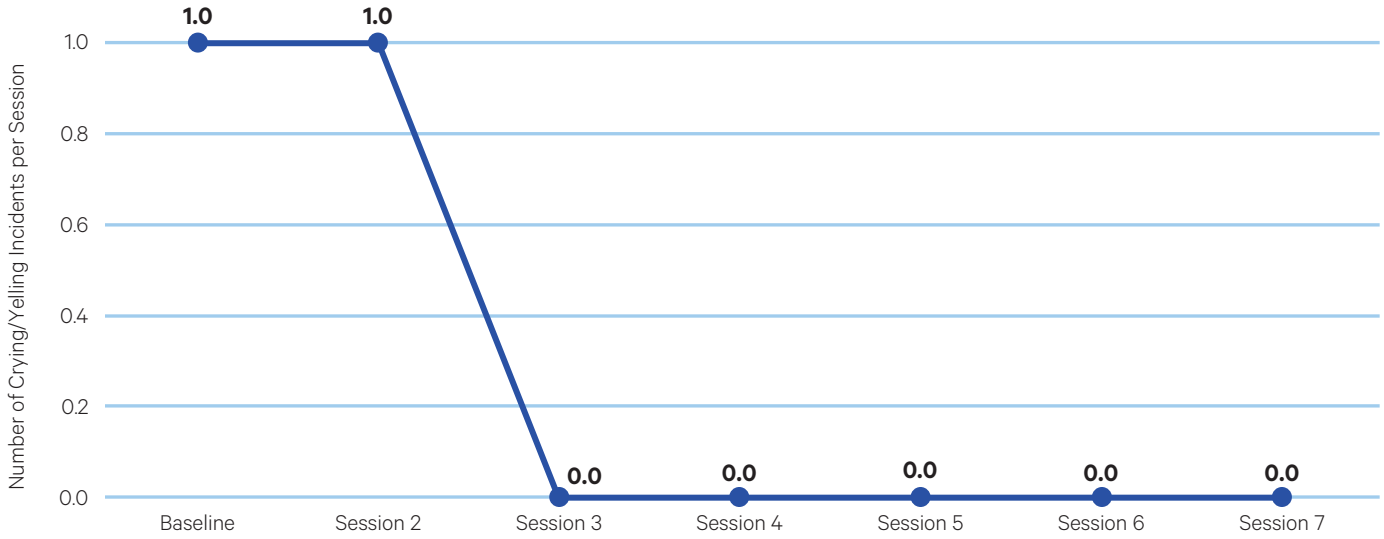


Figure 3: Progress in Completing a Dental Appointment Checklist Through Dental Desensitization — Case 1

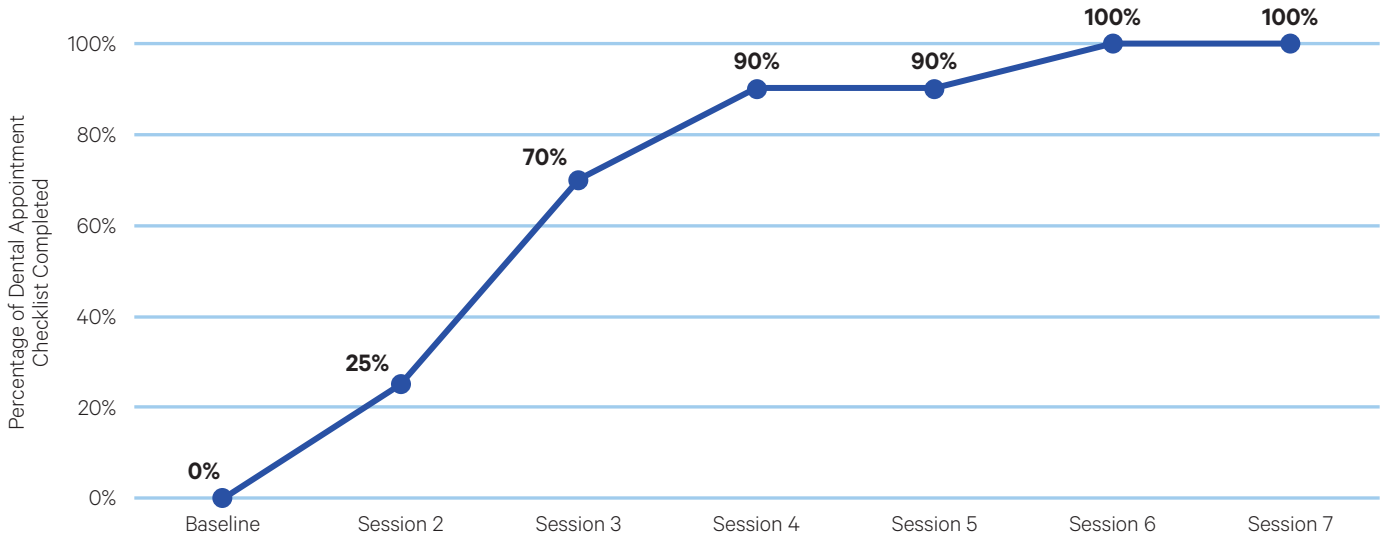
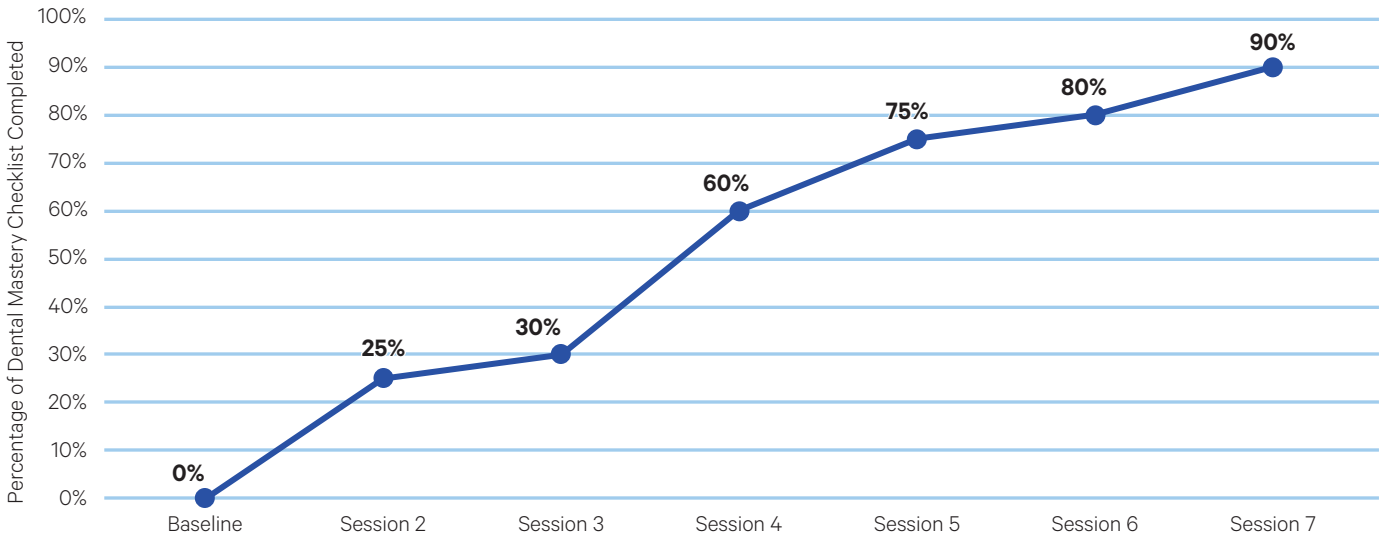


Figure 4: Progress in Completing a Dental Mastery Checklist Through Dental Desensitization — Case 1



Additionally, Brian's Dental Mastery Checklist — which reflects his ability to complete procedures such as using metal instruments, using an ultrasonic scaler, and practicing for a minimally invasive filling — also showed strong improvement over time (Figure 4).

Generalization and Outcome:

Once Brian consistently met mastery criteria of correctly responding to 90%–100% of procedures, he was scheduled for an appointment with an RDHAP. This generalization opportunity allowed Brian to demonstrate the skills learned in the clinic within a more natural dental care environment. He successfully tolerated all components of a full dental cleaning, marking a major milestone in his treatment journey.

In total, Brian participated in five months of consistent treatment in the dental desensitization clinic. Through structured sessions, a reinforcement system, and gradual exposure to dental stimuli, he learned the skills necessary to succeed in a dental setting.

Graduation and Maintenance:

At the conclusion of his program, Brian "graduated" from the clinic. He was given personalized maintenance instructions, which included a visual schedule to display the steps of each procedure, the token board used in sessions, and instructions for continuing the reinforcement strategies at home and in future dental visits. The token board continued to serve as a familiar and motivating support tool for maintaining compliance during cleanings and other oral hygiene activities.

Case Study 2: Tammy — 33-Year-Old Female*

Background:

Tammy is a 33-year-old female who began receiving services at the dental desensitization clinic. Her family sought support due to her history of dental trauma and significant avoidance behaviors during dental care routines. Tammy has a diagnosis of Down syndrome, which presents cognitive and communication challenges that affect her participation in medical settings. She communicates using vocal-verbal language with adequate receptive language skills. Tammy can make choices, follow directions, and request breaks when needed.

At the start of treatment, Tammy refused to enter the clinic room and engaged in disrobing behaviors. Her treatment plan focused on increasing her tolerance for dental-related procedures by breaking down tasks into smaller, manageable steps.

Initial Presentation:

At his first visit, Tammy followed approximately 50% of dental directions (Figure 5). She was highly avoidant of the clinic and would not enter the treatment room. Tolerance of dental procedures such as suction, polish, or water spray was minimal. She was cooperative with some basic hygiene tasks, including brushing teeth, flossing, and opening her mouth, but demonstrated resistance when presented with unfamiliar tools or settings.

*Patient names and identifying information have been changed.

Intervention Approach:

Tammy attended bimonthly sessions in the clinic. Her desensitization plan included visual schedules, choice-making opportunities, and incremental skill building. Skills were introduced through a combination of gradual exposure, visual modeling, and in-the-moment reinforcement. Sessions often began with reviewing photos of the clinic room and progressed to entering the room, sitting in the chair area (even if not in the chair), and handling tools before they were used in her mouth. A token economy system was also used for Tammy; she had a preferred place to eat where her family would take her after each appointment.

Progress Over Time:

Tammy made consistent progress throughout her treatment. She quickly regained comfort with tooth brushing, flossing, and opening her mouth, and over time was able to tolerate suction, water spray, and polish tools. While she refused to sit in the dental chair, she demonstrated flexibility by standing during procedures. By Session 5, Tammy attended an appointment with an RDHAP, where she successfully completed 80% of the Dental Appointment Checklist (Figure 6).

Figure 5: Progress in Following Dental Directions Through Dental Desensitization — Case 2

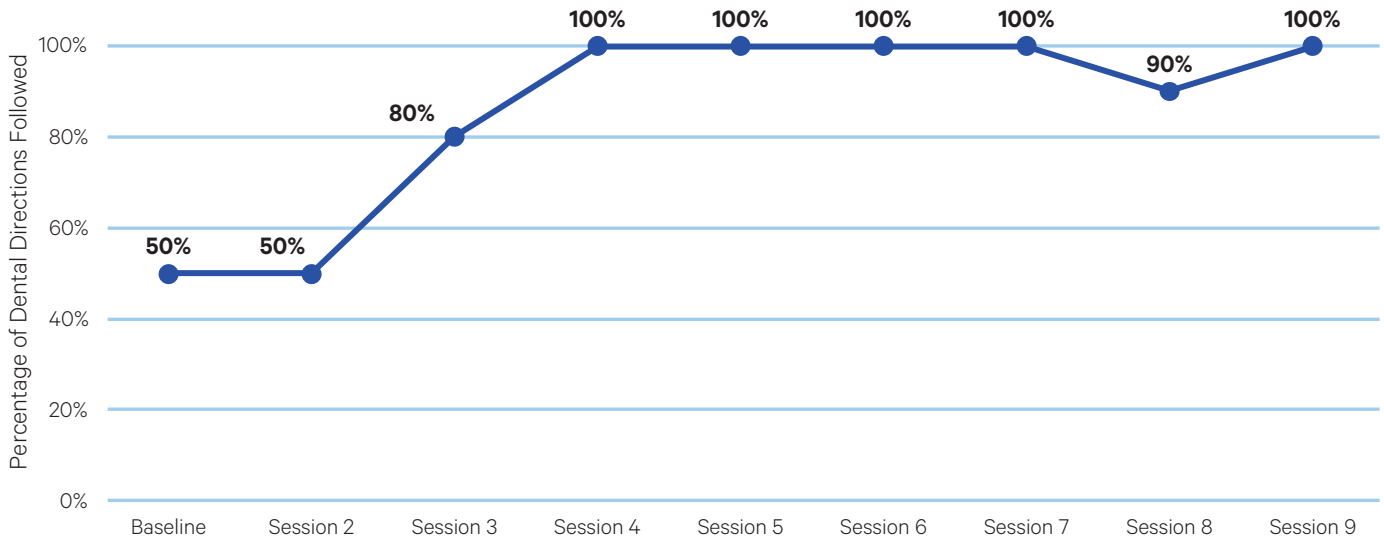


Figure 6: Progress in Completing a Dental Appointment Checklist Through Dental Desensitization — Case 2

