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Oral Health Care: An Autoethnography Reflecting on Dentistry's Collective Neglect and Changes in Professional Education Resulting in the Dental Hygienist Being the Prevention-focused Primary Oral Health Care Provider

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ORAL HEALTH CARE: AN AUTOETHNOGRAPHY REFLECTING ON DENTISTRY'S
COLLECTIVE NEGLECT AND CHANGES IN PROFESSIONAL EDUCATION
RESULTING IN THE DENTAL HYGIENIST BEING THE PREVENTION-FOCUSED
PRIMARY ORAL HEALTH CARE PROVIDER

By

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ORAL HEALTH CARE: AN AUTOETHNOGRAPHY REFLECTING ON DENTISTRY'S COLLECTIVE NEGLECT AND CHANGES IN PROFESSIONAL EDUCATION RESULTING IN THE DENTAL HYGIENIST BEING AN EFFECTIVE, PREVENTION FOCUSED PRIMARY ORAL HEALTH CARE PROVIDER

DEDICATION

For Anthony Sean McWeeney, our Baby Bear with the BIGGEST heart. You continue to teach me in very interesting ways every day. December 14, 1976 – April 6, 2018.

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To my husband, Steve, without whom, **_none of this_** would have been possible - my rock! To my darling, supportive girls, Claire and Grace. They were so generous and supportive and their "You've got this!" meant the world to me.

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Abstract

By Maureen McWeeney Harrington

University of the Pacific
2019

Many factors influence poor oral health among disadvantaged populations including socioeconomic circumstances, knowledge of disease prevention strategies and ability to implement those strategies, public policies, insurance status, insurance policies, dental providers and other challenges to accessing dental care. Often these issues converge and result in early disadvantages to achieving good oral health (Horton & Barker, 2010). Addressing even some of the factors that contribute to poor oral health may provide ways to change the dental health status of historically underserved populations. The purpose of this research is to explore my role as a practitioner and researcher in the creation of a hygienist-based, community-site located, teledentistry supported system of dental care for underserved populations and the intersection of my experiences with cultural, societal and educational occurrences. This autoethnography examined my own experiences and also explored the experiences of a small sample of others who participated in onsite dental care systems utilizing hygienists as the prevention-focused primary care provider.

As Ellis and Bochner (1996) note "Autoethnography stands as a current attempt to, quite literally, *come to terms* with sustaining questions of self and culture" (p. 193). The findings that emerged from my work included a realization that the dental industry creates and perpetuates the

collective neglect of large portions of the US population. Some of this neglect is embedded in traditional power structures in dentistry, gender bias and distrust in professional skills as a result of separate professional education structures. The result for many people is untreated dental disease, a profound lack of health equity, increased shame due to poor oral health as well as missing school. There are ways to address the collective neglect of the dental industry through the reframing of the dental hygienist as the prevention-focused primary care oral health provider in professional education programs then integrating this provider type into community settings like schools.

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CHAPTER1: INTRODUCTION

Figure 1. Maureen Harrington, X-ray of #19 with an incomplete root canal procedure

#19 hurts again, but this time the dull ache is making me nauseous and giving me some horrible headaches but mostly only at night. It's a different kind of pain this time. Maybe I'm grinding my teeth more than normal. Ok – so open the medicine cabinet and get the mouth guard out. Clean it and use it! Use it because it works or should work and was a significant investment. The magical mouth guard was $700. I paid cash for it because I was desperate to alleviate my daily jaw pain. Although it was disappointing that the mouth guard was not covered by either of our dental insurance plans, was I really surprised? But geez, 700$? Seems insane for a piece of plastic. Yes, it is molded to my mouth. Yes, I value the expertise of the dentist. But $700? At least it was less expensive than Steve's which was $1000 at dentist #3's office – again cash because it is still not covered by either of our insurance plans despite the doctor's prescription for it.

...Maybe it has been easier to ignore the pain because of the amount of stress I'm under. It is just easier to not even acknowledge the pain. Maybe the sheer number of other competing issues has been distracting enough. But I'm telling you, the pain is relentless and increasing. But hopefully, #19 is just irritated by grinding my teeth at night. I'll take Tylenol now then a few more later. It's just been more stressful than normal lately – too much to think about. Like the daughter who lost 10 pounds in a few weeks – not trying to lose weight at all – just really ill. And of course an MRI to figure out your child's sudden, unexplained and dramatic weight loss will win over a dumb toothache any day.

