

Understanding collaborative dental hygiene practice in Minnesota

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Background

An acknowledged crisis exists in America's oral health system as traditional oral health delivery models have been unable to meet the needs of many. The uninsured, the underinsured, and vulnerable children and adults, including low-income, disabled, institutionalized and homebound individuals, suffer a disproportionate burden in accessing dental care.

Workforce policies have had little success in meeting the demand for educating, training, and retaining dental professionals in dental professional shortage areas. The U.S. Surgeon Generalⁱ and oral health policy experts are calling for reforms to “get dentistry out of its care delivery silo,”ⁱⁱ so care is provided in more easily accessible, community-based locations. Many states have eased restrictions by permitting direct access to providers, facilitating alternate care delivery models rooted in community settings, and deploying the dental workforce in innovative ways.^{iii,iv} As of 2018, 42 states (including Minnesota) permitted various levels of “direct access” by hygienists with varying scopes, supervision levels, and allowable service locations and procedures to extend the reach of oral health providers.^{v,vi}

In 2001, Minnesota passed legislation enabling licensed dental hygienists to deliver dental care outside of clinics and in community settings without the presence of a licensed dentist, but under a written agreement with a dentist. Per state statute, this is known as *collaborative practice authorization for dental hygienists in community settings*.^{vii} For the purpose of this report, we refer to the practice as collaborative dental hygiene practice, and the hygienists who participate in it are referred to as collaborative practice dental hygienists or collaborative practice hygienists.

In 2017, Minnesota updated its collaborative dental hygiene practice laws to clarify the settings in which care can be delivered. The update removed the practice hours requirement which opens collaborative practice to more dental hygienists, especially recent graduates interested in practicing under this authority.^{viii} Minnesota law now also permits collaborative practice hygienists to perform their full scope of duties as permitted under general supervision.

Despite these changes in law, collaborative dental hygiene practice is relatively unknown and misunderstood, and is an under-leveraged workforce model for opening access to dental care in Minnesota communities. This report explores the reasons for this under-utilization, as well as how those doing the work are providing care.

The collaborative practice agreement

Collaborative dental hygiene practice refers to a formal agreement between a licensed dentist and a licensed dental hygienist to commit to collaborating professionally. The agreement provisions include:

- the roles and responsibilities of each professional collaborator
- how they will work together
- the specific procedures, patient types and standard protocols that need to be followed by the dental hygienists when practicing in communities settings

A dentist engaging in collaborative practice commits to providing clinical supervision and guidance on assessment and treatment planning, thereby accepting responsibility for the services performed by the collaborating dental hygienist. The agreement empowers the

participating hygienist to provide preventive oral health services outside the dental clinic without a dentist present on site.

Under a collaborative agreement, Minnesota hygienists are permitted to practice in a variety of community settings. Community setting simply denote any location outside the traditional brick-and-mortar dental clinics, such as schools, nursing homes hospitals, group homes, state-operated facilities, Head Start programs, and non-profits that serve the underinsured and the uninsured.^{ix}

Each collaborative practice agreement can be as broad or narrow in scope as the participating dentist and hygienist decide. One licensed dentist may maintain four collaborative agreements with hygienists at a given time. Per Minnesota law, collaborative dentists are not obligated to take on patient referrals into their practices from their collaborative practice dental hygienists.^x

Eligibility

Dental hygienists are required to be licensed by the Minnesota Board of Dentistry to practice in Minnesota. To meet licensure requirements, an individual must graduate from an accredited dental hygiene program and pass written and clinical licensing exams. Currently, colleges and universities in Minnesota offer both an associates and a bachelor's program in dental hygiene.

As noted above, with the updates to the Minnesota law in 2017, no additional hours of practice or education are required for a dental hygienist to be eligible to enter into a collaborative practice agreement. Any licensed dental hygienist can enter into a collaborative practice agreement and offer care in community settings.^{xi} While a collaborative practice dental hygienist is authorized to provide the full scope of dental hygiene services (for more, see the following section) there are several factors that determine the services the collaborative practice hygienists offer, as well as the set-up and billing arrangements. Additional details on these are presented in Section IV.

