Factors facilitating dental practitioners' provision of infant–toddler dental homes in Alberta

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WHY THIS ARTICLE IS IMPORTANT TO DENTAL HYGIENISTS

- A first dental visit by 12 months of age can reduce the risk of early childhood caries.
- Many dental professionals are reluctant to provide infant–toddler oral health care.
- Enhanced clinical interactions with infants and toddlers during dental hygiene and dental education; leadership and support from regulatory bodies and professional associations; and increased remuneration for preventive pediatric oral care may improve the provision of infant–toddler dental homes.

ABSTRACT

Background: The Canadian Dental Association and Canadian Dental Hygienists Association recommend that a child's first dental visit should occur no later than 1 year of age. However, this recommendation has not been strongly supported by the dental community. The purpose of this study was to explore factors influencing the provision of infant–toddler dental homes from providers' perspectives. Understanding facilitating factors is integral to developing strategies to improve infant–toddler oral health care. **Methods:** This study employed a qualitative interpretive descriptive methodology, using semi-structured interviews with a purposive sample of 13 dentists and dental hygienists who routinely provide dental homes for the infant–toddler cohort. The constant comparative method was used to support thematic analysis. **Results:** Thematic analysis revealed factors that were both endogenous and exogenous to the practitioner. They were categorized into 4 interrelated themes: 1) practitioner; 2) practice; 3) profession; and 4) population. Together these 4 themes form a model of the 4 Ps that influence provision of infant–toddler dental homes. Common endogenous factors include the practitioner's comfort with young children and having clinical exposure to pediatric clients during dental education. Common exogenous factors include parental awareness and adequate insurance coverage for preventive procedures. Strategies to improve acceptance of infant–toddler dental homes include enhanced practitioner education and public awareness, consistent messaging from the dental community, as well as increased remuneration for preventive pediatric oral health care. **Conclusion:** Provision of infant–toddler dental homes is affected by multifaceted variables. Consequently, strategies to improve uptake must employ a multipronged approach.

RÉSUMÉ

Contexte : L'Association dentaire canadienne et l'Association canadienne des hygiénistes dentaires recommandent que la première visite d'un enfant ait lieu au plus tard à l'âge d'un an. Cependant, la communauté dentaire n'a pas fortement appuyé cette recommandation. La présente étude vise à explorer les facteurs qui influencent l'établissement d'une affiliation dentaire pour les nourrissons et les bambins du point de vue des prestataires. Comprendre les éléments déterminants est essentiel à l'élaboration de stratégies pour améliorer les soins de santé buccodentaire des nourrissons et des bambins. **Méthodologie :** La présente étude a utilisé une méthodologie d'interprétation qualitative et descriptive comprenant des entrevues semi-structurées et un échantillonnage choisi à dessein de 13 dentistes et hygiénistes dentaires qui fournissent régulièrement des soins dentaires aux cohortes de nourrissons et de bambins. La méthode constante de comparaison par paires a été utilisée pour appuyer l'analyse thématique. **Résultats :** L'analyse thématique a révélé des facteurs qui étaient à la fois endogènes et exogènes au praticien. Ils étaient catégorisés en 4 thèmes interdépendants : 1) praticien; 2) pratique; 3) profession; et 4) population. Ensemble ces quatre thèmes forment un modèle de 4 P qui influencent la réalisation d'affiliations dentaires pour les nourrissons et les bambins. Des facteurs endogènes communs comprennent l'aise du praticien avec les jeunes enfants et avoir de l'exposition clinique aux clients pédiatriques pendant les études dentaires. Des facteurs exogènes communs comprennent la sensibilisation parentale et la couverture d'assurance adéquate pour les interventions préventives. Les stratégies pour améliorer l'acceptation de l'affiliation dentaire pour les nourrissons et les bambins comprennent la formation rehaussée du praticien et la sensibilisation de la population, les messages uniformes de la communauté dentaire, ainsi qu'une augmentation de la rémunération pour les soins de santé buccodentaire pédiatriques préventifs. **Conclusion :** L'établissement d'affiliations dentaires pour les nourrissons et les bambins est influencé par des variables complexes. Par conséquent, les stratégies pour améliorer leur mise en œuvre doivent comprendre une approche à multiples volets.