Besides, I can get it fixed, if it is fixable. Hopefully it is still fixable because I am not going to get an implant. And so many people can't do any of that. Getting the tooth pulled is the only option. It is insane to think of little kids or older people or someone with a cognitive impairment suffering with this type of relentless pain and just hitting road block after road block trying to get rid of it. That is depressing. I have two dental insurances for what that is worth, a car, a cell phone and time I can take off work to get this fixed. And most dentists take my insurance. I can't even imagine how hard it would be to deal with this otherwise. I am so privileged. I know that. But what a sobering and depressing reality for other people. It just feels so wrong that so many people suffer in silence and in pain as if it is entirely their fault that they can't find dentists to take their insurance or can't afford to pay cash for their care or are unable to get into dental debt with 23% interest on the credit plans suggested by dental offices. Heartbreaking.

Poor oral health is often associated with pain, infection, and inadequate or substandard nutrition. In children, added factors include increased school absences and distractions with learning (Chang & Davis, 2015; Nadereh & Nicholson, 2009; Seirawan, Faust & Mulligan,

2012). Conversely, children and adults with good oral health often experience improved self-esteem, higher nutrition status, and better overall health (Chestnutt, Murdoch, & Robson, 2003; Özhayat, 2013; Sheiham, 2006). The National Health and Nutrition Examination Survey (2011-2014) indicates that 18.6 % of children 5-19 years of age in the United States currently have untreated dental disease (National Center for Health Statistics, 2016). In 2011-2012, 37% of children in the United States aged 2-8 years of age had dental caries (or as it is commonly known, cavities) in their primary teeth, while 21% of those aged 6-11 years had caries in their permanent teeth (Dye, Thornton-Evans, Li, & Iafolla, a, 2015). The dental caries epidemic among children often results in missed school days, parents and caregivers missing work, and overuse of pain medication (Gomes et al., 2015; Seirawan et al. 2012). Meanwhile with adults aged 20–64, 91% had experienced dental caries and 27% had untreated tooth decay (Dye et al.b., 2015).

The definition of oral health that I most appreciate is from Glick et al. (2016) and is as follows:

> Oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort and disease of the craniofacial complex. Further attributes include that it is a fundamental component of health and physical and mental wellbeing. It exists along a continuum influenced by the values and attitudes of individuals and communities; [it] reflects the physiologic, social, and psychological attributes that are essential to quality of life; [it] is influenced by the individual's changing experiences, perceptions, expectations and ability to adapt to circumstances. (p. 916)

Dental disease is almost entirely preventable, but prevention is complex (USDHHS, 2000; Satcher & Nottingham, 2017). The nature of prevention can be attributed to "external forces" as well as personal behaviors and practices, including the lack of knowledge and understanding of the preventive nature of dental diseases, the role of oral hygiene, effective

hygiene instruction, and use of dental care and other prevention strategies (Satcher & Nottingham, 2017). In order to shift the commonly held belief that poor oral health is only the result of personal hygiene habits, there must be greater understanding that there are significant factors at play and that "dental misfortune cannot be attributed to caregiver practices alone" (Horton & Barker, 2010, p. 200). Social awareness about the nature of disease, prevention and opportunities for preventive care are essential (USDHHS, 2000).

Recognizing that there are other factors which contribute to poor oral health and seeing how these issues influence certain populations, practice choices and policies are important. Many things contribute to poor oral health among disadvantaged populations including personal behaviors and choices, socioeconomic circumstances, and public policies including lack of water fluoridation (The Community Preventive Services Task Force, 2017; Hayden et al., 2013; Horowitz, Kleinman, Child, Radice & Maybury, 2017; Hunter & Yount, 2011), insurance status, insurance policies, scopes of practice for providers and lack of access to care (Wright et al., 2013). Man-made obstructions to accessing appropriate dental care as created by the dental industry must be factored in as well (Otto, 2017). These issues frequently converge to create a perfect storm for early inequalities that create obstacles to achieving good oral health (Horton & Barker, 2010).