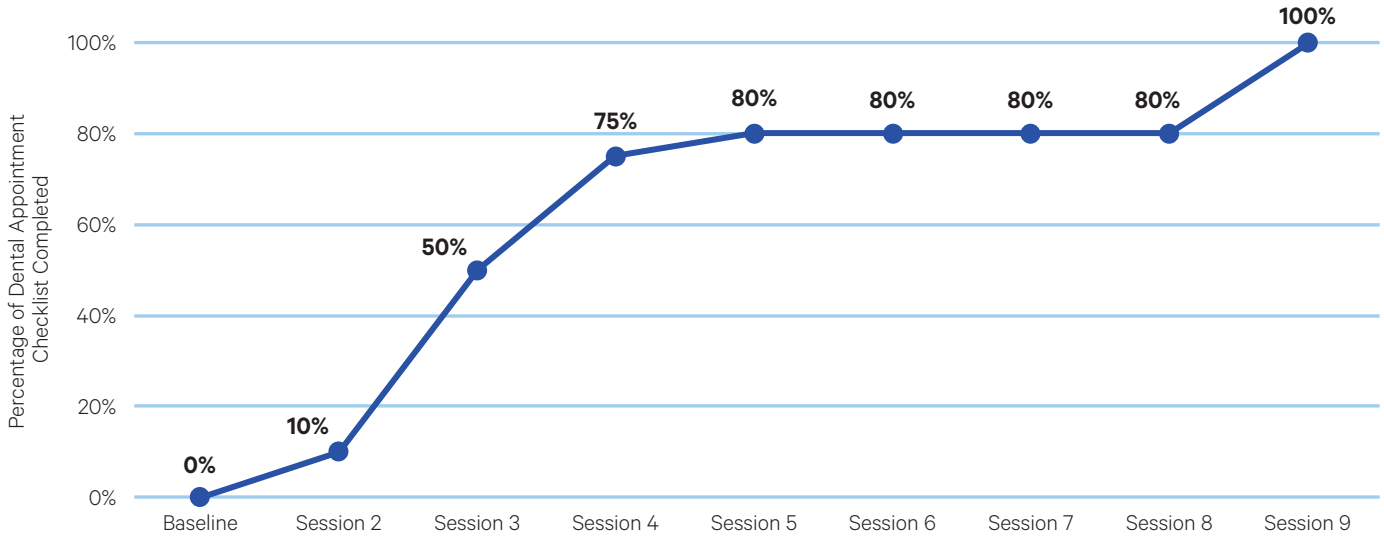
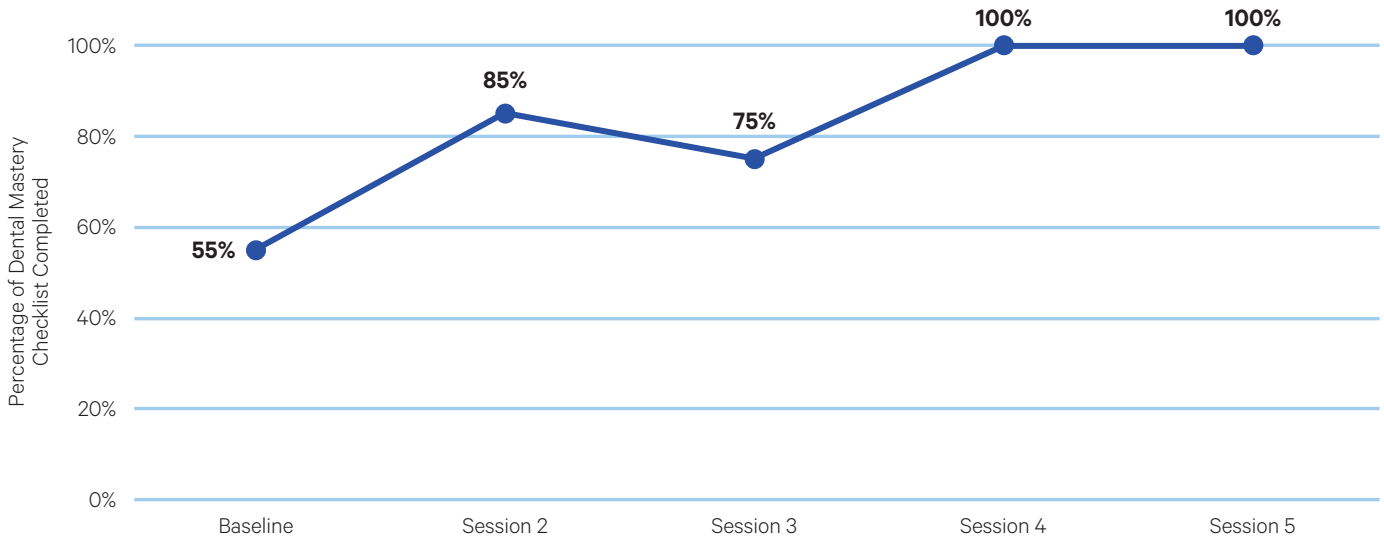


Figure 7: Progress in Completing a Dental Mastery Checklist Through Dental Desensitization — Case 2



Following the RDHAP visit, Tammy continued to participate in home-based sessions 1–2 times per month, where desensitization goals were generalized. By the ninth session, Tammy was able to complete 90%–100% of the checklist tasks independently, demonstrating mastery across settings (Figure 7).

Generalization and Outcome:

Tammy demonstrated generalization of her dental routine skills from the clinic to a community dental hygiene appointment and eventually into the home setting. Her ability to tolerate dental tools and procedures without significant behavioral responses reflects successful desensitization. Despite not tolerating the dental chair, her overall participation and cooperation during procedures demonstrated meaningful growth.

Graduation and Maintenance:

At program completion, Tammy "graduated" from the dental desensitization clinic. Her family was provided with visual supports, maintenance strategies, and reinforcement guidelines to continue successful hygiene practices at home and in future appointments. Tammy's ability to complete nearly all dental tasks at a high level of independence is a strong indicator of long-term success and improved access to health care.

Barriers

While each patient progresses at their own pace, all have demonstrated remarkable growth in mastering skills on the dental checklist, impressing their care teams with progress leading to graduation. However, the greatest ongoing challenge remains: finding dental providers willing and able to allow for generalization appointments and implementation of the BCBA-recommended accommodations necessary for continued success. Nationwide, dental offices that practice special care dentistry are extremely scarce. This shortage is exacerbated by reimbursement challenges.

Federally Qualified Health Centers (FQHCs) and private practices often find that current compensation models do not support the additional time, staffing, and equipment required to treat patients with special needs. While Medi-Cal offers an additional $140 up to four times per year under code D9920 for behavior management, many high-volume dental offices report that this is insufficient to cover the actual costs of care. The D9920 code was designed to incentivize dentists to attempt behavioral management techniques before progressing to sedation. These techniques include strategies ranging from non-pharmacological interventions to nitrous oxide and IV sedation. However, only 1.8% of patients require deep sedation or general anesthesia, which should be reserved for oral and maxillofacial surgery.[5] A critical flaw in the current system is that D9920 is not billable in conjunction with safer forms of sedation, despite strong clinical recommendations to use both. This policy disincentivizes providers from offering the safest and most appropriate care options.

Many dental education programs lack required special care dentistry training, although policies have been put into place to implement it into curricula. Other populations who are considered to have special needs, such as pregnant persons and individuals who are HIV-positive, fit that component and are often the only focus. Therefore, the following recommendations could be implemented to address this gap.

Policy Recommendations

1. Expand funding for collaborative care models that integrate dental professionals with BCBAs.
2. Mandate oral health access as a core service within the Individual Program Plan framework. Support grant programs across other Regional Centers to establish and replicate the success of the Dental Desensitization Clinic.
3. Build upon the RDHAP and teledentistry models to expand the RDHAP scope of practice and connect patients to dentists without overburdening those dental offices willing to provide comprehensive dental care to patients with complex needs.
4. Incentivize training for dental offices to collaborate with RDHAPs and BCBAs to serve patients with complex needs.

Conclusion

Improving oral health care access for individuals with disabilities is not only a matter of equity, but also a public health imperative. Systemic challenges including overreliance on general anesthesia, lack of availability of dental homes, and inadequate reimbursement all contribute to limited access to appropriate care. With targeted policy support, California can continue to lead the nation in delivering compassionate, effective dental care to one of its most vulnerable populations.

Acknowledgments

Thank you to CVRC directors, especially Tammy Miranda in Clinical Services, case management staff, our patients and their caregivers. Also, thanks to our Registered Dental Assistant Dana Beltran, who has been a welcome addition to the clinic.

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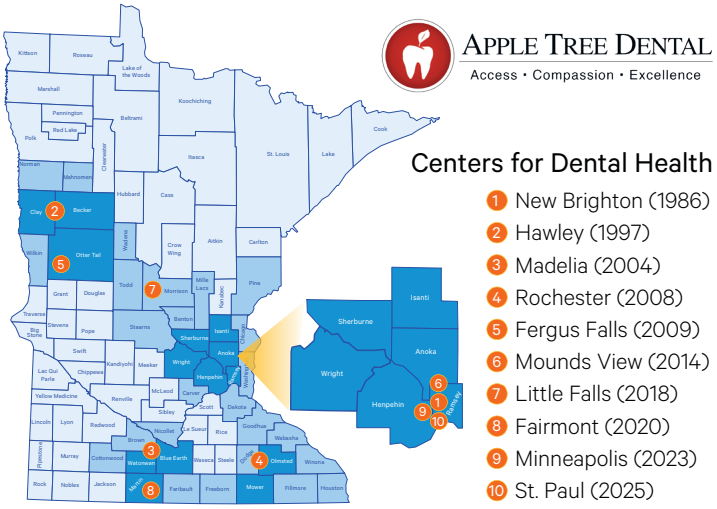
Community Collaborative Practice at Apple Tree Dental — Minnesota

Lyubov Slashcheva, DDS, MS

Introduction

Apple Tree Dental (Apple Tree) was founded in 1985 as a nonprofit dental organization to address ageist and ableist barriers to oral health and promote equity in the dental care system by delivering on-site oral health services to residents of care facilities.[1] Today, Apple Tree has 10 outpatient Centers for Dental Health (Figure 8) and partners with more than 140 community sites to collaboratively deliver outpatient, sedation, and mobile dental services across Minnesota, reaching patients of all ages and abilities who experience oral health disparities.[2] As of June 2025, Apple Tree has provided dental care to about 200,000 patients during about 1.74 million visits, amounting to a total of about $503M in dental care service value.

Figure 8: Location of 10 Apple Tree Dental Centers for Dental Health in Minnesota



In addition to overcoming barriers to oral health by inspiring partnerships that foster healthy communities through dental care delivery, the nonprofit organization's Innovation Teams promote the implementation of care delivery, education, research, and policy innovations through a Learning Health Systems[3] approach that reduces the impacts of structural and systemic inequalities on the oral health of individuals across the lifespan. This model has catalyzed health care and policy improvements in many states.

This use case report will describe Apple Tree's Community Collaborative Practice (CCP) care delivery model and provide examples of our interprofessional practice within the CCP model. Key IPP opportunities and lessons learned will be described.

Community Collaborative Practice

Apple Tree's vision to "foster partnerships that create healthy communities" is embodied by CCP. While Apple Tree is a nonprofit dental provider organization with a mission to "overcome barriers to oral health," its operations engage professionals across disciplines. The diverse expertise of its Board of Directors leverages both public and private resources to support interprofessional care teams in serving communities and patients with unique and complex oral health needs.

CCP collaborates to deliver oral health services where people live, learn, or receive other health and social services. The core attributes of CCP include:

- Practicing within an interprofessional model of care delivery
- Proactively delivering oral health services to patients and communities with high needs and unique barriers to oral health
- Actively engaging with other health, education, and social services professionals
- Integrating dental care into health care homes

Innovation Teams Drive Apple Tree's Learning Health System

Figure 9 describes how the work of Apple Tree's Innovation Teams has been informed by CCP principles to create and operate Apple Tree's oral care delivery systems. Apple Tree intentionally evaluates its programs and engages in learning communities that inform which additional innovations in technology, clinical practice, education, research, or policy will further enhance oral care delivery systems. Pursuing these dynamic learning cycles with their community partners, patients, and staff enables Apple Tree to function as a Learning Health System.

Clinical Program IPP Use Cases

Center for Dental Health Colocation in Rural Critical Access Hospitals

Three of Apple Tree's Centers for Dental Health are colocated on the campuses of Critical Access Hospitals (CAHs), which are facilities that ensure essential health services remain available in rural communities. Apple Tree's Centers for Dental Health are colocated with CAHs in Madelia (since 2004), Little Falls (since 2018), and Fairmont (since 2020). They were established through multiphased partnerships with community leaders, academic institutions, and local hospital systems. Innovations such as teledentistry and mobile dentistry were used to ramp up from a part-time on-site outreach program to an outpatient dental clinic within the hospital system. Interprofessional practice in these colocated outpatient clinics has included emergency department diversion infrastructure, interprofessional medical and dental professional education opportunities, community outreach collaboration, and enhanced bidirectional referral workflows. Key elements to support IPP activities in these programs include hospital system administration buy-in, local community backing, financial support for planning, infrastructure, and implementation, and incentives for providers to engage in interprofessional education and referral activities.