Keywords: dental home, infant(s), pediatric oral health, qualitative research, toddler(s)
CDHA Research Agenda category: access to care and unmet needs

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BACKGROUND

The Canadian Dental Hygienists Association, Canadian Dental Association, and Canadian Pediatric Society recommend that children see a dental professional no later than age 1.[1-3] Access to infant–toddler oral health care by a child's first birthday has been shown to be an effective strategy to mitigate early childhood caries (ECC) and to promote good oral health throughout the life course.[4-6] Evidence also substantiates cost effectiveness of infant–toddler oral health care.[4,7,8] However, a recent Canadian-based study reported that less than 1% of children access care by 12 months of age, and only 1.9% of children have a dental visit by age 2.[9] Furthermore the authors of that study posited that, "many general dental professionals may not be comfortable providing care for infants and toddlers or may not be aware of current recommendations for early preventive dental care."[9, p1598] While improving provision of infant–toddler oral health care is complex and multifaceted, greater acceptance by the dental community is critical.

To date, there is limited research on factors that facilitate dental practitioners' provision of oral health care to infants and toddlers[10]; however, the dental home is one emergent model. The dental home is a client–practitioner relationship that facilitates provision of comprehensive, continuously accessible, and family-centred oral health care.[11] The purpose of this study was to develop an understanding of factors that facilitate practitioners' provision of infant–toddler dental homes, and to present recommendations for future strategies to achieve broader implementation. The following questions guided the inquiry: 1) What factors facilitate provision of infant–toddler dental homes by dental practitioners in Alberta? 2) What recommendations do practitioners who currently provide infant–toddler dental homes have to achieve greater acceptance?

A fundamental purpose of qualitative research is to capture meaning of a phenomenon.[12-14] This study generated considerable data on provision of infant–toddler dental homes; this article presents broad findings from this research and an overarching thematic analysis of factors facilitating provision of infant–toddler dental homes.

METHODS

Study design and participant recruitment

This study utilized an interpretive description methodology, which is an applied qualitative methodology to help researchers understand and generate knowledge to inform and advance health care practice.[15-18] The study was approved by the University of Alberta Research Ethics Board (#Pro00061569).

Participants were recruited through purposive and snowball sampling. Actively practising dentists and dental hygienists from Alberta were invited to participate if they provided oral health care to children younger than 18 months of age. In August 2016, an electronic mail-out, distributed by the College of Registered Dental Hygienists of Alberta, invited dental hygienists and their dentist colleagues to participate. Dentists were recruited to the study through an electronic listserv disseminated by the third author (MA).

Data collection and data analysis

Data collection relied on semi-structured participant interviews. Sample questions from the interview guide are provided in Table 1.

The interview guide was pilot-tested and underwent a peer audit for content, clarity, and methodological congruence. Interviews were conducted face-to-face, audiorecorded, and subsequently transcribed verbatim. For all interviews, field notes and memoranda were used to record observations and questions that arose as the study progressed. The first author (JVM) collected all data, and areas of ambiguity were clarified through member-checking.

Table 1. Sample questions in study interview guide

Typical open-ended questions used in the interview guide to explore practitioners' provision of infant–toddler dental homes
Participant demographics: professional designation, practice type, practice location, education
How did you become involved in infant and toddler oral health care?
What factors help you to provide care to infants and toddlers in your practice?
What does an infant–toddler dental home look like in your practice?
What skills help you provide infant–toddler oral health care? a. What knowledge helps you provide infant–toddler oral health care? b. How did you acquire this knowledge? Skills?
What features in your practice help you to accommodate infants and toddlers?
To what extent is collaboration with other professionals helpful in providing infant–toddler dental homes? a. Which professionals do you collaborate with in providing infant–toddler dental homes? b. How do these collaborations impact your provision of infant–toddler oral health care?
What would you say to a dental colleague to encourage them to provide infant–toddler dental homes?
What recommendations would you make to achieve broader uptake of infant–toddler oral health care in Alberta?