Scope of practice

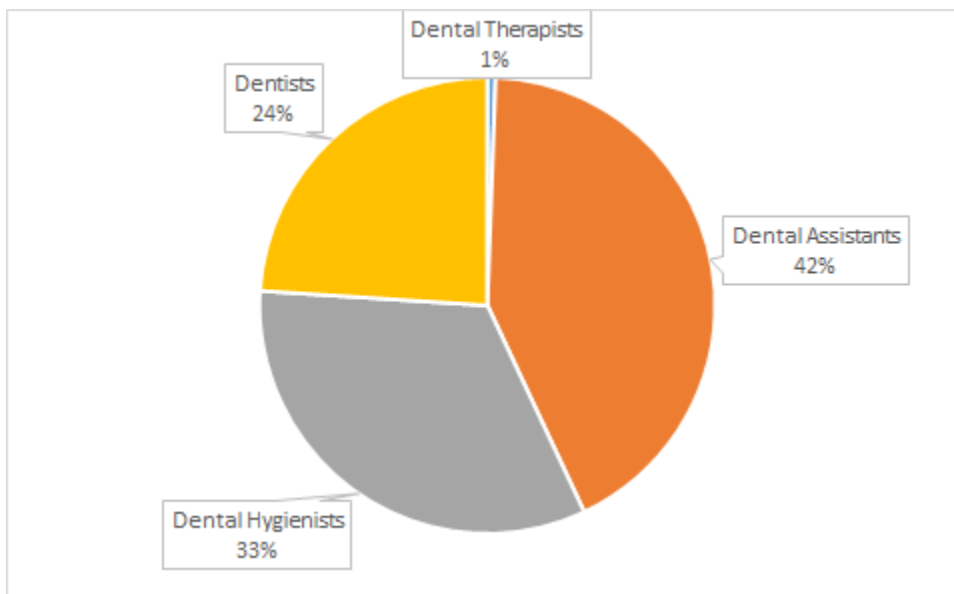
Dental hygienists are key frontline dental public health providers. They are trained to provide prevention, education and therapeutic services that are non-restorative and non-surgical to protect and improve the health of the mouth, thus enhancing overall health. Dental hygienists working under a collaborative agreement are authorized to assess patients under the general supervision of a collaborating dentist i.e., the dentist does not need to be present physically in a community setting to examine the patients first.

Key services that collaborative practice dental hygienists can provide include initial assessments of the mouth, cleaning of teeth and gums, placing sealants, developing dental hygiene treatment plans and oral health education, triaging mouth problems, making arrangements for emergent and continuous dental care, and following up with patients.^{xii}

Minnesota's dental hygiene workforce

Dental hygienists in Minnesota are well-positioned to help address the demand for oral health services in Minnesota. Collectively, they make up 33 percent of the oral health providers (see figure below) in Minnesota.

Figure 1: Minnesota’s Licensed Oral Health Providers, 2020



Minnesota has nine accredited dental hygiene education programs that graduated approximately 160 students in 2020 trained in oral health and disease prevention. As of 2020, the state had 5,553 actively practicing hygienists. Theoretically, there are enough actively licensed dentists (3,899 as of 2020) to enter into collaborative agreements with these actively practicing hygienists, since one dentist can enter into a collaborative agreement with up to four dental hygienists.

Currently, however, only four percent of Minnesota’s dental hygienists practice under a collaborative practice agreement. Of this four percent who have these agreements, the majority (69%) report using their agreement frequently or all the time.^{xiii}

Despite a pool of ready and able practitioners, Minnesota has not realized the benefits of collaborative practice that other direct-access states have seen.^{xiv} Collaborative dental hygiene practice in Minnesota remains an underutilized and an under-leveraged practice for extending oral health access.

The study

Objectives

Given the low utilization of collaborative dental hygiene practice and the persistent oral health access challenges facing the state, MDH conducted a qualitative study to:

- better understand the collaborative dental hygiene practice in Minnesota,
- uncover factors that facilitate or impede the use of this practice; and
- recommend policies that encourage the adoption of this practice both by oral health clinicians and by community members.

This report documents the current state of collaborative practice dental hygiene, notes practice facilitators and barriers, and includes recommendations to further strengthen this practice based on the lessons learned from this study and available literature in the field.

Methods

To better understand collaborative dental hygiene practice in the state, MDH used purposive and snowball sampling to identify clinicians and organizations that were engaged in delivering dental hygiene services using this model, and who were also readily and conveniently available to recruit. During the fall of 2017, MDH interviewed 22 professionals, including dental hygienists, dentists, and program managers. The majority of study participants worked for non-profit organizations, and one worked for a for-profit organization. MDH developed a semi-structured interview questionnaire (attached in appendix). Interviews were conducted in person and over the phone. Interviews were recorded, transcribed, and analyzed using the ATLAS.ti software. Confidentiality of the participants was ensured and the data were saved in password protected devices. Participants were acknowledged for their valuable contributions. Findings from the study were triangulated with other data sources (noted as applicable) to corroborate what was learned, deepen our understanding of the findings, and enhance proposed recommendations.