Figure 9: Learning Health Systems Adaptation for Apple Tree Dental Context

Comprehensive Continuous Place-Based Community Dental Care

Since 1985, Apple Tree has pioneered mobile dental programs that bring customized equipment, diverse oral health teams, supportive technology, and care coordination across professional service organizations and personnel to deliver oral health services to patients who experience barriers to receiving dental care in traditional dental office settings. Application of the CCP model is tailored to the needs of specific patient populations and community partner sites, as described below.

Serving Older Adults in Long-Term Care Facilities

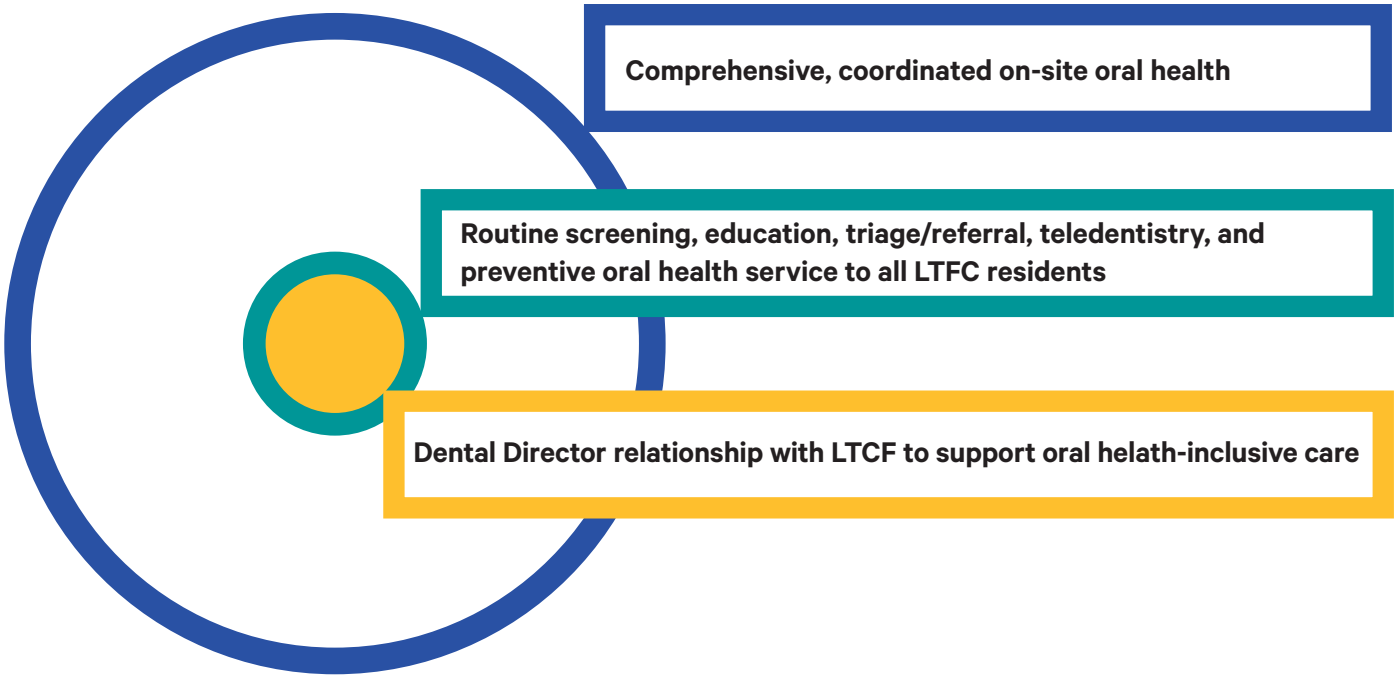
Apple Tree's longest-standing community partnerships have been with long-term care facilities (LTCFs), having provided comprehensive care to more than 58,300 patients across 200 facilities in Minnesota as of June 2025. Apple Tree contracts as the Dental Director of each LTCF. This role includes consultation on facility protocols, education of staff, and routine screening, triage, and referral services (Figure 10). In this program, dental professionals can also easily communicate with nursing and medical staff about dental care and overall health topics. In addition, residents can select Apple Tree as their dental provider. On-site dental care eliminates the need to transport facility residents for dental care. This results in significant cost saving, reduced staff burden, and often better appointment outcomes.

Serving Adults with Intellectual/Developmental Disabilities in Community Settings

Since the early years of its operation, Apple Tree has served adults with intellectual and developmental disabilities (IDD) in intermediate care facilities (ICFs). After the deinstitutionalization of this population, Apple Tree continued to serve adults with IDD in collaboration with home and community-based service agencies and primary care professionals, utilizing its mobile dental program and telehealth technology. Providing proactive, preventive, and therapeutic services to adults with IDD where they live or receive other services is more comfortable for these patients than the dental office, and being supported by primary care and direct support professional staff improves patient and dental provider experience. Care coordination and communication of dental treatment outcomes and needs also benefit from place-based care.

As of June 2025, Apple Tree has collaborated with eight residential provider programs that each support numerous group homes to provide continuous comprehensive on-site care to over 610 adults with IDD in the community setting. If patients require additional sedation or more intensive dental treatment, they can be referred to Apple Tree's Centers for Dental Health. Several Centers operate sedation programs with medical and nurse anesthesia providers and dental professionals with advanced training in providing dental

Figure 10: Apple Tree Dental's Community Collaborative Practice Care Delivery System in Long-Term Care Facility Settings



care under sedation to medically or behaviorally complex patients. Apple Tree has a Pediatric Team[4] and a Special Care Team composed of dentists, dental therapists, dental hygienists, dental assistants, and care coordination staff who collaborate with patients, families, social service agencies, and primary care providers to ensure that patients of all ages who have increased medical and behavioral complexity receive high-quality dental care via teledentistry and in the mobile, outpatient, or hospital settings. In late 2024, Apple Tree became a member of an Accountable Care Organization, where its expertise and CCP will benefit people with IDD through IPP collaborations with member organizations including medical providers, pharmacists, group homes, care navigators, and others.

Serving Adults Receiving Mental Health or Substance Use Disorder Treatment in Residential and Outpatient Settings

Apple Tree collaborates with Zumbro Valley Health Campus in Rochester, Minnesota to provide on-site dental care to individuals receiving inpatient and outpatient behavioral health services. Consultation with medical and behavioral health providers occurs more quickly and directly in this colocated setting. Apple Tree also receives referrals from agencies supporting individuals with substance use disorders (SUDs) through residential treatment such as Minnesota Adult and Teen Challenge. Care coordination with these agencies allows individuals in recovery programs to embed oral health care into their overall recovery program timeline and allows dental providers to receive clear communication regarding pain management strategies after dental treatment for patients in treatment for SUDs. Dental providers can provide detailed reports to the agency on dental treatment status and outcomes so that oral health becomes an integral part of their recovery treatment.

Serving Children in Preschool and School-Based Settings

Apple Tree provides oral health education and screenings, dental exams, preventive care, and therapeutic dental care to children in school-based settings, which is often the first time many children see an oral health care professional. Collaboration with school administrators, teachers, and nurses facilitates communication with children's families and care coordination for children with urgent and non-urgent oral health needs requiring treatment. School-based dental programs improve access in a familiar and trusted setting with staff, teachers, and peers, which reduces dental anxiety, improves the overall experience, and increases receptivity to future dental treatment. Lowering the barriers to an initial dental visit promotes prevention, early detection, and use of minimally invasive interventions. Health promotion activities for all students are supported by school staff and the visible presence of on-site service delivery. Apple Tree's dental hygienists have served on Head Start health advisory committees, attended parent orientation meetings, and offered staff training to help meet Head Start's internal dental performance standards. As of June 2025, Apple Tree has collaborated with 37 Head Start preschool programs to provide oral health services to 6,595 children, and with nine schools to provide oral health services to 995 children.

Elements That Promote Successful Place-Based Community Dental Care

Community partnership agreements clearly outline the expectations and responsibilities of each party, including space and operations logistics, information sharing, patient privacy practices, and liability considerations. Apple Tree's community care coordinators collaborate directly with our community partners, patients, and caregivers (if applicable) to support communication and logistics to facilitate timely care. Community partners typically assign a dental liaison to facilitate scheduling, communication, on-site logistics, and primary care and medical history access. A strong dental liaison or champion at each community partner site is a critical linchpin to successful IPP partnership. Because Apple Tree deploys teams of oral health professionals and specialized equipment, the distance of the community site from a Center for Dental Health, and the number of active patients, are important considerations for program sustainability. Telehealth technologies, including intraoral imaging and video dental visit capabilities, have the potential to improve IPP. Apple Tree's strong organizational infrastructure and support for customized CPP-compatible electronic health records (EHRs) have provided important safeguards and built a robust database of information used to improve IPP.

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Community Smiles Dental and ProHealth Care — Wisconsin

Sidney M. Ebert, DDS; Elizabeth Sheehan; Jenny Reyes, RDH

Introduction

Community Smiles Dental is a nonprofit organization with a mission focused on improving the lives of the underserved through oral health care services, preventive education, and advocacy for systemic health care change. We strive to be a dental home, providing comprehensive care and building lasting relationships with our patients to promote their dental well-being. We also function as a safety-net dental clinic, providing care across multiple counties for patients who are uninsured or insured by Medicaid. Although our practice focuses primarily on the care of the pediatric population, our patient care also extends to patients with special health care needs, pregnant persons, and a limited program for adults. We serve roughly 4,000 patients each year across two clinic locations. Our first clinic, based in Waukesha, Wisconsin, is housed in the same building as ProHealth Care, a medical health care leader in Waukesha County and the surrounding areas.

Community Smiles Dental's Partnership with ProHealth Care

From the time of our founding, we have built a strong, collaborative partnership with ProHealth Care. Together, we created an Oral Health Longitudinal Rotation for the health care system's family medicine residents. The Oral Health Longitudinal Rotation was started as an elective rotation. Today, it is a requirement within the residency program and spans two weeks over the three-year residency program. Located in the same building as the family medicine residency program, our dental clinic provides a site for family medicine residents to spend time with our dental providers, who help support their learning in oral health care. The goal of this partnership is to help medical providers become knowledgeable about and confident in making a referral to a dentist when a patient presents with an oral health need.

Our partnering family medicine residents complete mandatory objectives throughout their time with Community Smiles Dental. The residents spend time with dentists, dental hygienists, and dental assistants, in addition to student learners such as dental students and dental hygiene students. Residents complete modules from the Smiles for Life curriculum before spending time in our clinic. They start by learning basic dental anatomy and common dental pathology by shadowing our dental providers and participating in dental exams.

The purpose of gaining experience with dental nomenclature is to provide the residents with the skills and knowledge to be able to effectively communicate with their dental partners when providing a dental referral. Residents observe procedures that evaluate and treat dental emergencies and dental trauma. The goal of observation of these cases is to provide the residents with skills to correctly identify urgent dental needs and know how and when to make a referral to a dentist, an oral surgeon, or other specialty provider. Additionally, residents are taught how to ask basic dental triage questions in order to create a diagnosis for dental patients and are given examples of the screening questions to ask for triaging dental emergencies. Often, a decision tree can be helpful in determining the right questions to ask. Dental preceptors collaborate with medical residents to prepare them for dental emergency scenarios.

Objectives in the dental rotation are to:

1. Learn basic dental anatomy, including tooth names and numbers/letters and oral cavity structures and landmarks.
2. Log at least three dental trauma triages after discussing the cases with a preceptor. These can be simulated or actual cases where residents gather appropriate history, assess, and make recommendations on the initial location and urgency of treatment.
3. Complete a minimum of five proctored dental exams identifying common dental pathology including cavities, infection, trauma, and gross decay.

Goals of the Oral Health and Family Practice Integration Program

Knowing that lack of exposure and access to dental care are often hurdles for low-income families, we aim to help medical providers understand that they are a critical point of contact with patients to help connect them to a dentist and establish a dental home. We want primary care providers to feel comfortable referring patients to us and helping to reinforce the importance of the first dental visit by age 1 or by first tooth eruption.

We aim to teach medical residents that primary care physicians can make a positive impact on their patients' oral health by consistently reinforcing the importance and value of establishing a dental home where the patient has access to routine and preventive dental care across the lifespan. At Community Smiles Dental, we believe that dentists are a critical partner in the medical community.

Overcoming Challenges and Barriers

One of the biggest challenges that this program faces is schedule coordination. ProHealth Care's residency coordinators and our Community Smiles Dental clinical manager work collaboratively to ensure that all medical residents are scheduled appropriately for their rotations. Each resident is in our clinic for one week during their second year and one week during their third year. Because this is a required rotation for all residents, both partners work hard to ensure that patient care is occurring at full capacity while residents are completing their objectives.