Table 2. Demographic profile of study participants

Demographic characteristic	Category	Number of participants
Professional designation	Pediatric dentist	6
	General dentist	2
	Dental hygienist	5
Practice type		
Specialization	Pediatric dental practice	8
	General dental practice	4
	Independent dental hygiene practice	1
Group or solo practice	Group practice	11
	Solo practice	2
Practice location	Urban	11
	Rural	2
Location of educational institute		
Entry-to-practice	Canada	12
	United States	0
	International	1
Terminal degree (beyond entry-to-practice)	Canada	4
	United States	3
	International	1
Date of graduation from last dental or dental hygiene program	<5 years	4
	5 to 10 years	5
	10 to 25 years	2
	>25 years	2

Data collection and analysis were concurrent and iterative, using procedures congruent with the constant comparative method and interpretive description to compare new data with existing research and previous data, blending inductive–deductive inquiry.[12-18] Transcripts were initially read several times to develop a contextual understanding of factors facilitating provision of infant–toddler dental homes. Open codes were then developed in which words, phrases or sentences, which conveyed discrete concepts (i.e., meaning units), were named and analysed.[18-20] Data analysis constructed code hierarchies to develop patterns, and subsequently to interpret relationships between thematic units.[15,16] Memoranda and reflexive journaling were used to record theoretical understandings, questions, and decisional processes related to the analysis.[15,16] In keeping with the tenets of interpretive description, the sampling endpoint was determined based on holism and diversity of data collected.[15,16]

Establishing rigour

Rigour was established through epistemological integrity, representative credibility, analytic logic, and interpretive authority.[15,16] Epistemological integrity was demonstrated using an audit trail that documented processes to achieve methodological coherence, and through a peer audit by the second (SMC) and third (MA) authors. Representative credibility was achieved through a diverse participant sample and prolonged engagement in the data that informed the study findings, interpretations, and recommendations. Verbatim transcription and member-checking ensured the accuracy and completeness of the data. Analytic logic was reinforced by using phrases and quotations of participants in the reported findings. Coupled with a peer audit, the integration of findings with existing literature confirmed that the interpretations of the first author (JVM) were trustworthy.