The study was jointly executed by MDH's Oral Health Program and Office of Rural Health and Primary Care. It was funded by a federal grant from the U.S. Health Resources and Services Administration (HRSA).^{xv}

Findings

The study found many ways to set up and operationalize collaborative practice including variations in organizational configuration, billing mechanisms and workflows to deliver services. The following sections describe the characteristics of collaborative dental hygiene practice that emerged from the qualitative study.

Characteristics of collaborative dental hygiene practice

Based on the study, the three pillars of collaborative practice are:

- the participating dental hygienists who provide dental care in community settings
- the collaborative dentists who sign collaborative practice agreements
- community partners that serve as host sites for care, provide access to patients and other support as needed to practices

Study participants considered dental hygienists as foundational to the success of collaborative practice.^{xvi} They noted that:

- Because hygienists were uniquely skilled in preventive dental care and oral health education, care provided by them helped prevent or delay the need for fillings and complex procedures, and avoidable ER trips for non-emergency dental care. For services beyond their scope, collaborative practice hygienists built networks with local dentists and appropriately made referrals to ensure care continuity.

- By bringing care into the community and opening more points of entry for oral health care, collaborative hygienists alleviated transportation challenges faced by the more vulnerable populations, such as older adults, people with special needs, and children who need special accommodations to keep their appointments and get clinical care.
- By practicing in community settings, collaborative practice dental hygienists optimized the available dental resources in the community by offering timely preventive services and effectively triaging patients and identifying those who were most in need of care that only a dentist could offer.
- Embedding services right in the community helped shift patients' attitudes about seeking dental care only when in pain to building a foundation of oral health knowledge, an understanding of the importance of preventive care and the roles patients can play in their own oral health.
- Collaborative practice hygienists played an important role in building and nurturing relationships with partners in the community. Successful relationships were seen by all as an important determinant of success.

In addition to dental hygienists, the participation of dentists and their willingness to enter into collaborative practice with hygienists was a critical pre-requisite to enable hygienists to provide care in community settings. Their participation is imperative for wider adoption of this oral health workforce model.

Community partners were the third pillar critical to successfully delivering oral health services in non-clinic settings. Community partners included schools, churches, nursing homes and other care sites eligible under the state's collaborative dental hygiene practice act. These partners contributed staff time, resources, space, and, most importantly, access and connections to patients needing care.

All study participants emphasized the need for role clarity, open communication, and trust among the three players as central to an efficient and effective practice.

Practice set-up/billing

The study found that collaborative practice configurations and sizes varied widely. Practices were organized and structured based on the unique needs, abilities, and willingness of all parties.

Below are two scenarios we found of how practices were set up. Both had implications for billing:

1. A licensed dental hygienist employed at a clinic and interested in collaborative practice entered into a collaborative practice agreement with a dentist on staff at the same clinic. The participating hygienist then went into the community (such as to schools and nursing homes) to deliver services.
2. A licensed hygienist who worked as a contractor/freelancer with an interest in collaborative practice, entered into a collaborative agreement with an unaffiliated dentist (often a solo practitioner or a staff dentist in a different group dental practice).

In both scenarios, the collaborative dentist was responsible for clinical oversight and provided supervision, but mechanisms for billing for services differed.

- In the first scenario noted above, the collaborative dentist or his/her clinic is billed for services provided by the collaborative practice dental hygienist-employee who delivered care in the community setting.
- In the second scenario, the collaborative practice hygienist registered a non-profit and used that entity for billing for all dental hygiene services provided in community settings. Note: collaborative practice hygienists do not need to register a non-profit to provide care in the community. The non-profit simply functions as a billing entity for collaborative hygienists whose dentists aren't able to assist with billing.

Service delivery

Collaborative practices can be as flexible and focused as the partners to the agreement decide in determining what populations to serve or services to offer. The three key distinguishing service delivery features across the collaborative practices that participated in the study included: the populations served by the practice; the oral health services provided by the collaborative hygienist; and back-office operations to efficiently deliver care.