Patients who come to Community Smiles Dental may have socioeconomic factors that make it harder for them to seek regular dental care. These factors may include financial constraints, transportation challenges, work and school schedule conflicts, language barriers, and cultural barriers. Our clinic provides care for those patients who are uninsured or have Medicaid insurance. We work hard to create an open line of communication with families and help them navigate certain barriers. An example includes our work in creating a language access plan to help all non–English speakers access high-quality, trusted dental care.

Communication with Patients

Through this partnership, we aim to emphasize the importance of dental health in a person's overall health. A key to this outcome is effective communication and transparency with our patients. Many of our patients are seen by a primary care provider at ProHealth Care, often in the same building. When a medical resident is partnering with one of our dental providers during patient care, they communicate this partnership with the patient and explain why the residents' understanding of dental care is so valuable for all parties. Exceptional patient care is our highest priority, and through this partnership, we are working to close the gap between medical and dental health care. Patients at Community Smiles Dental are asked to complete a patient satisfaction survey after their visit. Feedback from these surveys helps ensure that we continue to provide high-quality care every day. Community Smiles Dental continuously manages clinical quality through standards set by the Director of Dental Services and the organization.

Conclusion

The Oral Health Longitudinal Rotation was created to help providers in the medical community feel confident in maintaining a collaborative partnership with their dental peers throughout their careers. We help achieve this through early partnership in the medical curriculum, and both Community Smiles Dental and ProHealth Care appreciate the value of this oral health care exposure during the residency program. Community Smiles Dental is invested in helping to create a stronger oral health focus in the professional medical school and residency curriculum. A stronger understanding of oral health care among medical professionals helps our patients achieve the best outcomes in overall health and well-being. Primary health care providers can make a positive and lasting impact on their patients' overall health by promoting the value of oral health and helping create a stronger, healthier community for all of us.

Acknowledgements

Thank you to the Waukesha Family Medicine Residency at ProHealth Care and its Program Director, Dr. Patrick Ginn, MD, for their support and continued collaboration with Community Smiles Dental.

Primary health care providers can make a positive and lasting impact on their patients' overall health by promoting the value of oral health and helping create a stronger, healthier community for all of us.

Dental Steps — Children's Oral Health Network of Maine

Courtney E. Vannah, IPDH, MSDH, MPH

Introduction

The Children's Oral Health Network of Maine (COHN) is a network of hundreds of organizations and individuals aligned in the shared vision that every child in Maine grows up free from preventable dental disease. MCD Global Health is a nonprofit that leads public health efforts across eight countries in 13 focus areas, including various oral health initiatives in Maine that encompass key strategic guidance for COHN's Health Integration Action Team (HIAT). The HIAT consists of COHN network members who are focused on supporting medical-dental integration (MDI) efforts, including Dental Steps.

Dental Steps brings together a wide variety of MDI options, including opportunities for interprofessional practice. Maine has an extreme shortage of access to traditional dental homes, particularly for children with Medicaid dental coverage, leaving more than 200,000 children in Maine without regular dental care. Faced with the inability to access care in a traditional dental home, many families turn to their pediatric primary care provider for help. Pediatric primary care providers across Maine have embraced MDI for decades to support their patients in a holistic way. Dental Steps builds on the MDI foundation built in Maine by the From the First Tooth (FTFT) program to create interdisciplinary, fully integrated care, offered right in the pediatric medical home, where patients experience fewer barriers to care.

Key Components of Dental Steps

Dental Steps is an adaptation of the Maine Dental Connection for a primary care setting. The approach provides comprehensive oral health care to children ages 0–5 who do not yet have a dental home, with all preventive and early intervention services occurring in the primary care setting. This is accomplished through a multi-pronged approach:

- **Include** oral health in each well-child visit though oral health screening and basic preventive services as part of the FTFT program. This adds a greater number of touch points for young children and their caregivers to receive oral health education and anticipatory guidance than the traditional model of dental care delivery.
- **Educate** families at each well-child visit by integrating the corresponding oral health education video from the Dental Steps video library into each well-child visit from 2 months to age 5. Each short video contains small, digestible advice on age-appropriate preventive oral health information.
- **Intervene** early via well-child visits by utilizing silver diamine fluoride (SDF) to arrest active decay. SDF can be applied by either a primary care provider or a dental hygienist and has been shown to arrest and prevent active dental decay when applied early in the disease process. With frequent oral health screening during well-child visits, the primary care team is likely to be the first to identify a potential cavity.
- **Integrate** a dental hygienist into the primary care team to provide a full range of prevention and early intervention dental services. By ensuring access to non-invasive care advancements such as glass ionomer protective restorations, Dental Steps provides families with access to the clinical care, knowledge, and tools necessary for their children to experience childhoods free of active tooth decay.
- **Connect** virtually to a dentist to increase access to comprehensive oral health care through a holistic interprofessional approach. Utilization of teledentistry expands access to the entire dental team by utilizing telehealth capabilities to connect the primary care team (including the dental hygienist) with a dentist. When extended to a full "virtual dental home" model, all routine prevention is provided in the primary care setting, with families only needing to travel to the dental practice for restorative care or additional in-person needs.

More information about Dental Steps can be found by creating a free account in MCD Global Health's Telehealth Classroom and accessing the online toolkit.

Lessons Learned

While Dental Steps provides the opportunity for a full interprofessional integration of oral health services into the primary care setting, implementing the entire model can take a considerable amount of time and effort. The best strategy is to take a stepwise approach, starting with the portions that seem most feasible for the practice. The model in its entirety

may not be feasible for all medical practices, but that does not preclude implementation of the portions that are. There are various challenges, in general, with the integration of dental services, as well as challenges associated with integration of a new provider type (e.g., a dental hygienist) to a non-dental health care setting.

Variations in Medical Site Leadership Structure
Maine's primary care landscape is primarily made up of large health systems, with fewer small standalone medical practices. Many components of Dental Steps are easier to implement in a smaller practice model, whereas in a large health system, the additional required protocols and approvals can lead to delays and add barriers to implementation. Layers of reviews and approvals may be required for steps such as adding services, hiring new provider types, consent processes, electronic health record (EHR) modifications, dental billing coding additions, and more. For example, in a smaller independent practice, making a change to the EHR system to include the capacity to enter clinical dental record information might only require one conversation with the information technology (IT) person who manages all IT-related issues for the practice. This can result in the ability to enter clinical dental record information into the EHR quickly. However, that same task in a large health system may require months or years and multiple layers of review and approvals to accomplish.

While initial support and desire for integration of oral health services often comes at the practice level, this substantive change in service offerings in large health systems requires significant leadership involvement and support at the systems level. As such, it is recommended that upper-level administration buy-in be sought early in the process to avoid delays later.

Records Integration
While some EHRs may offer a dental component, it can be a costly add-on for other systems. At the start of the transition to integrated dental services, this can be a difficult cost to justify to a health system administration. For those unwilling to invest in such a system, or those working with an EHR product that does not yet offer a dental add-on, templates can often be added to existing EHR systems to enable dental record data entry, but this requires adequate IT support, willingness, and bandwidth to complete the modification. Moreover, provisions for additional consent items must be integrated into the EHR. If electronic options are not immediately available, paper documentation and consent forms can be utilized and scanned into the patient record.

Dental Billing and Coding Integration
Medical and dental coding/billing can be very different from one another. It can be a lengthy process for medical sites that have not previously used any dental coding to make the transition to inclusion of dental coding. This can mean delays in the ability to be reimbursed for dental service provision. Starting this process early in integration planning is advised.

In addition to new codes and new insurance plans being added to the system, there is a need for staff training and provider credentialing processes, which must be completed for new insurance additions. Dental provider credentialling is often a new experience for medical billing staff, and it can take time to accomplish. Moreover, some models common in the medical community, such as the Rural Health Center (RHC) model, which operates on a pre-determined encounter rate, have not yet evolved to recognize billing for preventive dental service codes and can present a significant barrier to hiring a dental hygienist. In these cases, a colocated model with a service agreement between the dental hygiene organization and the medical site may be more feasible.

Fiscal Sustainability
For an integrated dental hygienist to be fiscally sustainable within a medical practice, the position must be self-supported by revenue generated by dental claims. In addition to the challenges mentioned above, which must be overcome to enable dental claim billing capacity, revenue generation is reliant on scheduled patients. This initially requires a whole-team approach to ensure that families are aware of this new service and are offered the opportunity to schedule. Additionally, all must emphasize the value of this service to encourage kept appointments and a full schedule for the dental hygienist. In the event of unfilled appointments in the dental hygienist's schedule, all members of the team should seek opportunities for existing patients in other areas of the schedule to add dental services to their visit.

Workforce Training and Integration
Clinical practice experience in medical settings is not a standard part of dental hygiene education, and, as a result, dental hygienists may initially feel underprepared to work in this setting. Like all other aspects of the medical-dental divide, the medical office environment is very different from how a dental office operates, and workplace expectations must be modified to align with the new setting. Likewise, collaborating with a new provider type, such as a dental hygienist, can be an unfamiliar experience for the medical team. Recognizing and addressing these differences is key to successful interprofessional practice. Intentional integration of the two work environments is recommended, including conversations to align workflows, infection control protocols, medical emergency procedures, expectations, and mutual support strategies.

Conclusion

As many patients continue to struggle to access care in a traditional dental home, innovative alternatives such as Dental Steps in a medical home provide a viable way for children to receive necessary preventive oral health care and early intervention. Due to the numerous differences between the medical and dental systems, the integration team must be mindful of the many adjustments required in the medical practice to successfully add dental services. Moreover, consideration should be given to the length of time some of these changes can take due to the many competing demands within the medical system. It is noteworthy that many of these challenges, such as billing code additions, are one-time tasks and, once implemented, are permanently in place. While establishing integration can be time-consuming, once fully implemented, interprofessional practice in the primary care medical home can be very beneficial for patients. With patience, persistence, and passion, the integration of dental services can be accomplished and the full benefit of interprofessional practice can be realized by the patients served.

Maine's Oral Team-Based Initiative, Vital Access to Education (MOTIVATE)

Leonard Brennan, DMD; Labrini I. Nelligan, MS; Denise O'Connell, MSW, LCSW, CCM

Introduction

The prevalence of oral disease and its association with poor overall health and quality of life pose significant public health challenges for older adults, particularly the most vulnerable —those living in long-term care facilities, assisted living, and residing at home. Nearly 6% of older adults reside in long-term care, while over 90% live at home. Many of these older adults experience functional decline, loss of motor skills, polypharmacy, chronic diseases, and/or cognitive impairment and depend on family members and nursing staff for their activities of daily living, including toothbrushing. Because of these age-related changes, older adults are at a much higher risk for dental diseases, which are largely preventable if and when health care teams are informed and take appropriate action. In Maine, which has the nation's oldest population — 23% of residents are 65 or older — many older adults face additional challenges and greater risk as they live in areas with limited access to care and experience high rates of poverty and significant rates of disability.

An Identified Interprofessional Education Gap

Long-term care facilities (LTCFs) face numerous challenges, including financial constraints and staffing shortages, contributing to increasing facility closures. These closures force LTCF residents to transition to assisted living or into family homes. One of the most significant obstacles to oral health care at home and in LTCFs is a lack of caregiver knowledge on how best to approach and deliver oral health care for older adults. Many studies have shown that educating the interdisciplinary team and families is the key to improving the oral health of older adults — for example, reducing gum disease and cavities, improving appearance, reducing pain, and restoring dignity and function.

Oral health literacy is poor among many people. Due to lack of awareness and education, oral health care for older adults in LTCFs is often inadequate and may not always follow established guidelines. Additional factors such as time constraints, resistant residents, lack of supplies, insufficient knowledge, and poor collaboration between dental and nursing staff contribute to this issue. Despite evidence that routine oral care is preventive, most care providers are unaware of this, and those who want to do more are burdened by barriers to providing ongoing professional staff development. Team-based care has been identified as one strategy for reducing oral health disparities for older adults. However, health and allied health professionals, such as nurses, social workers, physical therapists, physicians, and pharmacists, receive little education about older adult oral health care in their premedical or clinical education programs. The responsibility for oral hygiene care, such as toothbrushing, cleaning, and proper storage of dental prostheses, often falls to nursing and direct care staff with varying degrees of training and awareness. The same is true in many assisted living facilities (ALFs), where the staffing

patterns and support offered are even less adequate. Many of those providing care in ALFs have less education and training than staff working in LTCFs.

One Emerging Solution in Long-Term Care: MOTIVATE

MOTIVATE, an education and quality improvement program, addresses this identified interprofessional education gap. MOTIVATE stands for ***M****aine's* ***O****ral* ***T****eam-Based* ***I****nitiative,* ***V****ital* ***A****ccess* ***t****o* ***E****ducation*. It provides high-quality education to health professionals, teaching them best practices to help improve oral health for long-term care residents in Maine.