RESULTS

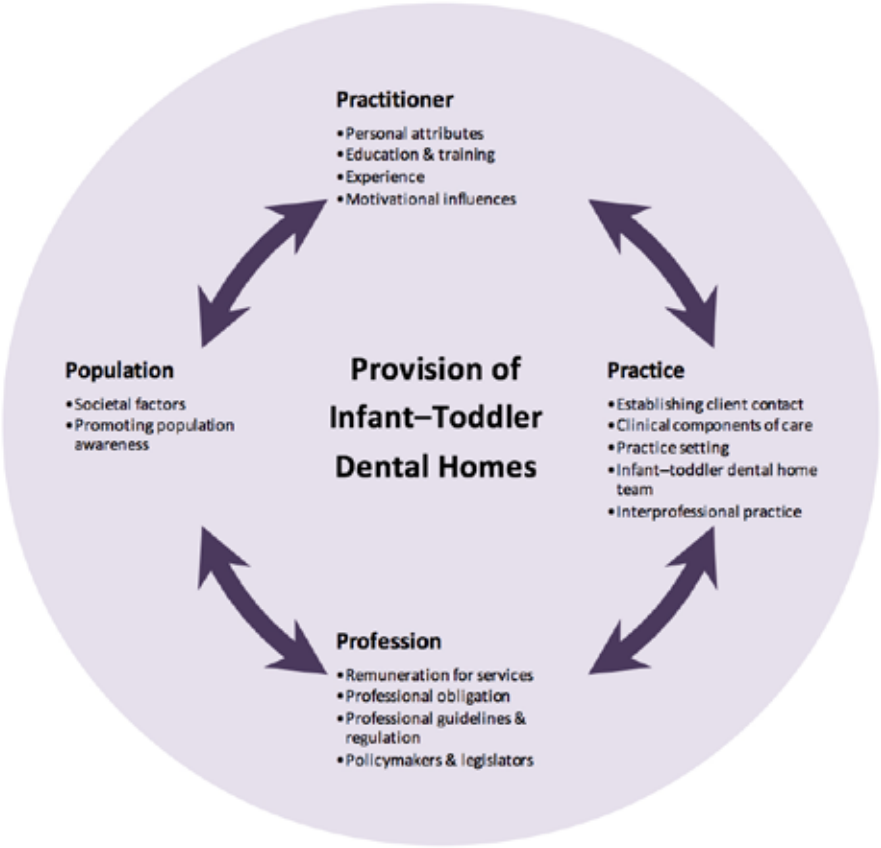
Study participants

The final sample consisted of 13 participants (2 male, 11 female), and included 6 pediatric dentists, 2 general dentists, and 5 dental hygienists. The demographic profile of participants is summarized in Table 2. One dental hygienist owned an independent dental hygiene practice, 2 were employed within a pediatric practice, and 2 worked in a general dental office. Eleven participants were situated in urban practices and 2 in rural practices. All pediatric specialist offices were in large urban settings, but both rural and urban clients attended. Two general practitioners were located in rural communities. Eleven participants worked in group practices and 2 in solo practices.

Factors facilitating practitioners' provision of infant–toddler dental homes

Four core themes emerged from the data: 1) practitioner; 2) practice; 3) profession; and 4) population. These themes are not discrete entities but are interrelated as shown in Figure 1. Together these themes constitute the 4 Ps that facilitate and influence provision of infant–toddler dental homes. Study findings and associated subcategories for each theme follow.

Figure 1. The 4 Ps of influence in the provision of infant–toddler dental homes



Theme 1: Practitioner

The practitioner theme describes intrapersonal facilitating factors, and has 4 subcategories: personal attributes, education and training, experience, and motivational influences.

Personal attributes

Participants discussed how "being caring," "patient," "calm," "creative," and "flexible" are important personal attributes that help to create an empathetic dental home for infants and their families. An altruistic drive to help people and an affinity for children were also emphasized. Several participants associated female gender with an "instinctive gentleness" which facilitates provision of infant–toddler dental homes, and expressed that female practitioners may have more exposure to infants. Conversely, a male pediatric dentist consciously used "comforting language" to help reassure the infant.

Some participants remarked that personal attributes influenced their decision to become involved in infant–toddler oral health. One participant explained:

> *That's just the appeal of getting involved into this [infant–toddler oral health care]...being optimistic and idealistic that the world can be better, I guess. That's driving me trying to fight infant [oral] care problems.*

Education and training

Participants strongly emphasized that education and training are important to acquire knowledge, skills, and competence associated with provision of infant–toddler dental homes, such as knee-to-knee examination techniques. Participants revealed that they had limited exposure to infants and toddlers during their undergraduate education, which several participants identified as a possible reason for the continued use of 3 years of age as the first visit target by many practitioners. One participant stated:

> *I'm racking my brain and I cannot think of an occasion where I examined a baby in dental school; I don't think we ever did.*

Participants emphasized that education and training in pediatric oral care influence acceptance in practice. One pediatric dentist stated that infant–toddler oral health care is "engrained as part of pediatric dental training." However, based on her undergraduate education, she reflected:

> *That's [knee-to-knee] something you're never told in general dentistry school. And then, I never practiced this [infant–toddler oral health care] as a general dentist.*

A dental hygienist similarly expressed that a lack of training in infant–toddler oral health care during her undergraduate education resulted in her not seeing infants within her clinic practice:

> *We were never taught it [early pediatric oral health], you know, it was never a subject in our school. And, again, even in clinic we didn't see little people, so when I went out and started practicing it's like, "Oh, in the office [general dental practice] we don't see little people"... and it was like okay.*

While pediatric dentists had seen infants during their education, general dentists or dental hygienists had not. Study participants had often been mentored by a practitioner experienced in infant–toddler oral health, which facilitated the development of skills and knowledge. Others had undertaken continuing education (CE), but cited a paucity of CE opportunities. A dental hygienist who had transitioned from a general practice into a pediatric specialty practice recounted:

> *Most of the knowledge that I have, seeing the little ones, was taught to me when I got this job. It wasn't so much education that I received before.*

All participants strongly advocated for increasing clinical opportunities to treat infants and toddlers within undergraduate education to enhance practitioner comfort and competence. One participant rationalized that:

> *Students need to be exposed [to infants]... to feel that it's important and to understand the rationale why it's [infant–toddler dental homes] important. And to do it [provide infant–toddler oral health care] and not be afraid to touch a baby.*