- In our study, many collaborative practices focused on a specific population such as children, the elderly, or those with special needs. Almost all focused on serving people with low incomes. Note: Collaborative practice dental hygienists can serve all Minnesotans; there is no requirement that collaborative practice hygienists only focus on low-income or public program beneficiaries.
- In terms of oral health services, most collaborative practice hygienists offered dental sealants, X-rays (radiographs) and fluoride varnish. They provided oral health education to patients and caregivers to empower them to take charge of their oral health. Variations in services offered were influenced by many factors, such as: the needs of the community members; technology; space availability and constraints that determined whether some dental equipment could fit in care settings etc.
- The study found that key administrative operations such as record keeping, patient tracking, obtaining consent forms, payment collection and claims submission, and case management were critical to the efficient delivery of care. Keeping records of service and tracking equipment logistics, dates/frequency of services, internal and external communications and other day-to-day operations were important for program consistency. While these tasks were often part of work performed in dental practices, they were more complex when delivering care in community settings. Hygienists delivering care under collaborative practice instituted rigorous follow-up processes, often in combination with their community partners. Many also tracked patients for 6-month recall visits for care continuity. Collaborative practice hygienists who ran their own non-profit needed to play many other roles, including working the back-office operations to ensure successful care delivery.

Financing

While the study did not focus on financial viability, study participants shared their use of a range of financing and billing approaches, and noted administrative burdens related to billing.

- Insurance reimbursement for dental hygiene procedures was a major source of funding, and maximizing allowable reimbursement was key to keeping practices afloat. The low-to-no reimbursement levels by public and private insurance for some hygiene services in Minnesota was a financial barrier.
- Dental hygienists in collaborative practice who formed their own non-profits relied on multiple revenue streams to sustain themselves. Many got their initial funding in the form of grants and continued to rely on “soft money” and donations in the form of time, money, equipment, or supplies, to offset costs to sustain themselves.
- In cases where the hygienist was employed by the collaborative dentist to provide services in the community, the hygienists would bill under their collaborative dentist’s National Provider Identifier (NPI) number as the “pay to” provider.
- Hygienists who practiced independent of their collaborative dentists billed under a non-profit entity or through an affiliated healthcare facility’s NPI number.
- In discussions with hygienists outside of the study, many shared that the dentist’s clinic needed to process these collaborative services claims separately to pay the hygienists, leading to additional delays in payments.

Legal

A written collaborative agreement with a licensed dentist is necessary before a dental hygienist can deliver care in any community setting. It is important to note that under Minnesota law, a licensed dentist may enter into a collaborative agreement with up to four dental hygienists, each collaboration requiring its own agreement. Other legal findings from the study were:

- Under Minnesota law, collaborative dentists are not required to take on patients referred to them by their collaborative hygienists unless they choose to. This has implications for patient care continuity, especially when patients are low-income or reliant on government programs for oral health care.
- Providing a ‘consent to treatment’ form advising the patient that the dental hygiene services provided do not substitute for a dental examination by a licensed dentist, was a requirement before the provision of any services.

Facilitators and barriers of collaborative practice dental hygiene

This section describes key facilitators and barriers of collaborative practice dental hygiene based on findings from the study as well as insights from related outside research that triangulate our findings. Responding to the barriers and strengthening the enablers have the potential to accelerate the adoption of this practice among the dental community and beyond.

Key facilitators

An adaptive model

The adaptability and flexibility of collaborative practice dental hygiene is its greatest strength. The practice configurations are all adaptable based on the willingness, resource availability and commitment of the collaborative hygienist and the dentist. Configurations can vary in the set-up and billing arrangements; roles played by the hygienist, the dentist, other members of the oral health team, community partners; services offered; community locations where care can be delivered; and patient referral pathways, etc.

Equipment/technology

Portable dental chairs and radiographic equipment, or mobile dental vans outfitted with needed dental instruments and supplies were a tremendous benefit in providing services and care in the community. Some study participants also noted the use of electronic dental records, video cameras and HIPPA-compliant telehealth platforms to communicate in real time with their collaborative dentist for clinical assessments to provide patient care in an efficient manner.

A resilient mindset

Participating dental hygienists shared that initiative, drive and a problem-solving mindset were key to building a thriving and fulfilling practice. Resiliency helped them face challenges and learn lessons from their mistakes. Other essential 'enablers' to practicing in a collaborative arrangement were excellent communication skills, ability to multi-task, ability to nurture partnerships and build relationships, creative thinking, ability to deal with uncertainty, and developing role clarity so all on the team could be productive.

Practice expansion for dentists

In talking with other dentists outside of the study, some shared that they saw collaborative practice as an opportunity to expand their dental practice and their patient base (including both public and private pay patients, since collaborative practice hygienists are not limited to only serving participants on public programs) if they chose to take on the referrals made by their collaborative hygienists or other collaborative hygienists in the area.