The Lunder-Dineen Health Education Alliance of Maine (Lunder-Dineen) was founded in 2011 as a collaboration between the Lunder family, the Lunder Foundation of Portland, Maine, and Massachusetts General Hospital (MGH). Its vision is to improve the health of Maine residents by advancing the knowledge, skills, and expertise of Maine health professionals. Lunder-Dineen works hands-on with leadership and frontline interprofessional teams at health care organizations across settings. Its three signature programs — MOTIVATE, Time to Ask, and Maine Nursing Preceptor Education Program — address critical public health and workforce issues. Today, Lunder-Dineen is a marquee program of the Peter L. Slavin, MD Academy for Applied Learning in Healthcare, which was founded to serve as an inclusive home for teaching and learning across the health professions.

Since its inception, Lunder-Dineen has been leveraging education to address some of Maine's most important public health and workforce issues. Philanthropic support from both the Lunder Foundation and MGH has allowed Lunder-Dineen to offer its programs to organizations and individual learners in Maine at no cost to participants. Its flagship MOTIVATE program offers a solution by providing evidence-based and practical, actionable oral health education and high-touch support, along with access to experts for health care teams and caregivers of older adults. The program was first implemented in LTCFs, as older adults residing in these settings are often the most vulnerable and at risk. The MOTIVATE program was informed by a pre-program needs assessment of six nursing homes across Maine. Pre-program surveys revealed barriers to learning such as time, money, staff turnover, and staff time to manage, maintain, and update educational program content. The program design addresses the barriers to ongoing learning by providing content, oversight, high-touch support, and heavy lifting for implementation and impact evaluation. The hybrid format provides on-demand online learning content for all health care team members, including nonclinical staff, as well as a live experiential workshop and ongoing practice support and mentoring. It utilizes an ongoing stakeholder approach: Sites form an interprofessional committee and identify champions to lead and influence the rollout and implementation. The program also provides materials in support of ongoing learning, including a manual, oral health supplies for residents, and flyers. Each team member learns how to support oral health care for the residents, including facilities management and housekeeping. Learning acquisition, care delivery enhancements, and resident and family satisfaction measures are collected to evaluate program success. An unintended but welcome benefit to staff is that they learn how to care for their own oral health.

To date, Lunder-Dineen has implemented the MOTIVATE program across 11 nursing homes, reaching more than 1,500 staff who care for more than 1,700 residents while providing more than 1,900 oral health kits. Data measures reveal that the learners are learning what was intended, that they are changing and improving how they care for and/or support older adults, and that they intend to apply what they have they learned.

Expanding the Reach of the MOTIVATE Program to the Community: MOTIVATE at HOME

As mentioned, many older adults at home are supported by families or care partners/caregivers who often feel unprepared for caregiving. Research shows that training caregivers and providing educational materials can reduce their burden, improve efficiency, and enhance oral health outcomes.

With support from CareQuest Institute for Oral Health, the MOTIVATE program was modified for a new audience: unlicensed caregivers of older adults. This newly established program is titled MOTIVATE at Home (MAH). MAH is a free oral health education program for care partners of older adults living at home. It provides seamless and easy access to online learning, podcasts, flyers, and videos. The program aims to help caregivers understand the connection between oral health and overall health, why older adults are at greater risk for oral health problems, steps for maintaining proper oral health care at home, and how to discuss oral health with health care providers. The program also provides a quarterly live Zoom session with a dental expert. Like MOTIVATE, this program was informed by stakeholders, including caregivers of older adults, as part of a pre-program needs assessment. Furthermore, data collected from the MAH pilot also determined that learning was achieved and that caregivers intended to apply what they had learned to support oral care for their care recipients.

At the inception of MOTIVATE, there were more than 110 nursing homes in Maine; widespread closings have now left approximately 79 nursing homes in operation. As more nursing homes in the state close, we will see a continued shift of complex older adults moving to assisted living and/or residing at home where staffing is less ample or nonexistent and the focus is no longer medical in nature. As a next step in MOTIVATE's evolution, and through the recent support

of Northeast Delta Dental, they will bring the program to an assisted living facility in Maine, where the needs are significant and the access to ongoing staff education is limited. Implementation of this new project will take place in 2026 and, for the first time, they hope to offer both programs simultaneously, offering staff training and support for the assisted living team members, as well as public-facing education and resources to residents and their families. Subsequent evaluations of this work will lay the foundation for bringing the programs to additional assisted living centers across Maine. Aspirational goals for the program include bringing the program(s) to settings across the continuum of care.

Keys to Success

Two important program components that have been key to success are the three-pronged implementation model and the on-site champion and committee structure model. The multi-modal implementation strategies extend beyond the curriculum and focus on the application of education. The identification and recruitment of champions and on-site committees to serve as ambassadors for these projects has encouraged internal commitment and investment in the project. The champions and committees are coached to examine opportunities to enhance care. Those closest to the problem/challenge/need are often those closest to the solution. This problem-solving process is accomplished by working as an interprofessional team. The MOTIVATE programs offer proven strategies for enhancing oral health in older adults through staff training and support, with the potential to serve as a regional and national model.

Future Challenges

Raising awareness among individuals and organizations about the critical importance of training caregivers in oral health is a significant challenge. Many organizations are unaware of the severity, prevalence, and risk of overlooked overall health, which is a hurdle to recruitment efforts. Lunder-Dineen invests time in building relationships with potential partners to help them understand the importance of this training, as it can greatly enhance resident care and contribute to staff professional development. Once organizations recognize the issue, they are MOTIVATEd to address this public health challenge.

Integrated Interprofessional Practice at Mayo Clinic Health System (MCHS) — Eastridge and Minnesota State University, Mankato

A Model for Holistic Rural Health Care

Anitha Peddireddy, BDS, MDS, PhD, FAGD

Introduction

Located in the heart of a vibrant rural neighborhood in Mankato, Minnesota, the Mayo Clinic Health System (MCHS) represents a pioneering model of integrated health care. Established in 2019 through a collaboration with Minnesota State University (MSU), Mankato, MCHS brings together dental professionals, primary care physicians, and pediatric health specialists under one roof. This practice was developed in response to the growing need for holistic, team-based care that acknowledges the interplay between systemic and oral health — particularly in pediatric and underserved populations.

The Integrated Team

At the center of the MCHS model is a multidisciplinary team of dental, medical, and pediatric professionals working collaboratively to provide seamless, patient-centered care. Through coordinated services, the team ensures that each patient receives support for every aspect of their health.

The Dental Care Team

The dental care team is led by a general dentist or dental hygiene faculty member who serves as an advocate for the integration of oral and systemic health. The team includes the dentist, dental hygienists, hygiene students,

and Advanced Dental Therapy (ADT) students. This team provides a comprehensive range of services, including exams, X-rays, cleanings, fluoride varnishes, silver diamine fluoride (SDF) applications, sealants, restorations, and simple tooth extractions. Routine screenings for systemic conditions such as hypertension and diabetes are part of their standard protocol, underscoring their commitment to early detection and interdisciplinary collaboration.

The Primary Medical Care Team

Board-certified family physicians and pediatric specialists lead the medical care team. They focus on preventive medicine and chronic disease management, working alongside nurses, medical assistants, and care coordinators. This team delivers services ranging from immunizations and routine wellness exams to managing chronic conditions such as asthma, hypertension, and diabetes. Integrated communication across departments minimizes duplication, catches health issues early, and optimizes patient care outcomes.

Comprehensive Patient Care: A Day in the Life at MCHS

Example 1: Ahmed's Story*

Ahmed, a 45-year-old man with type 2 diabetes, visits MCHS for his annual checkup. During the visit, his primary care physician (PCP) reviews Ahmed's glucose data and blood pressure and notes fluctuations that raise concerns. Ahmed also mentions gum bleeding and increased spacing between his teeth. Rather than treating his diabetes in isolation, the physician coordinates a dental visit for possible periodontal disease.

During the dental appointment — held in the same facility — the dental hygienist confirms signs of gingivitis. If the dentist is available, the diagnosis and treatment planning are completed on-site. If not, intraoral photos and X-rays are securely transmitted to MSU via an asynchronous teledentistry platform. The dentist at MSU then reviews the data, devises a treatment plan, and sends it back. Ahmed is informed of his options, which may include treatment at MSU, a referral to another local dental provider, or care from dental therapy students at MCHS under supervision. The collaboration between Ahmed's PCP and dentist ensures that any changes to his diabetes management take his oral health into account, promoting a truly integrated approach to his care.

Example 2: Sarah's Story*

Sarah, a seven-year-old girl with chronic asthma, visits MCHS for her pediatric wellness exam. Her mother expresses concern about her bad breath, dry mouth (especially post-inhaler use), and visible black spots on her molars. The pediatrician refers Sarah to the dental team after her well-child visit.

During the dental exam, the hygienist finds six carious lesions and initiates a dietary questionnaire and caries risk assessment. She explains how a carbohydrate-rich diet combined with inhaler use and poor oral hygiene contributes to tooth decay. As in Ahmed's case, if the dentist is not available, intraoral images and X-rays are securely sent to MSU for review, with a treatment plan returned to the hygienist. Sarah's family can then decide on follow-up care options, which include MSU, other local dental clinics, or MCHS's Advanced Dental Therapy (ADT) team.

Overcoming Challenges

Despite its success, MCHS has encountered several challenges common to interprofessional settings, including communication between teams and billing insurance for coordinated care. The team has implemented strategic solutions to overcome these barriers:

1. **Interoperable Electronic Health Records (EHRs):** A shared EHR system ensures that all providers can access the most current patient information, including clinical notes, labs, and treatment plans.
2. **Interdisciplinary Team Huddles:** Scheduled on clinic days (Monday, Wednesday, and Friday), morning meetings bring dental and medical staff together to discuss complex cases and share insights.
3. **Insurance Advocacy and Billing Adjustments:** The MCHS team actively engages with insurance providers to create flexible billing policies and advocate for better coverage of integrated care services. These efforts have made care more affordable for patients.
4. **Patient Education and Engagement:** Patients are educated on the connections between oral and systemic health. This proactive communication helps improve compliance and encourages holistic self-care.

Lessons Learned

The MCHS model has yielded several key lessons:

- Clear and consistent interdisciplinary communication is crucial.
- Shared EHRs streamline collaboration and reduce clinical errors.
- Educating patients about the relationship between oral and general health leads to better engagement and outcomes.
- Persistent insurance advocacy is essential to sustainability and access.

*Patient names and identifying information have been changed.

- These lessons not only enhance MCHS operations but can also serve as a guide for other rural health care systems seeking to implement integrated care models.

Conclusion

The partnership between MCHS and MSU Mankato stands as a compelling example of how integrated interprofessional practice can transform rural health care delivery. By bridging traditional silos between disciplines, MCHS ensures that every patient receives comprehensive, coordinated care that addresses both systemic and oral health needs. While challenges remain — particularly in terms of communication logistics and insurance reimbursement — this innovative model continues to evolve, offering a promising blueprint for future rural health care systems. MCHS exemplifies the future of holistic care: efficient, collaborative, and deeply patient-centered.

Municipality-Led Care Integration in Denmark

Oral Health in the Broader Health System

Fábio Renato Manzolli Leite, DDS, MS, PhD

Introduction

In Denmark, interprofessional practice (IPP) is shaped by a decentralized, municipally driven health care model. While dentistry remains largely outside the publicly financed medical system, a growing number of local initiatives are demonstrating how collaboration between oral health professionals and other care providers can improve outcomes. This is especially true for aging populations and people with chronic diseases.

Municipalities are responsible for home care, rehabilitation, elder care, and preventive services, as well as, in some cases, contracts with dental hygienists or clinics to provide care to specific populations. Although integration is uneven across the country, certain regions, such as Odense, Aarhus, and areas in the Capital Region, have pioneered models where dental hygienists are integrated into eldercare teams. In these models, oral health is addressed in conjunction with chronic care. These initiatives are still local and limited, but serve as real, ongoing examples of IPP in Danish community health.

The Integrated Team in Practice

In municipalities like Odense, care teams supporting frail older adults often include general practitioners who are privately contracted through the national health system, municipal nurses and rehabilitation therapists, dental hygienists employed or subcontracted by the municipality, and social workers and home care staff.

These teams meet regularly to assess the needs of older adults who receive home care services or reside in residential care facilities. While dentists are not routinely part of these teams, dental hygienists often function as liaisons. They identify oral health issues that may affect nutrition, medication adherence, or overall well-being. Aarhus Municipality, for instance, has launched efforts to integrate dental hygienists into home-based care visits for older adults who have difficulty with activities of daily living.

A Day in the Life: William's Care Coordination in Odense

William,* a 72-year-old man with type 2 diabetes and cognitive impairment, lives in his own home and receives municipal home care. A nurse notices signs of poor nutrition and refers the patient for a comprehensive interprofessional review.

During a case meeting, the municipal dental hygienist is invited to assess William. The dental hygienist identifies significant periodontal (gum) disease and multiple missing teeth, which contribute to his difficulty eating. They then coordinate with the home care nurse to adjust food texture, refer William to a local dentist under the municipality's eldercare subsidy scheme, and provide oral hygiene training.

Over the next few months, William receives nutritional counseling and a new set of dentures and achieves improved glycemic control. This type of coordination reflects real integration efforts already in place in some Danish municipalities, particularly those prioritizing aging-in-place policies.

*Patient case is an amalgamation of several representative patients and does not represent a single patient.