Experience

Work and life experience with infants enhance practitioners' comfort and competence in providing a dental home for this young cohort. Conversely, a lack of practitioner comfort and experience in treating infants and toddlers may cause some to avoid treating the infant–toddler cohort and to continue to endorse age 3 as appropriate for a first dental visit. As one participant stated:

> *Are you comfortable holding a baby? If the answer is no, the person is probably just going to turn that kid away, so they [dental practitioners] have to get comfortable interacting [with] and examining babies.*

Through experience, practitioners develop clinical skills, as well as an understanding of typical behavioural and developmental milestones associated with infants and toddlers. Participants acknowledged that many students entering the profession may not have previous educational or life experience with infants, which reinforced the importance of integrating infant–toddler training into undergraduate education.

Motivational influences

Participants described the importance of and rationale for infant–toddler dental homes as motivating. One participant reflected:

> *...that's what's driving me to pediatric... was a light and a hope that things can be better and can be changed for the better good – for the whole life of the patient. So if we start on the right track very early on then hopefully it can stay this way and then the patient can have no cavities for all their life.*

Another participant explained how his motivation to provide infant–toddler dental homes and his perspective that "no child was too young to see a dentist" evolved with his understanding that ECC is a disease with broader biomedical and social impacts. He stated:

> *...my thinking started changing...to start looking at the totality of the disease [ECC] as it impacts the child, as it impacts the family – and the interaction between the two. So it has a direct effect on the child, as it has – as I learned over the years – a much bigger effect on long term health.*

Other motivations for providing infant–toddler dental homes were an understanding that investing in infant care was a practice builder and that it was part of serving families as a general practitioner.

Theme 2: Practice

Theme 2 describes facilitating factors connected to the practice environment, and has 5 subcategories: establishing client contact, clinical components of care, practice setting, the infant–toddler dental team, and interprofessional practice.

Establishing client contact

Participants noted that many parents believe that commencing care at age 3 is appropriate as they are unaware of the age 1 practice guideline. Consequently, while treating adults or older siblings, participants encouraged families to initiate care for infants and toddlers. One participant's practice used "informative e-mails" sent to all clients in the practice. She stated:

> *Once in a while it [the e-mails sent by the practice] will include when to bring your*

> *child in [for oral health care], so that helps quite a bit [to establish contact with infants and toddlers].*

Referrals from public health programs and physicians also helped to establish contact with infants and toddlers. However, such referrals were often related to acute concerns rather than to establishing a dental home. A participant reflected:

> *For the most part, the younger kids that we see have either been sent by a pediatrician or had an obvious concern like obvious cavities or something...something that the pediatrician wanted them [the client] to see a dentist for a specific concern rather than establishing a dental home for the child.*

Clinical components of care

Participants described how infant–toddler oral health care is focused on preventive care and parental education, and explained that typical clinical components of an infant–toddler appointment are caries risk assessment, motivational counselling (related to feeding, homecare, injury prevention), knee-to-knee examination, and preventive therapeutic recommendations. One participant explained:

> *I spend a lot of time talking to the parent about specific milestones and issues relevant to that age range... There's this interpretation that infant oral care is 45 minutes of hands on, like restraining a baby. It's not. You'll do a knee-to-knee exam, it takes like all of maybe 2 minutes, when really the value of that visit is more in the counselling of the parent.*

One unique aspect of infant–toddler dental homes is that the child and parent(s) are both clients in the process. Participants recounted that, to facilitate care of the child, the dental practitioner must establish a supportive, empathetic relationship with both the child and the parent(s). Practitioners used client management strategies including singing, having patience, and eliciting parental support to help put a child at ease. To build parental trust, participants emphasized that a non-judgemental approach helps to create a successful experience.