Career path for dental hygienists

Collaborative practice hygienists reported high career satisfaction from working in the community, providing care somewhat autonomously and at the top of their license, and working in a dental care team with themselves in a leadership role. Collaborative dental hygiene practice could be a career path for mission-driven hygienists, and a potential recruitment and retention tool for dental practices wanting to employ and retain passionate, strategic, self-starter dental hygienists.

Key barriers

Start-up challenges

A major start-up barrier for hygienists interested in providing care in community settings was finding a dentist willing to enter into a collaborative agreement. One of the commonly cited reasons was that many in the dental community, including the dentists, were and continue to be **unaware of or misinformed about collaborative practice**. An overarching concern shared by dentists outside of the study was **professional liability concerns** that prohibited many from signing collaborative agreements. Community partners too, varied in their understanding of the unmet need for oral health in their communities, and what it took to deliver care in community settings.

There are **no standard guidelines or prescribed models** for how to efficiently set up and sustain a collaborative dental hygiene practice. Hygienists and others motivated to provide community-based oral services had to innovate on the fly and learn as they go. Concerns were also shared about the complexity of billing, filling out the collaborative agreement forms, getting back signed forms consenting to care, and making referrals to ensure care continuity, etc. Many in the dental hygiene community considered the **need to register a non-profit, so hygienists could bill** under the non-profit entity to be eligible for payment under state health insurance plans such as MinnesotaCare, to be a barrier to entry into collaborative practice.

Financing

Under Medicaid, some **preventive services** (screenings - procedure code D 0190 and assessments - procedure code D 0191) provided **by hygienists are not eligible for reimbursement** in Minnesota. This inability to bill for these basic services was and continues to be a big financial barrier for collaborative hygiene practices. An additional financial challenge was the **low Medicaid rates** for reimbursable procedures compared to the cost of delivering care. Study participants also shared concerns about the **administrative burdens, complexities and delays related to billing** across different insurance plans.

Patient referrals and care continuity

Patient care continuity continues to be a challenge because under state law, patients who require additional treatment or follow-up care when referred by the collaborative hygienists do not become a new patient of record of the collaborative dentist until the dentist agrees to accept the patient for follow-up care. In other words, collaborative dentists are not required to take on patients referred to them by their collaborative hygienists unless they choose to. Patients requiring care that only a dentist can provide often have no avenue to access care.

Other

A related consequence of preventive screenings being a non-reimbursable service under the state health insurance plans is that when collaborative hygienists performed screenings, as non-billable services, there is no incentive for collaborative practice hygienists to do the extra step of tracking these procedure counts. Additionally, since collaborative hygienists are not able to bill directly for services, the claims forms note the pay-to-provider who is often the collaborative dentist (a required field for reimbursement), but there is no incentive to note

information about the rendering provider, who is the collaborative practice hygienist. These practices make tracking of services provided by collaborative hygienists through claims data insufficient or meaningless.

Under current law, collaborative practice hygienists are **not required to file collaborative agreements** with the Minnesota Board of Dentistry. This makes it difficult to systematically track trends in collaborative practice settings where care is delivered, numbers and types of patients served etc.

Recommendations

This section recommends potential solutions offered by study participants and stakeholders to some of the barriers to increasing the use of collaborative practice dental hygienists.

A tried and tested handbook on collaborative dental hygiene practice

It is hard to grow what you don't know. An ongoing, **statewide education and awareness campaign** led by oral health students, clinicians, community members and professionals would dispel misinformation and get the word out about the oral health disease burden. It would promote accurate information about requirements, benefits, and pathways, and the roles that dentists, hygienists, and community members can play to open up access to preventive dental care. It is especially critical to engage with practicing dentists to understand the actual and perceived barriers to their participation in this workforce model.

Existing toolkits could be bolstered and kept current to provide more **technical guidance in promoting go-to-market workforce models; information on best practices** for setting up collaborative agreements; sample contracts with community partners on structuring the care delivery; practices for setting up provider credentialing and billing; proven strategies to collect signed consent forms; processes for making effective referrals; pathways to obtain malpractice coverage; and guidelines about the nature of liability for each party, etc.^{xvii} The state has funded collaborative **practice pilots** in the past. With more funding, these could **be evaluated and further scaled** to meet oral health needs.