Systemic Strengths and Challenges

Denmark's health care structure both offers unique opportunities for IPP and poses unique barriers. Among the opportunities, municipal health agencies are legally and financially responsible for a range of services that can naturally support IPP. Digital health records, such as Sundhed.dk, facilitate communication across various care sectors. There is also growing political momentum to expand free dental care to more population groups, starting with children and young adults.

Meanwhile, several challenges remain. Dentistry is still predominantly private, with most practices operating independently. Historically, dental and medical education have occurred in separate institutions. Dental schools in Aarhus and Copenhagen are often geographically distant from hospitals and other health faculties. In Aarhus University and the University of Copenhagen, the fields of dental education and dental hygiene education rarely intersect. As a result, many professionals meet their peers in other disciplines for the first time only during clinical rotations or once they enter the workforce. While students in medicine, nursing, and allied health professions often share clinical training environments, dental education is still mostly conducted in silos. This division limits early interprofessional learning and collaboration. Additionally, legacy financing and practice structures create economic disincentives for older practitioners nearing retirement to transition to integrated models.

Emerging Integration Pathways

Despite systemic barriers, there have been meaningful shifts in practice. Aarhus municipality is integrating dental hygienists into home care teams. Odense runs joint oral health and nutrition programs for older adults. The Capital Region has implemented pilot programs in which medical providers and dental professionals co-manage patients with diabetes or cardiovascular risk factors.

These pockets of innovation suggest that, although Denmark does not yet have a formal national strategy for IPP in oral health, local leadership and shared care priorities can catalyze integration.

Embedding dental hygienists into existing municipal care structures is one of the most effective ways to advance IPP.

Lessons from the Field

Embedding dental hygienists into existing municipal care structures is one of the most effective ways to advance IPP. Shared patient records and colocation, even part-time, help break down silos and normalize collaboration. Patient-centered models are most effective when all aspects of health, including oral health, are considered in care planning. Importantly, dental hygienists' integration has emerged as a critical enabler for achieving universal access to free dental care in the future. The relatively lower cost of training compared to dentists, the expansion of their workforce, and the increasing delegation of preventive and basic procedures to them have all contributed to this potential. Policy momentum surrounding the expansion of free dental care provides a timely platform to broaden integration.

Looking Ahead

As Denmark reforms long-term care and seeks to improve continuity of services for its aging population, integrating oral health into existing municipal teams should be a national priority. Recommended steps forward include creating incentives for private dentists to collaborate with municipal health services and scaling successful pilot models that include oral health in chronic care pathways. There is also a need to invest in public-sector dental roles, especially for dental hygienists. Finally, reforming educational environments to promote earlier, structured interaction between dentistry, dental hygiene, and medical disciplines will also be critical.

Interprofessional collaboration in Denmark is still in its preliminary stages. Yet the structures already in place, particularly at the municipal level, make it possible to move toward holistic, team-based care models that treat oral health as an integral part of overall health. With continued policy support and the sharing of best practices, IPP can become a defining feature of Denmark's commitment to equitable, integrated care.

Singapore's Experience with Oral Health Integration

Lessons from a Centralized Health System

Fábio Renato Manzolli Leite, DDS, MS, PhD

Introduction

Singapore is a compact, technologically advanced island-state with a population of around 5.7 million. Its centralized governance and integrated health care infrastructure make it an ideal environment for systemic health reforms. The Ministry of Health (MOH) oversees three main health care clusters — SingHealth, National University Health System (NUHS), and National Healthcare Group (NHG) — which facilitate coordination and integration across primary, secondary, and tertiary care services.

Singapore's health care system is largely publicly administered but relies on a mixed financing model. Medical care is delivered through a network of public hospitals, polyclinics (government-funded primary care clinics), and private general practitioners (GPs). Public institutions are heavily subsidized and serve much of the population for inpatient and specialist care. Primary care is delivered by polyclinics and private GPs, with efforts under the Healthier SG initiative — a national strategy to strengthen preventive care and family doctor engagement — aimed at shifting more care upstream, meaning earlier intervention through health promotion, disease prevention, and chronic disease management in the community.

In contrast, dental care is predominantly delivered in private practice. Approximately 80% of dental clinics are privately run and operate on a fee-for-service basis. Public dental services are available through institutions such as the National Dental Centre Singapore (NDCS), public hospitals, and select polyclinics; however, access to these services is limited compared to medical services. Dental care is not universally subsidized; most out-of-pocket payments are made directly by patients, unless they are covered under targeted schemes (e.g., for low-income seniors).

These targeted subsidy schemes — such as the Community Health Assist Scheme (CHAS), Pioneer Generation (PG), and Merdeka Generation (MG) packages — do offer financial support for dental care, particularly for the elderly and low-income groups. While primarily designed to improve affordability and access, these schemes are increasingly viewed as potential entry points for interprofessional collaboration when care is coordinated through public or community-based services. For example, although most CHAS-participating dental clinics still operate independently, there is growing alignment with regional health systems under Healthier SG, where integrated chronic disease management could include oral health assessments. Policy momentum is building, especially with the upcoming expansion of CHAS and Flexi-MediSave dental subsidies, which may encourage stronger linkages between dental and primary care providers. However, the impact of these schemes on expanding IPP remains modest and localized, as most dental practices involved still operate independently without embedded care coordination at present.

This structural divide means that dentistry has historically operated in parallel to medicine, with limited integration into the broader health care system. While public institutions, such as NDCS, are well-positioned to lead interprofessional initiatives, many dentists are not yet fully embedded in team-based health care models. This reality limits the scalability of IPP efforts unless deliberate strategies are implemented across both the public and private sectors.

Despite these constraints, Singapore has made meaningful strides toward embedding IPP into several care settings. IPP efforts have involved health care professionals, including dentists, physicians, nurses, dietitians, diabetes educators, pharmacists, occupational and speech therapists, psychologists, and social workers. Patient populations prioritized in IPP include:

- **Patients with diabetes and cardiovascular conditions**, especially in cases where oral health complicates systemic disease control
- **Geriatric patients**, often with multiple chronic conditions and frailty
- **Oral cancer patients** requiring multidisciplinary management
- **Underserved populations**, such as low-income older adults and migrant workers

- **Pediatric populations**, particularly through preventive school health programs

Barriers and Challenges to Interprofessional Practice

Historically, oral health services have been viewed as separate from the rest of the health care system. Most dentists operate independently and refer patients with medical concerns to other professionals, rather than collaborating with them in real time. This leads to fragmented care, missed opportunities for early intervention, and unnecessary duplication of assessments.

Additional barriers include:

- **Limited team-based education:** Undergraduate and postgraduate training in dentistry and medicine continue to occur in silos.
- **Structural and financial separation:** The use of different reimbursement and administrative systems for dental versus medical care complicates integration.
- **Variable readiness among institutions:** While some tertiary hospitals are equipped to adopt IPP, others lack physical space, coordination capacity, or digital integration.

Strategies for Interprofessional Practice

Singapore has responded to these challenges with a multi-layered strategy for expanding IPP across both clinical and community contexts. It includes the following components:

- **Health Promotion Board (HPB) programs:** The HPB leads preventive oral health campaigns in schools and communities involving dentists, dietitians, school nurses, and family physicians. These initiatives emphasize colocated screening and integrated health education.
- **Cluster-level integration:** At NUHS, the National University Centre for Oral Health Singapore (NUCOHS) collaborates with medical teams within the cluster — including those at the National University Hospital — to manage medically compromised patients, such as individuals undergoing oncology or transplant care.
- **Geriatric and nursing home care:** Institutions such as Ren Ci Hospital and St. Andrew's Community Hospital implement IPP in long-term care settings, involving coordinated input from dental teams, geriatricians, therapists, nurses, and social workers.
- **Community health teams and Healthier SG:** As part of the Healthier SG framework, community-based care teams — linked to polyclinics and regional health systems — integrate oral health into strategies for managing chronic diseases and supporting aging in place. Mobile dental units are deployed for homebound individuals.
- **Technology integration:** Shared electronic health records (EHRs) and e-referral platforms across public institutions facilitate efficient information exchange among interprofessional teams.

Implementation of Interprofessional Practice

Singapore's IPP model emphasizes practical integration across various settings, with growing attention to embedding oral health within broader chronic disease management, aging-in-place strategies, and school-based prevention initiatives. Current implementations include:

- **Integrated clinics:** At the NDCS and the NUCOHS, joint clinics manage patients with diabetes, cardiovascular disease, and cancer. Patients receive dental and medical consultations in the same facility, enabling the creation of shared care plans that address both systemic and oral health needs.
- **Geriatric IPP in Community Hospitals:** Teams in hospitals such as St. Andrew's and Ren Ci conduct multidisciplinary assessments for frail older adults, including oral health screenings, nutritional counseling, mobility evaluations, and medication reconciliation. Dental hygienists or outreach dentists collaborate with geriatricians and therapists to ensure that oral conditions do not compromise nutrition or overall health.
- **School-based oral health teams:** Led by the Health Promotion Board, these teams deliver integrated preventive care and health education to schoolchildren. Dental therapists, school nurses, and health educators collaborate on-site to promote both oral and general hygiene, identify developmental issues early, and coordinate care for families who require follow-up treatment.
- **Telehealth and remote collaboration:** These services were significantly expanded during the COVID-19 pandemic to maintain continuity of care for patients with medically complex conditions or mobility limitations. In dentistry, these tools were primarily used for triaging urgent cases, post-operative reviews, and interprofessional consultations involving oral manifestations of systemic conditions. Although usage has declined post-pandemic, telehealth continues to support selected cases in community hospitals, in specialist centers, and for patients requiring follow-up across disciplines. The Ministry of Health envisions an expanded role for telehealth under the Healthier SG strategy, including its use as a triage and referral tool to reduce unnecessary in-person visits and improve integration across disciplines.

- **Mobile dental services:** Mobile units deployed by public institutions and voluntary welfare organizations extend care into underserved communities. These services often operate in conjunction with nursing, social work, and chronic disease teams, particularly under government subsidy schemes such as the Community Health Assist Scheme (CHAS), Pioneer Generation (PG), and Merdeka Generation (MG). Though their deployment has fluctuated, they remain a vital outreach tool in selected populations.

The Ministry of Health's Healthier SG framework is shifting care toward prevention and community-based management, with an emphasis on more integrated, team-based service delivery. Plans include strengthening digital infrastructure, workforce development, and primary care anchoring — all of which open new opportunities for integrating oral health into interprofessional workflows.

Specifically, oral health professionals are increasingly being recognized as key partners in managing systemic disease. National clusters are piloting models that embed dental care in polyclinics and community health teams. Workforce planning efforts are also exploring shared training modules and continuing education formats to better align dentists and medical professionals around common care goals.

While much of dental care remains in the private sector, public institutions are leading efforts to model integration, with the expectation that best practices can eventually influence broader system design. Continued alignment across education, policy, and infrastructure will be essential to mainstreaming IPP involving oral health in Singapore's next phase of health system transformation.

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Interprofessional Practice Outcomes

IPP efforts have demonstrated observable benefits in selected care settings, despite limited formal, published outcome data. Evaluations are often conducted through practitioner feedback, program-level reviews, and structured dialogues such as professional retreats and stakeholder engagement sessions. These forums have helped to shape the understanding of what works and to inform plans for scaling collaboration efforts. Observed benefits include the following:

- **Improved care continuity:** Oral care involvement in chronic disease management has helped reduce treatment fragmentation and improve patient navigation, particularly within public health care institutions.
- **Health equity gains:** Outreach initiatives and mobile teams have expanded oral health services to populations often excluded from regular dental care, including older adults, individuals with limited mobility, and lower-income groups.
- **Professional growth:** Teams report better understanding of each other's roles, leading to stronger collaboration, clearer communication, and more coordinated patient care.

Despite these gains, the integration of dentistry remains uneven. In the private sector, team-based models are rare, and structural barriers persist. Integration is most successful within government-funded systems where institutional leadership, digital infrastructure, and aligned policies support interprofessional collaboration.

Interprofessional Practice Lessons Learned

The following insights stem from Singapore's efforts to advance IPP, especially within the public health care sector. Although shaped by the local context, many of these lessons may be applicable in other countries, with appropriate adaptation to different systems and structures.

- **Start with existing teams.** Rather than building entirely new structures, integration often begins most effectively by expanding the scope of existing clinical or community-based teams to include oral health professionals.
- **Link prevention with chronic disease management.** Oral health integration tends to be most successful when it is closely tied to the management of systemic conditions, such as diabetes, cardiovascular disease, and cancer.
- **Support flexible integration models.** Having professionals colocated in the same facility can facilitate collaboration, but shared protocols, digital communication tools, and clearly aligned care plans also enable effective teamwork across various locations.