Practice setting

Pediatric specialists created child-friendly spaces (e.g., open concept areas with toys and wide corridors to accommodate strollers) to enhance child and parent(s) comfort. However, participants emphasized that any dental office can serve as an infant–toddler dental home. As one participant stated:

> *...my office isn't set up in any special way. It is just a general office. It has no particular features that help me to see children.*

The infant–toddler dental team

The concept of a team was viewed by participants from several perspectives. Participants expressed that, within the practice, it is beneficial for all members of the dental team to support infant–toddler oral health so clients receive consistent messaging. On a broader scope, participants stressed that there are insufficient numbers of pediatric dentists to address the oral health needs of all infants and toddlers. One pediatric dentist explained that working as a "dental home team," where general practitioners provide a "preventive dental home" and refer treatment of severe ECC to a pediatric dentist, helps to take "a lot of pressure off of the system and pediatric offices." More than one participant noted that dental assistants and dental hygienists working as members of the dental team can complete many elements of the first visit and how this is advantageous from a business and time perspective. To maximize this potential, participants recommended having dental hygienists serve as a primary care provider of preventive infant–toddler dental homes because typical diagnostic and preventive care are within the scope of dental hygienists in Alberta.

Interprofessional practice

Participants described collaborating with other health professionals to promote infant–toddler dental homes, such as physicians and Well-Child nurses who provide medical care to infants and toddlers. Several participants had relationships with community oral health programs and non-dental health care practitioners, and explained how interprofessional practice helps to connect oral health to overall health. Other participants cited time and workload constraints of their medical colleagues as factors limiting the establishment of interprofessional relationships. However, participants unanimously expressed that developing interprofessional practice is important to increase acceptance of dental homes. One participant provided this supporting rationale:

> *I think teaching medical students the importance of early childhood [oral] examinations is critically important. I think statistics show that a child will see a physician on Well Baby visits 8 times before they're 2 years of age. Well, during those visits, the physician should be trained to tell parents to take them to a dental office for a more thorough examination.*

Another participant speculated that adopting an interprofessional approach could potentially support policy change and remarked:

> *When you work with a group...when you team up, you have the power to make changes... like policies...that's the only way you can change.*

Theme 3: Profession

Theme 3 "Profession" describes the organizational and institutional ethos of dental homes. There are 4 subcategories: remuneration for services, professional obligation, professional guidelines and regulation, and policy makers and legislators.

Remuneration for services

Many participants indicated that the fee-for-service model, under which dentistry largely operates, creates a challenge in providing dental homes for the infant–toddler cohort because remuneration structures do not favour prevention. Participants noted that the billing code for the first dental visit is remunerated at a lower level than restorative procedures, and added that remuneration is further complicated by the fact that some procedures such as fluoride varnish are not universally covered by insurance plans for children under 4 years of age. Consequently, several participants provided fluoride varnish as a complimentary service. However, participants recognized that practices need to be financially gainful; therefore, current remuneration structures may not favour practitioner acceptance of dental homes. While addressing compensation models was strongly emphasized, participants viewed provision of infant–toddler dental homes as a professional obligation that superseded financial considerations.

Professional obligation

Participants maintained that the profession needs to "take ownership" of advancing the provision of infant–toddler dental homes because it is "part of [professional] duty." All study participants advocated that consistent messaging regarding age 1 visits must originate from the dental profession and expressed concern that many dental practitioners do not recommend commencing care until later preschool years. One pediatric dentist explained that many parents have commented that, "my [the family] dentist said that kids shouldn't be seen until the age of 3." Several participants reinforced that it is a professional obligation of all dental professionals to provide consistent messaging regarding the first dental visit by age 1. If a dental professional does not treat infants, he or she should inform parents and refer the infant to a provider of infant–toddler dental homes. One participant asserted:

> *If you don't want to do this [provide infant–toddler oral health care], that's fine, although I would encourage it, I'm not forcing you to see kids. If you choose not to, then you have to refer them [the infant] to the appropriate person [dental professional], that's your moral, ethical obligation.*

Professional guidelines and regulation

When recommending age 1 care to clients, participants referenced the Canadian Dental Association First Visit and ECC guidelines. As one participant stated:

> *I think that the Canadian Dental Association making a recommendation that all children should be seen by the age of 1 is very important and essential just because when parents question whether that's necessary, I can retort with the Canadian Dental Association, that represents all dentists in Canada, suggests that children should be seen by age 1.*

Regulatory colleges and professional associations were identified by participants as organizations that can and should strive to create awareness about practice guidelines and promote consistent messaging to the dental and medical community, as well as to the public. Participants advocated that professional associations can facilitate uptake by advising how a practice can implement dental homes. One participant explained:

> *So the CDA [Canadian Dental Association] says we should be seeing them [infants] and providing a dental home by 1, and maybe I missed the memo but they [CDA] don't follow that with [telling practitioners] this is what should be included in your discussions...I think that's sort of the biggest place that something is missing.*

Direction from regulatory colleges and professional associations was thought to be a potentially helpful mechanism to improve general practitioners' provision of infant–toddler oral health care.