Interim policy recommendations

Based on interim findings of the MDH study, in April 2020, the Minnesota Department of Human Services' Dental Services Advisory Committee (DSAC)^{xviii} recommended to the Commissioner of Human Services that specific **"D codes" be added to the reimbursable benefit set under the state's health care programs** for children and pregnant women or the non-pregnant adult dental benefit set.^{xix}

DSAC also recommended that dental hygienists should be **able to directly bill and be reimbursed by Medicaid, and not be required to set up a 501 (c)3 in order to receive direct payments** from state health care programs. As of the publication of this report, these recommendations have not been adopted/enacted.^{xx}

Ensuring care continuity

Additional research is needed to understand the complex and multi-layered causes that deter dentists from taking on referrals from collaborative hygienists, and to understand the low rates of participation in public programs by dentists, who often cite low reimbursement levels as a further reason for not treating patients on state health insurance plans.

In the interim, collaborative practice hygienists could consider **referring patients to dental therapists and advanced dental therapists** for scope-appropriate follow-up care. Note: Neither therapists nor advanced dental therapists can diagnose. They would need to collaborate with their collaborative dentist to formulate a treatment plan. A stopgap measure (but no means a solution) employed by some study practices was to develop and **maintain networks of local dentists (beyond the collaborative dentist)** and area Federally Qualified Health Centers (FQHCs) willing to take on referrals.

Building an evidence base

Details of the services rendered in community settings and **information on the pay-to and rendering provider need to be tracked** consistently at the practice level, and through the claims submission process. As a start, the state's Medicaid agency, Minnesota Department of Human Services, could mandate the completion of the rendering provider fields on the claims forms before processing claims for payment. Additionally, the Minnesota Board of Dentistry should consider strongly encouraging if not requiring that **all collaborative agreements be filed with the dental board and updated regularly**. These collaborative agreements are a starting point for policy researchers to understand the uptake, availability, and adoption of this practice. These steps are needed to **build an evidence base to assess the impact on access to oral health care by collaborative practice hygienists**.

The recommendations noted above are intended to support and encourage current and prospective dentists and dental hygienists who are interested in providing care in community settings. Increasing awareness, minimizing misinformation, and alleviating known administrative, legal, and financial barriers to collaborative dental hygiene practice has the potential to open access to oral care to many.

Conclusion

Collaborative dental hygiene practice is a viable solution for increasing access to oral health care. Its success and growth depend on pioneering dentists, community-driven hygienists and community partners who can entrepreneurially build and navigate the oral health care delivery system. Adequate, streamlined payment and insurance reimbursement models must be implemented. Willing community partners that recognize the benefits of co-locating oral health services, and expanded scopes and laws that optimize the existing dental workforce would accelerate the adoption of the practice. System level changes would strengthen this promising workforce model by building on the efforts have been underway in Minnesota since 2001.

UNDERSTANDING COLLABORATIVE DENTAL HYGIENE PRACTICE IN MINNESOTA

Collaborative practice is a solid response to the U.S. Surgeon General's^{xxi} call to "get dentistry out of its care delivery silo,"^{xxii} and makes oral health care more easily accessible in community-based locations and among people who currently struggle to gain access to oral health care.

Appendix A: Collaborative dental hygiene practice interview questionnaires

A1: Collaborative practice dentist questionnaire

This study is focused on better understanding what makes collaborative practice dental hygienists and the organizations they work in successful in providing services to patients in non-traditional settings along with better common challenges they face. Think of your work related to Collaborative Dental Hygiene Practices (CDHPs) and not all oral health work when responding to these questions.

Background

- Please describe your current role related to collaborative practice dental hygiene.
- How long have you been working in a role related to CDHPs?

CDHP work experiences

- What knowledge, skills, personal characteristics, and abilities are needed for a CDHP to operate successfully?

Service provision

- What services do CDHPs provide to patients? (Prompt: can include procedures and education)
- In what types of spaces or facilities do CDHPs provide services? (Prompt: such as conference rooms, community programs, schools, etc. Could include types of programs and locations within those programs.)
- What type of equipment or technology do you use (e. g. portable dental equipment, telehealth, phone calls, emails, iPad)? If so, can you tell me how you, the clinic and the site arranged to make it available and if different sites use different equipment? (Probe for challenges and resolutions)
- How critical is the availability of this equipment for you to competently and safely provide services?
- What are the benefits and challenges of the current way services are provided to patients? (Prompt: based on what was described in previous questions)

Patient Population

- How do individuals qualify to be treated by this program?
- What are the successes and challenges of successfully connecting to patients to provide services with CDHPs?

Organizational support and processes

- What is the goal of using CDHPs in your organization?

- How many other dental hygienists work in the organization and what are their roles?
- What is your organization's funding and payment structure for CDHP services?
- What role does organizational leadership play in the development and operation of CDHPs in your organization?
- Besides the dentist, what other providers or staff play a role in supporting CDHPs? What are their roles in providing services?
- Does your organization build awareness of or promote the use of CDHP services they provide? If so, how?

