Public Health Dental Hygienists in Massachusetts: A Qualitative Study

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Abstract

Purpose: The aim of this qualitative, phenomenological study was to explore the attitudes and perceptions of public health dental hygienists on providing preventive care to underserved populations in Massachusetts.

Methods: Non-probability purposive sampling was used for initial participant recruitment, and snowball sampling occurred thereafter. Data collection occurred through semi-structured interviews. Qualitative analysis was conducted using Pitney and Parker's eight-step CREATIVE process.

Results: Data saturation occurred with 10 participants (n=10), one-third of the public health dental hygienists who are practicing in Massachusetts. The majority of practice settings included school-based programs (70%), while programs for children with special needs (10%) were the least common. Two major themes emerged from the data; (a) the opportunity to be an oral health change agent and (b) barriers to practice. Six subcategories emerged from the data and are reviewed within the context of their associated themes. Additionally, career satisfaction emerged as an unintended theme, and was reported as the driving force for the majority of participants.

Conclusion: This study revealed a better understanding of the public health dental hygiene workforce model in Massachusetts. Public health dental hygienists in Massachusetts perceive themselves as change agents within the health care profession, and although barriers to practice are plentiful, these oral health care professionals are committed to improving access to dental care.

Keywords: access to care, dental hygienists, public health, oral health disparities, preventive oral health care.

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Introduction

Most oral diseases are preventable; however, millions of Americans go without routine preventive dental care every year.[1] Oral health disparities are most common among racial and ethnic minorities, specifically Hispanics and blacks, as well as populations of low socioeconomic status.[2] There are a reported 47 million Americans living in designated dental provider shortage areas.[3] An estimated 17 million children of low socio-economic status received no dental care in 2009.[3] In 2011, an estimated 37% of children 2–8 years of age had experienced dental caries in primary teeth.[4] Ninety-one percent of adults 20-64 years of age had dental caries in permanent teeth, and 27% had untreated dental caries.[5] Additionally, 96% of adults 65 and older had dental caries, and one in five had untreated dental caries.[5]

The *National Call to Action to Promote Oral Health* document called for initiatives to improve oral health in America by reducing barriers to oral care delivery and workforce expansion.[6] A specific workforce approach addressed state practice act changes for alternative delivery models.[6] The growing rate of oral health disparities and dental professional shortages throughout the United States[3,7] has led to the establishment of various alternative dental workforce models to address access to oral healthcare. The 2014 National Governors Association (NGA) report discussed the innovative actions taken by some states, including Massachusetts, to leverage dental hygienists in expanded public health capacities.[8]

To improve access to oral health care, the scope of dental hygiene practice has advanced in many states. Due to the varied state legislative regulations and terms for a dental hygienist practicing in an alternative role, the American Dental Hygienists' Association has designated the term *direct access* and established the following definition:

"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." [9]

Direct access for dental hygienists is allowed in 39 states, 13 of which use the term public health dental

hygienist (PHDH).[10] Other states simply refer to the method of having direct access ability, such as an extended care permit, collaborative agreement, and extended access endorsement.[10] The actual number of dental hygienists practicing in a direct access role throughout the United States is unknown. Requirements for direct access providers to register or provide dental surveillance information vary between states. Massachusetts identifies practicing public health dental hygienists through required reporting of services rendered and those enrolled as providers in the Medicaid-reimbursement program.[11]

In 2009, the *Status of Oral Disease in Massachusetts* was released and reported 53 dental health professional shortage areas, representing approximately 1,292,643 residents.[12] The Office of Oral Health concluded that Massachusetts needed to do more to improve the oral health of its residents.[12] That same year, legislation was passed in Massachusetts allowing a registered dental hygienist with 3 years of clinical experience to practice in a direct access role, as a public health dental hygienist.[11] The legislation permits a public health dental hygienist to provide primary preventive services in a public health setting to at-risk populations without the supervision of a dentist. However, the legislation states that a public health dental hygienist must have a written collaborative agreement with a practicing dentist or a public health agency.[11] According to the Massachusetts' Public Health Dental Hygienist statute guidelines, a dental hygienist is required to attend a four-hour didactic course and a six-hour clinical observation in an alternative dental setting.[11] In 2013, the Department of Public Health reported 33 public health dental hygienists were practicing,[13] less than 2% of the dental hygiene workforce in the Commonwealth. Although small in number, public health dental hygienists reportedly treated 6,900 Medicaid recipients in 2012.[8]

The alternative dental providers' perception of their role in rendering preventive services to underserved populations is vital to gaining direct knowledge needed to promote alternative dental workforce development and implementation, thereby improving oral health access to care. The purpose of this study was to explore the attitudes and perceptions of public health dental hygienists regarding their role in providing preventive care services to underserved populations in public health settings throughout Massachusetts.