Policy makers and legislators

Participants expressed that government legislation can encourage the provision of infant–toddler dental homes within the profession through policies supporting best practices and infant–toddler oral health care. For example, policies related to publicly funded dental programs directly affect practitioners' provision of infant–toddler dental homes because publicly funded dental insurance provides coverage for children from lower socioeconomic brackets, which enhances provision of care. However, participants felt there are inadequacies in current coverage, especially with respect to preventive therapies. The age restriction on fluoride was identified as a shortcoming:

> *I think there's still issues even with Alberta Works...like Alberta Works is the social assistance program. They don't pay for fluoride under the age of 4. I'm like well these are the people that benefit the most...like this kid needs fluoride varnish, like why are we not paying for this?*

Expansion of government coverage was generally viewed as an important step to advance support for dental homes.

Theme 4: Population

Theme 4 encompasses factors within the population that influence provision of dental homes and includes 2 subcategories: societal factors and promoting population awareness.

Societal factors

Participants believed that the prevalence of ECC had reached "epidemic levels." One participant considered the economic impact of ECC, which he described as "multi-multi millions of dollars," as an incentive for a societal shift towards accepting and improving access to preventive infant–toddler dental homes. Though participants recognized that ECC affects all socioeconomic strata, they specifically referenced disproportionate prevalence in many Indigenous communities. One participant reflected:

> *Our Native communities quite often, sadly, you do see quite a bit of decay there so those are some levels of community that we work with and touch that sometimes other people don't see as often...*

Promoting population awareness

Participants universally identified a knowledge gap in the general population regarding infant–toddler oral health. One participant reflected:

> *I think for the most part the Canadian public is not aware of the recommendations of the Canadian Dental Association [i.e., regarding first dental visit by age 1] and I think many dental offices don't follow it.*

Participants explained that promoting awareness can be as simple as having conversations with clients:

> *So for every parent who shows up here; what I started a long time ago is, I ask them to become an advocate [for infant–toddler oral health].*

Participants promoted infant–toddler oral health care within their own practices and communities, and they called for investment in large-scale television, social media, and radio health campaigns to improve public awareness. To illustrate the effectiveness of large-scale health promotion in creating population awareness, participants cited "ParticipACTION" and campaigns warning about the effects of drinking alcohol during pregnancy. One participant spoke of the power of media:

> *If I will have the power and the money, I will send messages on TV, on radio, on Facebook, all the media... [so] that [the infant dental home] becomes normal... so people know...this is your dental home. And the dental home is the new fashion. This is what you have to do.*

Recognizing the magnitude of change necessary to improve population awareness in a substantive way, participants emphasized the need for combined strategies and interventions. One participant appealed to all stakeholders to spread messaging regarding the importance of infant–toddler oral health. She stated:

> *I'm just embarrassed at the state of children's oral health in Alberta...we're letting this particular segment of the population down...we're not doing as much for helping them... getting them into the dental homes earlier and younger...and I was part of that for 20 years, not purposefully, it was just my lack of knowledge...so that's why I took the torch and said we've got to rectify this. And certainly, I mean, I spread the message with all my friends and practitioners and try to spread it around [to] as many people as I could and I thought that was, you know, a place to start.*

DISCUSSION

The aim of this qualitative study was to identify and interpret themes facilitating practitioners' provision of infant–toddler dental homes based on participants' experience and existing research. The 4 identified themes and subcategories reinforce that provision of infant–toddler dental homes is multifaceted and will inevitably require a multipronged approach to achieve full acceptance by dental professionals. To that end, the following recommendations are given: enhanced undergraduate education in infant–toddler oral health with emphasis on clinical experience; promotion of consistent messaging across health care professions with strategies supported by regulatory colleges and professional associations; and, evaluation of current remuneration structures, such as removing age restrictions on topical fluoride therapies.