- **Ensure leadership engagement at multiple levels.** Institutional leaders play a key role in prioritizing and resourcing interprofessional initiatives. At the same time, sustainable collaboration also depends on the motivation and commitment of frontline providers.
- **Clarify the contributions of dental professionals.** There is often limited awareness of the scope of dental practice among health care teams and policymakers. Opportunities for shared learning help to build mutual understanding and foster effective collaboration.
- **Include oral health perspectives in early-stage planning.** Interprofessional models are most effective when dental professionals participate in the initial design of care pathways, rather than being added later in a supporting role.
- **Build capacity within long-term care settings.** Nursing homes and community hospitals offer robust platforms for integrating oral health into geriatric care and for training professionals in collaborative practice.
- **Leverage public health programs to expand reach.** Initiatives such as those led by the Health Promotion Board illustrate how oral health can be effectively integrated into preventive strategies within schools, workplaces, and community environments.
- **Promote shared educational environments.** Locating health profession schools on the same campus and utilizing common case-based training exercises can help reduce professional silos and foster collaborative mindsets from the initial stages of training.
- **Introduce team-based learning during education.** Forming multidisciplinary student teams to work on real or simulated patient cases supports early understanding of collaborative practice and prepares future professionals for integrated care environments.

These lessons reflect Singapore's evolving journey toward more integrated care. While the specific policies and settings may differ across countries, the core strategies presented here can offer a foundation for expanding oral health integration through IPP elsewhere.

Additional Insights

While still emerging, IPP in Singapore is evolving beyond isolated programs. Dentistry is being gradually integrated into broader care structures, particularly for aging and medically complex populations. The journey remains uneven; most general dental practitioners still operate independently, but the government's commitment to integration under the Healthier SG framework indicates significant potential for change.

As new care models shift toward community health, digital delivery, and prevention, dentistry's relevance within integrated primary care will likely grow. Continued evaluation, stakeholder engagement, and flexible design will be crucial in ensuring that oral health becomes an integral, not peripheral, part of Singapore's interprofessional care system. The integration of oral health into IPP is not just a logistical step. It is a change in thinking that redefines how we view and deliver holistic care.

As new care models shift toward community health, digital delivery, and prevention, dentistry's relevance within integrated primary care will likely grow.

Oral Health Kansas — My Dental Care Passport

Tanya Dorf Brunner, MS; MaryAnne Lynch Small, BDS, MPH; Monica Turner, MHA

Introduction

As a state consumer oral health advocacy organization, Oral Health Kansas is dedicated to driving systems change and increasing access to oral health care in Kansas. The organization works collaboratively with a wide range of partners, from governmental agencies to independent advocacy organizations. Since 2019, Oral Health Kansas has led a collaborative initiative called Pathways to Oral Health (Figure 11). The Pathways initiative focuses on three objectives: increasing the number of Medicaid dental providers, supporting people with disabilities in accessing dental care, and delivering educational programs for both providers and consumers.

Oral Health Kansas and the Pathways to Oral Health team developed My Dental Care Passport, which is a simple yet powerful communication tool designed to improve dental experiences for people with disabilities. The idea for the Passport came from the parent of an adult son with cerebral palsy. They had grown tired of being asked to explain his disability and needs to each member of the dental team at every visit, and they envisioned a communication tool to share their unique needs with a dental office just once. They wanted to share information such as how he communicates, what worked well during past dentist visits, and what parts of the appointment are difficult for him. Sharing such information helps build trust and allows dental teams to make changes to the dental office and appointment plan before the patient arrives. Using the Passport enables the dentist and their team to prepare for the dental visit and increases the likelihood of success.

As of 2025, the Passport is in its third iteration, and each update has been shaped by consumer input and guided by the principles of person-centered care. Each partner described below who was involved in the Passport contributed insights that made it better, reflecting the needs of people with disabilities, the practical concerns of busy dental practices, and the importance of clear, compassionate communication. Both consumers and dental practices report that their confidence increases when they use the Passport to improve communication with each other.

Figure 11. Pathways to Oral Health — A Project of Oral Health Kansas

Key Partners in the Development of the Passport Tool

One key contributor to the Passport's development has been Oral Health Kansas' Lived Experience Advisory Group, which is made up of people with disabilities and their families. Their input has been invaluable in making the Passport relevant and practical. Through personal testimonials and shared experiences, they identified key barriers to accessing dental care and provided recommendations on the types of information that support more effective, person-centered treatment by dental professionals. They also tested the Passport at their own dental offices.

Another key partner has been the Self Advocate Coalition of Kansas (SACK). The organization is made up of people with disabilities who advocate for people with disabilities. SACK was able to ensure that the Passport is compatible with assistive technology and uses inclusive, plain language. From the outset, accessibility for users of varying abilities and communication needs has been a central priority. SACK's contributions have been instrumental in creating a tool that is both usable and meaningful for people with a wide range of abilities.

Other considerations when developing and revising the Passport were the needs and challenges of busy dental practices. Dental teams, including members of Oral Health Kansas's Dental Provider Advisory Group, provided input regarding workflow and efficiency within the dental office. They shared insights about the challenges they face when treating individuals with communication and mobility issues and what strategies they already employ. Based on their input, one of the goals of the third iteration of the Passport was to shorten the document to improve efficiency for dental teams while maintaining the inclusion of important information provided by the patient.

Oral Health Kansas relies on many different organizations and collaborative relationships to distribute the Passport to the people and organizations that can use it. The Kansas Dental Association and Community Care Network of Kansas regularly distribute the Passport and educational resources to their members in order to increase dental teams' confidence in treating individuals with disabilities. Disability support and service organization partners InterHab and Families Together routinely share and promote the Passport within the disabilities community. Unlikely but powerful partners to the Pathways team and the Passport's growth have been the state's three Medicaid managed care organizations (MCOs). Each is a dedicated member of the interprofessional Pathways team and has prioritized the Passport by endorsing its use and training their care coordinators to offer it to their members. Finally, as the Passport is distributed to and utilized by more individuals, the need to study its effects on oral health outcomes is critical. With support from Oral Health Kansas, the University of Missouri-Kansas City School of Dentistry is exploring the development of a research plan to evaluate the evidence base for the Passport.

Successful interprofessional practice is not without its challenges, particularly when the stakeholders are rarely around the same table. The Pathways to Oral Health initiative and My Dental Care Passport offer key lessons in effective interprofessional collaboration to tackle complex health care access challenges. The following is a summary of these lessons:

1. **Center consumer voice.**
   Any successful interprofessional collaborative must start by listening to and elevating the consumer voice. The disability community embraces "nothing about us without us" as a guiding principle. Oral Health Kansas's work to develop My Dental Care Passport exemplifies that principle. People with lived experience should be centered in the process of addressing challenges that affect them. Their input strengthens the work and ensures that it meets real needs. It also ensures genuine buy-in from the consumer community. During meetings, Oral Health Kansas recognizes the risk of patient-provider and consumer-payer power imbalances and ensures that the community voice is given space. Reflecting on the importance of creating a respectful and honest environment, an MCO representative on the Pathways team observed, "Often when in meetings, people are fearful of speaking the truth due to possible perceptions from others. But, because we know everyone there [on the Pathways team] has the same goal, those honest conversations can be had." She also noted that "egos [are] left at the door."
2. **Build and embrace a diverse team.**
   Success depends on bringing everyone to the table who might be affected or who can contribute to the effort. When the Passport was conceived, it was clear that stakeholders needed to include dental providers, disability service providers, Medicaid payers, and people with disabilities and their families. It is rare to bring such a group together, but since each of those stakeholders has a role to play in the system, each needs to be at the table to analyze the issues and collaborate on the solution. All the Pathways team members share a common goal — to develop and promote My Dental Care Passport in order to improve dental outcomes for individuals with disabilities. The group has come to value the diverse perspectives and motivations that contribute to achieving this common goal. It is essential that every stakeholder feels heard and respected, and that they understand their role in the solution.

3. **Lead with intentionality.**
   Navigating a large, diverse group requires planning and intentionality. To help establish buy-in and commitment, Oral Health Kansas asked each organization to identify two champions to represent their organization on the Pathways team. This increases the likelihood of attendance at meetings and accountability for the initiative. Interprofessional collaboration takes time to build trust, align goals, and understand each other's roles. It is important for those organizing the collaborative work to be patient and give each member of the group the time and space they need to align with the project and feel comfortable working with the entire team. The resulting buy-in helps all participating organizations see the value of the work and their role in it. When people feel ownership, they are more fully committed.
4. **Prioritize Partnerships.**
   Respecting the bidirectional nature of partnerships and dedication to mutual benefit, Oral Health Kansas has opened doors to opportunities for sustainability and growth beyond My Dental Care Passport. For example, Oral Health Kansas's relationship with the Kansas Dental Association has led to major Medicaid policy change with the Kansas legislature and the development of a cosponsored webinar series to support dental providers participating in the Medicaid program.

Time and money are the primary challenges in improving and disseminating the Passport. Collaboration necessitates a time commitment to appropriately garner input from partners. To mitigate the challenge, Oral Health Kansas has a project coordinator who establishes clear timelines and frequently checks in with partners. Assigning a dedicated team member and allowing extra time in the planning process helps balance partner contributions with the need to keep the project moving forward efficiently. The work involved in creating and sustaining My Dental Care Passport and the Pathways to Oral Health team requires funding for personnel, partners' time and contributions, promotional materials, and more. While the bulk of the work to identify and secure project funding falls to Oral Health Kansas, all partners understand they have a role to play in supporting the sustainability of the initiative.

When the collaborative work goes well, it is important to share the results and tell the stories widely. By sharing successful efforts with the oral health and disabilities communities, we create opportunities for them to replicate effective strategies and benefit from the groundwork already laid, accelerating progress across communities. Oral Health Kansas and the Pathways team recommend a few key strategies to ensure sustainability of the collaboration:

- Find avenues for each collaborative partner to talk about the interprofessional partnership successes, results, and what comes next.
- Invite others to join the work as the collaboration grows in influence and impact.
- As the team evolves, center the efforts around your shared purpose.

Keeping the collaborative purpose tangible helps sustain momentum, deepen commitment, and inspire others to join in building a broader, more effective interprofessional effort.

By sharing successful efforts with the oral health and disabilities communities, we create opportunities for them to replicate effective strategies and benefit from the groundwork already laid, accelerating progress across communities.

Interprofessional Practice Activities at Oral Medicine Clinic/Care Center for Persons with Disabilities at Penn Dental Medicine, University of Pennsylvania

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Introduction

The Oral Medicine Clinic at Penn Dental Medicine, established more than 60 years ago, is renowned for delivering high-quality clinical care to patients with complex oral medicine needs, including those with significant medical comorbidities requiring dental treatment. The clinic, along with the Care Center for Persons with Disabilities (also known as the Personalized Care Suite), is staffed by a multidisciplinary team that includes oral medicine specialists, general dentists, anesthesiologists, oral and maxillofacial surgeons, oral and maxillofacial radiologists, and a nurse practitioner.

Many of our patients require coordinated care from various medical specialties including rheumatology, dermatology, otorhinolaryngology, hematology/oncology, cardiology, pulmonology, and neurology. While these specialists may not be located within the dental clinic itself, they are all part of Penn Medicine and within a two-mile radius, allowing for streamlined collaboration and timely consultations. This proximity ensures that patients receive comprehensive, integrated care, and fosters effective communication among providers, ultimately enhancing patient outcomes.

Key Focus Areas of Interprofessional Oral Medicine Practice at Penn Dental Medicine

1. **Oral Manifestations of Systemic Diseases**
   Examples include patients with Crohn's disease, who may present with cobblestone or pebble-like oral mucosa or linear ulcers, and those with pemphigus vulgaris, who develop oral bullae and shallow ulcers. These manifestations require a collaborative diagnostic and treatment approach between oral medicine and relevant medical disciplines.
2. **Dental Treatment for Medically Complex Patients**
   We treat patients with medical complexities at Penn Dental Medicine. Examples include persons at risk of infective endocarditis, or those with end-stage liver, cardiac, or renal disease requiring invasive dental procedures. Strict protocols are followed to minimize the risk of medical emergencies, and if an emergency does occur, our clinicians are trained in emergency response to stabilize patients until the emergency medical team arrives.
3. **Facial Pain Management**
   Patients with orofacial pain, including neuralgias, headache disorders, and temporomandibular joint disorders, are managed through a collaborative model involving oral medicine and orofacial pain specialists and pain management services.

Our oral medicine residents rotate through various Penn Medicine departments — including internal medicine, otorhinolaryngology, dermatology, pain clinics, oral and maxillofacial surgery, and anesthesiology — to gain interprofessional experience. They also cover inpatient consultations, complete oral evaluations for patients with complaints of oral symptoms, and conduct dental evaluations prior to procedures such as cardiac surgery.

Additionally, we frequently receive outpatient referrals from hematology/oncology and other specialties for dental evaluation prior to procedures such as bone marrow transplantation.

Electronic Health Record (EHR) Integration

Faculty members in the Oral Medicine department have access to patient EHRs via the EPIC system, ensuring continuity of care. Access occurs only following patient consent.

Comprehensive Patient Care at the Oral Medicine Clinic and Personalized Care Suite

Case 1: Dental Clearance Prior to Autologous Bone Marrow Transplant

A patient, referred by their hematologist/oncologist, presents for dental evaluation prior to an autologous bone marrow transplant.