Methods

A qualitative, phenomenological study was used to conduct the research. This research study was approved by the Massachusetts College of Pharmacy and Health Sciences (MCPHS) University's Institutional Review Board. Non-probability purposive sampling was used for initial participant recruitment. To enhance credibility and data trustworthiness, inclusion criteria were specific to Massachusetts' public health dental hygienists practicing in alternative healthcare settings. Participants were invited to take part in the study via an initial email. The initial participants were two public health dental hygienists with experience in the alternative oral health field, which led to further recruitment using the snowball sampling method. This sampling method relies on study participants' recommendations of other participants meeting inclusion criteria.[14]

To ensure trustworthiness of data, interview questions were adapted from two published qualitative studies regarding direct access dental hygiene providers. The interview guide was adapted with permission from interview questions previously developed in the Battrell et al.[15] and Delinger et al. studies.[16] Triangulation was also employed to ensure quality and credibility of the study.[14] As a public health dental hygienist, the principal investigator was able to utilize her expertise to interpret data regarding the phenomena and compare the differing viewpoints of study participants. Additionally, member checking was used to enhance data dependability. Member checking is when the researcher asks study participants to review the transcript from their interview, for accuracy.[14] Three participants elected to provide brief modifications to their interview transcript.

Qualitative analysis was conducted using Pitney and Parker's eight-step *CREATIVE* process. While *considering* the research questions and purpose of study, the interview transcripts were thoroughly *reviewed* to gain a complete overview.[14] Subsequently, to identify patterns, study information was *examined* to uncover meaningful relationships between the research questions and the interview transcripts.[14] Once patterns were organized and highlighted within the data, label *assignment* of similar sections was completed.[14] *Thematization* followed in the analysis process, during which themes were *interpreted* as they emerged from the data, while *verifying* data as it related to the purpose of the study and the research questions. Lastly, the principal investigator *engaged* data to effectively describe the findings.[14]

Results

Data saturation was achieved through interviews with 10 public health dental hygienists, comprising one third of all public health dental hygiene providers in Massachusetts. Descriptive statistics were employed to describe demographic characteristics. The mean age of participants was 50 years. Dental hygiene practice experience ranged from 7 to 38 years, with a mean of 19.3 years. Participants reported practicing as a public health dental hygienist for a minimum of 3 years to a maximum of 4.5 years. Table I depicts study participant demographic information. Participants reported taking the required public health dental hygiene course in 2010 (70%) and 2011 (30%). The 6-hour required public health

observation was reported as taking place at a variety of alternative settings. Due to prior public health employment, 30% of participants reported being exempt by the Massachusetts Board of Dentistry from the 6-hour observation requirement. Study participants identified practicing as public health dental hygienist in a variety of settings with diverse populations. The majority of settings included providing care for children at school-based programs (70%), while special needs population programs (10%) was the least commonly reported setting.

Table I.. Study Participant Demographics (n=10)

Variable	n	%	M
Age (years)			50
RDH practice (years)			19.3
PHDH practice (years)			
PHDH practice:			
Part time	3	30	
Full time	7	70	
PHDH observation sites[a]:			
DPH school-based	1	10	
WIC	2	20	
CHC	1	10	
Summer camp program	2	20	
PHDH school-based	1	10	
PHDH practice settings[a]:			
School-based	7	70	
WIC	4	40	
YMCA/BGC	4	40	
Daycares/ Headstart	4	40	
Housing Authority	4	40	
Homeless shelters	4	40	
Health fairs	4	40	
Rehabilitation sites	2	20	
Foster/group homes	2	20	
Geriatric	2	20	
Special needs	1	10	

Note. [a]RDH=Registered Dental Hygienist; PHDH=Public Health Dental Hygienist; DPH=Department of Public Health; WIC=Women, Infant, and Children; YMCA= Young Men's Christian Association; BGC=Boys and Girls Club.