Our findings suggest that improved undergraduate dental hygiene and dental education is important to achieve greater acceptance of the age 1 dental home. Previously, Schroth et al. determined that less than one third of Canadian dental and dental hygiene students provide care for an infant or toddler during their undergraduate education, and also called for review and amendment of current accreditation requirements through the Commission on Dental Accreditation of Canada.[6] Furthermore, Fein et al. demonstrated positive effects on students' knowledge, confidence, opinions and behaviours in providing infant–toddler oral health following didactic and clinical experience.[21] In their study, Fein et al. reported that 88% of students indicated an increased willingness to

treat infants and toddlers after having clinical experience through their undergraduate dental education.[21] Offering opportunities for infant–toddler oral health care during undergraduate education will allow students to develop comfort and competence, thereby, improving coherence between policy and practice.

Regulatory colleges and professional associations may be positioned to promote consistent messaging within the oral health community and the public at large. Participants in the current study emphasized utilizing the Canadian Dental Association (CDA) position statement regarding the first dental visit. Study findings support that continued efforts by regulatory colleges and associations should be made to promote awareness and to encourage acceptance of this position statement. In addition, dental hygiene professional associations could develop a position statement endorsing infant–toddler dental homes, and could affirm that dental hygienists have an important role to play in improving access to care for the infant–toddler population. Another practical strategy to promote access to dental homes, as supported by Schroth et al.,[22] is expansion of publicly accessible dental directories through regulatory colleges and professional associations to identify dentists and dental hygienists who provide infant–toddler oral health care. Precedent for this resource exists in other Canadian provinces.[23,24]

There is also a need to re-evaluate how preventive oral health care is remunerated. Participants identified that current billing codes for first dental visits are insufficient to incentivize practitioner uptake. Similarly, in Alberta, Amin et al. identified that insufficient coverage was the most common challenge reported by users of publicly funded dental programs.[25] Removing age restrictions on fluoride treatments for children insured through publicly funded dental programs, such as the Alberta Child Health Benefit (ACHB), may be a viable change in policy and would support the use of fluoride varnish, which is an efficacious, safe therapeutic to mitigate ECC.[26-28] Eligibility for ACHB is based on family income,[29] and as socioeconomic status is a risk factor for ECC,[2,30,31] this coverage may target children who are at risk and therefore could benefit from early preventive care.

Study findings combined with corroborating literature provide strong support for the recommendations described above regarding undergraduate education, consistent messaging, and remuneration. However, it is also important to recognize study limitations. Six of the thirteen participants were pediatric dentists, and the majority of participants practised mostly in urban centres and had graduated less than 10 years ago. Consequently, factors influencing provision of care, as identified in this study, may not be representative of all providers of infant–toddler dental homes. Limited recruitment of general practitioners in the participant sample may reflect a paucity of general practitioners who currently provide infant–toddler dental homes in Alberta, but the study identifies that pediatric and general practitioner participants perceive a need to more fully engage general practitioners in improved acceptance and uptake, which is an important area for future research. The perspectives of non-providers and dentists and dental hygienists in other practice contexts, such as community oral health, may also have implications for acceptance that are beyond the purview of the current study.

CONCLUSION

The value of providing infant–toddler oral health care through the dental home concept is evidence based. It is incumbent on dental professionals to provide leadership to improve access to care and acceptance among oral health care practitioners for ensuring a child's first dental visit occurs no later than 1 year of age. Understanding factors that facilitate practitioners' provision of dental homes is critical to achieve a paradigm shift within the dental community. The 4 Ps of influence (practitioner, practice, profession, population) identified by this study offer the following strategies:

- Enhancing opportunities for clinical experience with infant–toddler oral health during dental hygiene and dental undergraduate education
- Promoting infant–toddler dental homes and consistent messaging through regulatory colleges and professional associations, including the creation of a registry of infant–toddler dental providers
- Removing age restrictions for preventive fluoride therapies

These recommendations are pragmatic and will systematically support ongoing advancement and acceptance of dental homes for infants and toddlers.

CONFLICTS OF INTEREST

The authors have declared no conflicts of interest.

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