Working culture

- How do you coordinate with CDHPs to provide services to patients?
- Some key factors in a team care approach, such as that used in many CDHP services, include shared goals, clear roles, mutual trust, and effective communication. Could you describe how these factors relate to how CDHPs operate in your organization? How important you think these are for the success of CDHPs? Any other factors?
- What improvements could be made to make challenging situations more successful?

Overall benefits and challenges

- What do you see as the top benefits to using CDHPs in your organization and the community?
- How would you summarize the main challenges to using CDHPs?

Wrap-up question

- Do you have anything else you would like to share or questions for me?

A2: Collaborative practice dental hygienist questionnaire

This study is focused on better understanding what makes collaborative practice dental hygienists and the organizations they work in successful in providing services to patients in non-traditional settings along with better common challenges they face. Think of your work related to CPDHs and not all oral health work when responding to these questions.

Background

- Please describe your current role as a collaborative practice dental hygienist.
- How long have you been working as a CPDH?

CPDH work experiences

- What knowledge, skills, personal characteristics, and abilities are needed for a CPDH to operate successfully?
- What motivated you to work as a CPDH? How did you find your CPDH position?

Service provision

- What services do you provide to patients? (Prompt: can include procedures and education)
- In what types of spaces or facilities do you provide services? (Prompt: such as conference rooms, community programs, schools, etc. Could include types of programs and locations within those programs.)
- What type of equipment or technology do you use (e. g. portable dental equipment, telehealth, phone calls, emails, iPad)? If so, can you tell me how you, the clinic and the site arranged to make it available and if different sites use different equipment? (Probe for challenges and resolutions)
- How critical is the availability of this equipment for you to competently and safely provide services?
- What are the benefits and challenges of the current way services are provided to patients? (Prompt: based on what was described in previous questions)

Patient population

- How do individuals qualify to be treated by this program?
- What are the successes and challenges of successfully connecting to patients to provide services with CPDHs?

Organizational support and processes

- What is the goal of using CPDHs in your organization?
- How many other dental hygienists work in the organization and what are their roles?
- What is your organization's funding and payment structure for CPDH services?

- What role does organizational leadership play in the development and operation of CPDHs in your organization?
- Besides the dentist, what other providers or staff play a role in supporting you? What are their roles in providing services?
- Does your organization build awareness of or promote the use of CPDH services they provide? If so, how?

Working culture

- How do you coordinate care with and refer to dentists to provide services to patients?
- Some key factors in a team care approach, such as that used in many CPDH services, include shared goals, clear roles, mutual trust, and effective communication. Could you describe how these factors relate to how you operate in your organization? How important you think these are for the success of CPDHs? Any other factors?
- What improvements could be made to make challenging situations more successful?

Overall benefits and challenges

- What do you see as the top benefits to using CPDHs in your organization and the community?
- How would you summarize the main challenges to using CPDHs?

Wrap-up question

- Do you have anything else you would like to share or questions for me?

A3: Practice office manager/director questionnaire

This study is focused on better understanding what makes collaborative practice dental hygienists and the organizations they work in successful in providing services to patients in non-traditional settings along with better common challenges they face. Think of your work related to CPDHs and not all oral health work when responding to these questions.

Background

- Please describe your current role related to collaborative practice dental hygiene.
- How long have you been working in a role related to CDHPs?

CDHP work experiences

- What knowledge, skills, personal characteristics, and abilities are needed for a CDHP to operate successfully?

Service provision

- What services do CDHPs provide to patients? (Prompt: can include procedures and education)
- In what types of spaces or facilities do CPDHs provide services? (Prompt: such as conference rooms, community programs, schools, etc. Could include types of programs and locations within those programs.)
- What type of equipment or technology do you use (e. g. portable dental equipment, telehealth, phone calls, emails, iPad)? If so, can you tell me how you, the clinic and the site arranged to make it available and if different sites use different equipment? (Probe for challenges and resolutions)
- How critical is the availability of this equipment for you to competently and safely provide services?
- What are the benefits and challenges of the current way services are provided to patients? (Prompt: based on what was described in previous questions)

Patient population

- How do individuals qualify to be treated by this program?
- What are the successes and challenges of successfully connecting to patients to provide services with CDHPs?

Organizational support and processes

- What is the goal of using CDHPs in your organization?
- How many other dental hygienists work in the organization and what are their roles?
- What is your organization's funding and payment structure for CDHP services?
- What role does organizational leadership play in the development and operation of CDHPs in your organization?