Themes

The qualitative data analysis yielded categorical themes and subcategories related to both research questions. Subsequent sections include explanations of themes and participant quotations. Pseudonyms were employed to preserve the anonymity of participants' responses.

Two major themes emerged from data associated with the attitudes and perceptions of public health dental hygienists regarding their role in providing services to underserved populations in public health settings. These were (a) oral health change agent and (b) barriers to practice. Additionally, six subcategories emerged from the data and are reviewed in the context of the associated theme. Lastly, an unintended theme emerged from the data associated with career satisfaction.

Theme 1: Oral Health Change Agent

Data revealed that Massachusetts public health dental hygienists perceived themselves as a change agent within the communities they serve, with the subcategories of (a) community and professional networking, (b) community integration, and (c) improving access to dental care, as key components in the promotion of this role.

Participants discussed the role of the public health dental hygienist in the community as different from that of traditional dental practice. As change agents, participants shared their experiences with changing the public's perception of oral health by implementing and sustaining oral health programs in non-dental settings to improve access to preventive dental services and assist the population with finding a *dental home,* defined as an ongoing patient-provider relationship inclusive of comprehensive dental care that is routinely accessible using a family-centered approach.[17] Participant D stated, "It is almost like being a dental hygienist and a social worker…working with kids and helping them with their [dental] fears and… find a dental home." Participant J added, "Recognizing unmet need, and the simplicity of prevention, and my belief that we can do more… drove me to leave [private practice] and start…my own PHDH practice… if you build it they will come…last year we saw [approximately] 7000 kids." Participant E added, "It's hard because you see a lot of decay…parents that don't speak English as their first language, so it's harder for [the kids] to receive care…[but] by being in the schools…we know we are going to see those children." Participant A commented:

"Our main goal is not only to screen the child but to educate the parent …Changing the whole public perception [is a challenge], …So I explain to the parent it isn't only about seeing your child, it is about meeting you and helping you to understand…your child's teeth…It's huge when parents don't get that and you can help them…"

Community and Professional Networking

The ability to network was a central aspect identified in the strategies employed for public health dental hygiene practice. Community networks included relationship building within school systems and various public agencies. Participant E stated: "…it has been my building those relationships with people in the schools, and fostering those relationships…It takes letting the staff get to know who you are, and… once they trust you, and know what you are doing, they appreciate what you do, because they know the need in the schools is so great."

Most of the participants (90%) cited the importance of networking with the staff in public health settings to ensure follow-up dental care for patients. Participant C noted: "When I am in the shelters, they have staff that stay on top of that … with of course the patient's permission, and then they follow up to make sure that it is taken care of. In some of the daycare centers the providers will do the same thing, [working with] parents to make sure they get the treatment."

Other networking aspects included relationship building with area dentists to establish dental homes for those in need. Participant F said: "When we go to a facility, we contact…dentists within the radius… we are providing the services. We try to find dentists that accept [Medicaid] or sometimes private paying patients…so if…an urgent case [occurs] we have… prearranged relationships with…dentists to accept these kids…[dentist and PHDHs] have to work as a team."

Community Integration

Building relationships and changing perceptions within the communities in which public health dental hygienists serve were identified as integral to gaining community acceptance. Participant F noted, "It is good to be someone who is entrenched in the community, and is well known within the community." Through community integration, public health dental hygienists believe they are changing public perceptions of dental care and educating society on oral health prevention. Participant B commented, "[In] the beginning…people were…resistant, but if we could get in and meet them in person, they would like us. …after they met us they loved us! It is really that face to face contact…that makes the difference." Participant G added, "We make ourselves available to [the community]. We…provide [preventive care], and provide the parent with oral health instruction… and we direct them to places for [continued dental] care…we…help get them interested in oral health."

Improving Access to Dental Care

Most of the participants (90%) interviewed stated their role as a public health dental hygienist has improved access to care for underserved populations. Participant C said, "I definitely think it has increased…access to care…The knowledge too… more people…seem to be more accepting of having care in non-traditional settings." Similarly, Participant D commented, "… it has made a big difference, from …when they didn't have a program and where it is now. It has brought whole families to the dentist… they didn't realize [the importance] of oral health… because they learned it from their parents..."

Theme 2: Practice Barriers

Barriers that impeded the participants' ability to practice effectively as a public health dental hygienist were revealed. The subcategories included (a) removal of Medicaid benefits, (b) third party reimbursement, and (d) losing collaborative dentists.