Step 1: Pre-Visit Coordination
Before the patient arrives, we request and review the encounter notes and laboratory results — particularly platelet and neutrophil counts — obtained within 24 hours of the visit. We also assess the transplant conditioning regimen (chemotherapy, radiation, or both) to anticipate risks of bleeding and infection. Additionally, we review the hematology/oncology care plan.

Step 2: Dental Visit and Procedure
Upon the patient's arrival, vital signs are recorded, an oral exam is conducted, and radiographs are taken. If acute or chronic infections are present, especially those likely to worsen with immunosuppression, we coordinate with the referring team to manage the patient's severely low platelet or neutrophil levels through transfusion prior to dental treatment and antibiotic coverage during and after the dental procedure. Dental procedures are then scheduled on the same day as the transfusion.

After completing the necessary dental treatment and eliminating infection sources, we provide clearance and refer the patient back to the hematology/oncology team. We also offer guidance for oral care during and after transplant, encouraging follow-up visits in the stable post-transplant period.

Case 2: Patient with Mucosal and Cutaneous Lesions

A patient, who was referred by dermatology with skin-biopsy proven pemphigus vulgaris, presents for evaluation of mucosal lesions.

Step 1: Oral Medicine Consultation
Upon the patient's arrival, a general survey is completed and vitals are obtained and recorded. A comprehensive history is documented and physical examinations, both extraoral and intraoral, are completed with the patient. The patient's current management plan for the pemphigus vulgaris is reviewed. Patient consent is obtained to access medical records and streamline coordination of care between our team and the dermatologists. A follow-up appointment is scheduled.

Step 2: Post-Visit Coordination with Dermatology
The dermatologist is contacted to review the current management plan and to discuss treatment options for the mucosal involvement of the pemphigus vulgaris. Once finalized, the patient is contacted, the plan is reviewed, and the patient is encouraged to maintain compliance and return for continued surveillance of the condition.

Challenges and Barriers

1. **EHR Access Limitations**
   One of the main challenges arises when patients are referred from outside Penn Medicine, Children's Hospital of Philadelphia, Jefferson, Temple, and Mainline Health Hospitals, where we have access via EPIC to consented patients' EHR. This can delay care and hinder coordination with external providers.
2. **Timing of Medical-Dental Coordination**
   Patients requiring blood product transfusions (e.g., for bleeding disorders) who are outside the Penn system — or receiving care at other Penn sites — may face logistical challenges. Time-sensitive coordination between transfusion and dental procedures can be difficult. To address this, we are developing an in-house transfusion area within the Personalized Care Suite, leveraging the presence of an on-site nurse practitioner.
3. **Insurance and Financial Barriers**
   Some patients, particularly those with limited income or no insurance, struggle to access needed care. To help bridge this gap, we have internal funding sources that subsidize treatment for eligible patients. A patient navigator is also available to help connect patients with medical and social resources.

Lessons Learned

Shared access to EHRs is critical to interprofessional collaboration and timely, effective patient care. EPIC access to oral health providers has significantly contributed to the success of our patient care model.

Shared access to EHRs is critical to interprofessional collaboration and timely, effective patient care.

Valleywise Health — Maricopa County, Arizona

Christopher Brendemuhl, DMD, CDIPC

Introduction

As the only public health care system in Arizona, Valleywise Health (VH) has provided services predominantly to underserved, low-income, and ethnically diverse populations for nearly 150 years. Our mission is to provide exceptional care, without exception, every patient, every time. Our facilities include the VH Medical Center, five dental clinics, three inpatient and three outpatient behavioral health clinics, the largest Ryan White HIV/AIDS program in Arizona, the second-largest burn hospital in the US, and 12 Federally Qualified Health Centers (FQHCs). VH is home to the Refugee Women's Health Clinic (RWHC), which cares for more than 9,000 women from 64 countries representing 62 languages. We provide training to more than 350 residents each year across over a dozen disciplines. With a focus on health disparities and patient-centered care, VH is dedicated to addressing the social drivers of health (SDoH) for patients and families. As a safety-net hospital, 75% of all VH ambulatory patients are racially/ethnically diverse, more than 40% of all patients are served best in a language other than English, and nearly 80% are low-income, making them eligible to receive services paid through Arizona Medicaid (AHCCCS) or another form of government insurance. The vast majority of VH patients are affected by the SDoH, including those that influence economic stability, education, food, housing, transportation, and safety.

Valleywise Health Dental Department

Within our FQHC network, VH operates five dental clinics that provide preventive, restorative, and surgical dental procedures to adults and children, with a focus on integrating oral health into overall primary care. The VH Dental Department receives more than 24,000 patient visits annually. We provide services to anyone who enters our doors, including children, refugees, and uninsured/underinsured adults, with the goal of having patients establish a dental home. At times, we provide emergency dental treatment in the hospital setting for medically compromised patients and those who cannot be treated on an outpatient basis due to the severity of their medical condition.

Integration of Interprofessional Education and Practice

Utilizing a model of practice that has been shown to be very successful in integrating medical and dental care at the VH McDowell clinic, dentists, hygienists, dental students, and staff are expected to engage with interprofessional partners within our Community Health Centers to increase their knowledge and quality of integrated care throughout their program. Referrals, requests for consultations, and requests for dental treatment or dental clearance arrive regularly through secure emails to dental staff or communications through our shared electronic medical record from the VH Behavioral Health, ENT, Pediatric, Ob/Gyn, Oncology and Orthopedic departments. In addition, consult requests from the emergency department and inpatient medical center are received through our integrated medical record. These dental professionals collaborate with the medical teams to facilitate dental care in an inpatient, interdisciplinary setting to address the needs of medically complex and culturally diverse patients.

Valleywise Community Health Center — McDowell

The Valleywise Community Health Center — McDowell is the largest provider of services to patients living with HIV in Arizona, serving approximately one in five people living with HIV in the state. The clinic provides primary outpatient medical care, including prevention, early intervention, and outpatient treatment to those at risk of or infected with HIV. It is a National Committee for Quality Assurance (NCQA)-recognized Patient-Centered Medical Home (PCMH). As part of the integrated care model, the McDowell clinic pairs primary medical care with care management, behavioral health, and dental services. Colocated with community support organizations and an HIV-specialty pharmacy, it is a comprehensive and welcoming clinic that meets many of our patients' needs. It is a unique clinic, developed intentionally to blend specialty care (e.g., management of HIV as an evolving epidemic, complex treatment and management of comorbidities) with primary care (e.g., providing full-spectrum care as a PCMH) and community involvement (e.g., Ryan White agencies, partnership with Rapid ART, HIV Undetectable = Untransmittable (U=U), and Ending the HIV Epidemic programs).

The dental team at McDowell consists of two general dentists, one dental hygienist, and four certified dental assistants. They offer both episodic/emergency and comprehensive dental care for our patients. The intention is to create a dental home that is connected to and fully integrated with their medical home. The team is led by general dentists who are well versed in the connection between oral health and overall health, especially in the setting of HIV care. Oral lesions are often among the earliest and most significant indicators of HIV infection. Their prevalence has been estimated to be between 30%–80% of patients. They can indicate a drop in CD4+ cells and a rise in the HIV viral load, acting as an indicator of disease progression.[1] In an integrated care setting, the dental team may often be the first to spot signs of this progression and can link patients to urgent follow-up with their medical provider as needed. Conversely, as medical providers may be less familiar with the management or diagnosis of oral lesions, being able to consult an oral health professional can be invaluable in increasing the quality of care.

Comprehensive Patient Care: A New Patient Example

Visit 1

When new patients are referred to the McDowell clinic, their first appointment is a one-hour intake appointment with a behavioral health specialist or care coordinator. In this visit, the provider reviews the patient's history of illness, screens for SDoH, addresses patient concerns or challenges, and provides education and support for the patient. Patients are given a welcome packet that lists all the services available to them and reinforces the education provided during the visit. If patients express current concerns (such as an urgent dental issue), they can be connected to the appropriate care team and scheduled for a priority appointment. Prior to dismissal, the patient is scheduled for their next visit with their medical/HIV provider. Patients are also often linked to central eligibility services and case management as appropriate. There, the clinic will determine their eligibility for programs such as the Ryan White dental program, and enroll them as appropriate, to ensure access to high-quality care.

Visit 2

The patient's second visit is a one-hour visit with their medical provider. During this visit, the provider establishes care, provides patient education and support, creates a treatment plan, and addresses any current needs (including prescription medications for HIV and other conditions). At the end of this appointment, a care coordinator can walk the patient to the HIV-specialty pharmacy that is located on-site and make sure they receive their medications. As part of the standard new patient visit, the medical providers ask about current dental concerns, conduct a visual assessment of the oral cavity, and document any needs. If the patient does not have a dental home, they are given information about our dental services right there in the clinic. If the patient expresses desire to be seen in the dental clinic, then warm handoffs can be made to ensure they get scheduled. Referrals to other specialty services or behavioral health services are provided at this visit as well.

Visit 3

At the patient's first dental appointment, they are checked in for their appointment and brought back to the operatory. A dental provider will review their medical history, asking questions specifically about their HIV status and medications. As part of the shared electronic medical record, the dentist can see an up-to-date medication list, recent encounters with the medical office, and most recent lab results (CBC, HIV viral load, CD4+ count, etc.) and can review with the patient their risk factors for dental problems. Generally, the dentist completes a comprehensive dental examination (including radiographs) and generates a treatment plan. As part of the standard intra/extraoral exam, particular care is given to screening for oral manifestations of HIV, which may indicate immune dysfunction. Any pertinent results or concerns can be shared directly with the medical team using the shared medical record.

Overcoming Challenges

Providing comprehensive oral health care for people living with HIV requires more than just clinical expertise; it demands a deep understanding of the unique challenges they face, from stigma and fear to logistical and financial barriers. Addressing these issues holistically is essential to delivering equitable, compassionate, and effective care. The following outlines key considerations and strategies that have proven successful in supporting this community.

Stigma: HIV-related stigma can negatively affect the oral health of patients living with HIV, often leading them to delay dental care or avoid it altogether. They may feel unsafe disclosing their HIV status to new providers, unsure if they will be treated differently or fairly. It is paramount that we create a safe and welcoming space for both patients and providers to speak openly about the full medical history and to review risk factors. Our patient rooms were designed to be private, allowing for sensitive conversations to occur more easily without fear of being overheard. We are very protective of patient privacy. Patients also understand that because the dental clinic is a part of their HIV medical clinic, we are knowledgeable about their condition and are best equipped to offer them safe, welcoming, and exceptional quality care.

Fear of the Dentist: Many patients have had bad experiences with health care, and with dentistry in particular. While this is not necessarily unique to our HIV population, our patients are often affected disproportionately by issues such as mental health disorders, substance use disorder, or difficulty trusting health care providers. Having a dental team that is familiar with trauma-informed care and understands the needs of the HIV community is critical to success.

Communication: Even though our offices are colocated, the dental office is on a separate floor from the medical clinic. It would be easy to visit one and not realize the other was available, so it is imperative that our medical providers and staff include oral health in their standard discussions and recommendations. It also means streamlining referrals so that patients don't get lost to follow-up.

Integrated Electronic Medical Records: While the dental department has a separate electronic dental record (Dentrix), they also operate within a shared electronic medical record (EPIC). This allows for coordination of care and appointment times, and for better communication of medical history, allergies, and prescriptions. In addition, it provides a secure way for our colleagues to communicate when questions arise, or when follow-up is needed.

Financial Barriers: Dental care can often be prohibitively expensive for patients. The Maricopa County Ryan White Part A program has long operated a robust oral health care program, administered by a dental insurance company locally (Delta Dental of Arizona). Care managers can check patient eligibility and make referrals to enroll patients in dental coverage that may pay for their services. For those who don't qualify for the Ryan White Part A coverage, our health care system has a sliding fee scale based on the federal poverty level, ensuring access for those without resources. VH also accepts many public and private forms of insurance. It is part of our standard practice to not turn away patients based on inability to pay, especially for urgent or emergent cases.

Lessons Learned

Through 35+ years of existence, the McDowell clinic has learned many lessons. Much of our success in interprofessional practice and integration stems from hard-wiring oral health into our standard practices. Our medical providers ask about oral health and dental homes as part of their standard intake and well-visit checks. The shared medical record allows us to communicate and refer with ease and ensure that patients do not get lost in the shuffle between offices. We have learned that easy lines of communication and encouragement of collaboration and consultation between providers have led to increased patient satisfaction and higher retention in both medical and dental care within the integrated clinical setting.

Conclusions

The Valleywise Community Health Center — McDowell is a model of medical-dental integration in a patient-centered medical home for patients living with HIV. Efforts to break down professional silos and increase interprofessional practice have enabled us to remove barriers to care, meet our patients where they are, and provide a higher quality of care and patient experience. These outcomes would not be possible without motivated and knowledgeable champions on both medical and dental teams, as well as support and buy-in from both leadership and support staff.

References

1. Ji-Hyun Kim and Min-Ji Kim, "Oral Manifestations of Human Immunodeficiency Virus Infection: Early Diagnostic Indicators," *Journal of Oral Medicine and Pain* 49, no. 3 (September 2024): 65–70. https://doi.org/10.14476/jomp.2024.49.3.65.

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