- Besides the dentist, what other providers or staff play a role in supporting CDHPs? What are their roles in providing services?
- Does your organization build awareness of or promote the use of CDHP services they provide? If so, how?

Working culture

- How do CDHPs and dentists coordinate services provided to patients?
- Some key factors in a team care approach, such as that used in many CDHP services, include shared goals, clear roles, mutual trust, and effective communication. Could you describe how these factors relate to how CDHPs operate in your organization? How important you think these are for the success of CDHPs? Any other factors?
- What improvements could be made to make challenging situations more successful?

Overall benefits and challenges

- What do you see as the top benefits to using CDHPs in your organization and the community?
- How would you summarize the main challenges to using CDHPs?

Wrap-up question

- Do you have anything else you would like to share or questions for me?

Citations

ⁱ Office of the Surgeon General (US). National Call To Action To Promote Oral Health. Rockville (MD): National Institute of Dental and Craniofacial Research (US); 2003. Introduction. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK47470/>

ⁱⁱ [https://jada.ada.org/article/S0002-8177\(18\)30010-2/pdf](https://jada.ada.org/article/S0002-8177(18)30010-2/pdf)

ⁱⁱⁱ https://www.adha.org/resources-docs/7513_Direct_Access_to_Care_from_DH.pdf

^{iv} <http://jdh.adha.org/content/90/3/148>

^v The American Dental Hygienists' Association (ADHA) defines direct access as the ability of a dental hygienist to initiate treatment based on their assessment of a patient's needs without the specific authorization of a dentist, treat the patient without the presence of a dentist, and maintain a provider-patient relationship (ADHA Policy Manual, 13-15). Source: https://www.adha.org/resources-docs/7524_Current_Direct_Access_Map.pdf

^{vi} https://www.adha.org/resources-docs/7513_Direct_Access_to_Care_from_DH.pdf

^{vii} See <https://www.revisor.mn.gov/statutes/cite/150A.10>

^{viii} See changes enacted by the state legislature in 2017: <https://www.revisor.mn.gov/laws/2017/0/30/>

^{ix} <http://www.nationaloralhealthconference.com/docs/presentations/2010/Colleen%20Brickle%20-%20Minnesota%20Story%20-%20The%20Effectiveness%20of%20Par.pdf>

^x See: <https://www.revisor.mn.gov/statutes/cite/150A.10>

^{xii} See <https://www.revisor.mn.gov/rules/3100.8700/>

^{xiii} Survey data is collected during a two year license renewal process (response rate 69 percent for 2018-2019), with the survey question added during the renewal period. Due to not having all licensees complete the survey question, counts cannot be calculated from the responses. These figures were updated in October 2021 based on corrections in coding syntax.

^{xiv} <http://jdh.adha.org/content/90/3/148>

^{xv} Funding is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under award 6 T12HP30311-01-01 Grants to States to Support Oral Health Workforce Activities. This information or content and conclusions are those of the author and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.

^{xvi} Under Minnesota law, dental assistants are also able to provide services in partnership with collaborative practice dental hygienists in community settings, thus expanding the team of providers. Our study did not include any collaborative dental assistants.

^{xvii} The Normandale Community College had a [comprehensive online toolkit](#) on collaborative dental hygiene practice aimed at oral health practitioners. The toolkit includes agreement templates, instructions on how to file/dissolve agreements with the Minnesota Board of Dentistry, video tutorials on applying for grants etc. The website also information on practicing in different setting such as schools and long-term care. In addition, there is also an online help desk to field questions related to collaborative dental hygiene practice.

^{xviii} <https://www.revisor.mn.gov/statutes/cite/256B.0625>

^{xix} "D codes" is short for CDT codes, the standard dental billing codes owned by the American Dental Association. The CDT codes recommended for addition to the benefit set are: D0190- Screening of a patient; D0191-Assessment of a patient; D0601- Caries risk assessment and documentation, low risk; D0602- Caries risk assessment and documentation, moderate risk; D0603- Caries risk assessment and documentation, high risk.

^{xx} Memo from DSAC Chair, Dr. Sheila Riggs to Commissioner Harpstead. Dated Dec 10, 2019.

^{xxi} Office of the Surgeon General (US). National Call To Action To Promote Oral Health. Rockville (MD): National Institute of Dental and Craniofacial Research (US); 2003. Introduction. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK47470/>

^{xxii} [https://jada.ada.org/article/S0002-8177\(18\)30010-2/pdf](https://jada.ada.org/article/S0002-8177(18)30010-2/pdf)