Removal of Medicaid Benefits

The majority of participants (80%) discussed the financial loss after the elimination of deciduous dental sealants from the state Medicaid program as a reimbursable procedure. Participant A said, "We [had to reach] out to…other locations last year to ensure that we could keep the program going…based off the funding loss of deciduous sealant reimbursement which [previously] helped us maintain our program..."

Third Party Reimbursement

The public health dental hygienist legislation does not permit third party reimbursement. This often limits care to underserved populations such as older adults in nursing homes who carry private insurance. Participant C said, "…seniors were a group that needed care… I see about 50% of places with seniors, [and] …a few…shelters with [adults]…It has to be a mix to sustain you…typically seniors do not have dental insurance… they pay out of pocket." Similarly, Participant G added, "…I am just seeing the kids; but the adults and the elderly, it is just mind boggling…the need that is out there…a lot of people… fall between the cracks that don't have [Medicaid]."

Loss of Collaborative Dentists

Several of the participants (40%) discussed recently losing their written collaborative agreement with their dentists, which is a state requirement for a public health dental hygiene practice. The participants reported that dentists were being threatened by their malpractice insurance carrier with losing professional malpractice insurance if they had a collaborative agreement with a public health dental hygienist, thus threatening their ability to practice. Participant A commented on her recent experience, "…we lost the collaborative with our dentist, [and had to find] another collaborative dentist." Similarly, Participant B stated, "The collaborative dentist problem needs to get straightened out [for sustainability of the PHDH profession]." Although this directly affected only some of the participants, the majority (60%) acknowledge their concern regarding this dilemma.

Unintended Theme: Career Satisfaction

An unintended, yet emergent theme of career satisfaction arose from data not associated with the research question, and was noted in the responses of the majority of participants (80%). Participant A commented, "When you are passionate about something and believe… and it shows, it is contagious, and people want to be a part of it." Participant F added, "When you are passionate…and making a difference…I don't feel like it is work…although I am working all the time. You never work a day in your life, if you love your job…I can't imagine doing anything else." Similarly, Participant D commented, "It is so rewarding…I love the hands on. Seeing the kids, talking to the parents, working with the nurses. I love it and couldn't be happier with what I am doing."

Discussion

This study expanded knowledge on an alternative dental hygiene workforce model in Massachusetts. Additionally, barriers associated with direct access providers' success and sustainability were revealed. Increased awareness of the direct access dental hygienist, such as public health dental hygienists, may enhance utilization of this alternative provider, thus potentially improving access to preventive dental services, and oral health outcomes.

Results support the findings of previous research regarding comparable direct access providers in Oregon and Kansas. The characteristics of populations and practice settings were similar to both the Battrell et al[15] and Delinger et al[16] studies, primarily serving those with no dental home or limited access to a dental provider. Similar to findings in Battrell et al[15] and Delinger et al,[16] networking and relationship building in specific communities were reported as key to the success of the direct access providers' role in providing oral health care. Additionally, this study concurred with findings of Coplen and Bell[18] in identifying reimbursement challenges as a barrier to being successful in an independent practice setting. The collaboration legislative requirement was a noted barrier in both the Coplen and Bell[18] study and this study. However, the issues regarding collaborative agreements varied, from reporting inability to secure a collaborative dentist because of scarce dentist interest,[18] to Massachusetts' dentists threatened with losing their malpractice insurance by their carriers if they engaged in a collaborative agreement with a public health dental hygienist.

Limitations of this qualitative study were the reliability of the self-reporting from participants, low number of public health dental hygienists in the state from which to draw for study participation, low response rate and inability to generate results beyond Massachusetts public health dental hygienists. Although the investigator had interviewing experience, it is acknowledged that researcher-induced bias may have occurred during delivery of the questions.

Conclusion

This qualitative, phenomenological study highlighted the attitudes and perceptions of public health dental hygienists on providing preventive oral health care to vulnerable populations in Massachusetts. Public health dental hygienists in Massachusetts consider themselves as change agents within the health care profession, and while the barriers are plentiful, these providers continue to believe in their mission of improving access to dental care. Although knowledge has been gained regarding Massachusetts public health dental hygienists, it is recommended that other states with direct access dental hygiene providers' further investigation to facilitation and barriers of alternative dental hygiene workforce models as an approach to understanding and improving access to oral health care throughout the United States.

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