In 2011, the Institute of Medicine (IOM) and National Research Council (NRC) IOM and NRC report on , *Improving Access to Oral Health Care for Vulnerable and Underserved Populations,* explored recommendations for addressing significant oral health disparities among those of lower socioeconomic status and individuals of color in the US (IOM & NRC, 2011). Several meaningful recommendations from this report include community-based care systems designed to facilitate access to professional oral health providers and improve oral health for

underserved communities as well as the use of technology to increase access to care (IOM & NRC, 2011). When community-based care is in place, the opportunity to improve oral health and support substantial health education for patients and the extended family then health behavior change may occur (Asimakopoulou & Newton, 2015; Hilton, Stephen, Barker & Weintraub, 2007; Weintraub, 2013). As noted in the IOM report (IOM & NRC, 2011), community-based care models are designed to keep people healthy in community settings by providing a variety of care options including education, preventive care, triage, using current technology, and case management.

Community-based systems of care bring a team of allies and professionals to underserved individuals and communities while working to increase the dental literacy levels at the site (IOM, 2013). Adequate and appropriate information related to oral health that is customized for an engaged patient and family can increase the adoption of healthier behaviors (Akpabio, Klausner, Rohr & Inglehart, 2008; Al-Omiri, Al-Wahadni, & Saeed, 2006). The adoption of healthier behaviors can have a significant impact on oral health – especially when risk factors contributing to dental disease can be decreased resulting in reduced cavitation, less pain, increased retention of teeth, and fewer referrals to the operating room (Ng et al., 2014).

Oral health care providers often face limitations as they work to educate and inform patients and families/caregivers in traditional dental clinics or offices. These barriers can include limited appointment times that are dependent upon a patient coming to the office as well as dental anxiety and fear that can inhibit learning and information retention. In contrast, onsite care (offered at a site where the patients normally conduct their lives, like schools) can build upon and utilize existing and natural partnerships to increase access to care for dentally underserved children and individuals. Teaching and learning occur more readily in familiar and

supportive environments through various influences and with support from multiple sources

(Hilton et al., 2007). When person/family centered care is based in a familiar location, often

those individuals are able and open to learn about disease processes and personal hygiene

practices which leads to them changing attitudes and adopting behaviors that improve oral health

(Rivkin-Fish, 2010).

Background

Community-based, patient-centered systems of oral health care are portable clinics set up

in sites, such as schools. These community-based clinics can change the health outcomes of

underserved individuals and communities (Hilton et al., 2007). When effective equipment like a

portable suction and water system, clinician and patient chairs, x-ray machine and digital sensors

for x-rays, and teledentistry are added to the tool kit, opportunities for the clinical team to

communicate, diagnose and treat is enhanced (Pacific Center for Special Care, 2016).

Teledentistry is the use of information technology and telecommunications for dental care,

consultation, and education. When it is used in the community-based care model, clinicians can

treat a larger number of individuals (Daniel & Raghavan, 2015). Teledentistry facilitates

communication between the clinician, like a dental hygienist practicing in the community site,

and the dentist, who is in a different location yet still able to diagnose and create treatment plans

based on clinical records like x-rays and photos and other findings.

Dental therapists are another provider type with a greater scope of practice than a

hygienist, who can increase access to oral health services for many (Mathu-Muju, 2011; Nash et

al., 2014), and who also may be able to utilize teledentistry as needed. Dental therapists are

generally able to perform many procedures that would be very helpful in addressing the unmet

dental needs of many US populations. Nash, Mathu-Muju and Friedman even indicate, "...an

existing dental hygienist could obtain the skill of a therapist with a year or less of training..."
(2018, p. 131).

Community-based settings like preschools, schools, community centers, and residential facilities are natural sites for portable on-site care models. These settings are convenient for individuals and reduce many of the barriers individuals, families and caregivers encounter in accessing dental care such as parents' or patients' work hours conflicting with clinic hours, transportation challenges, and childcare challenges (IOM & NRC, 2011). In some cases, the community-based care can be preferable for many people and yet function as a triage system by providing a supportive alternative and/or complement to clinic-based care. If more extensive care such as root canals, complicated extractions, crowns, and prosthodontics are needed, a referral to a traditional office or clinic can occur with supportive, culturally appropriate case management. However, if the provider has an extended skill set like that of a dental hygienist with additional training or a dental therapist, then even more care can happen onsite and on an ongoing, regular basis in a primary care provider relationship (Mathu-Muju, 2011). Onsite care models with the properly equipped oral health providers can meet a variety of the oral health needs of many people, particularly vulnerable populations. For some people and populations, there are significant barriers to obtaining oral health care. Some populations that have historically encountered barriers to obtaining oral health services include individuals with intellectual and developmental disabilities, individuals with low incomes and their children, those in rural communities, with cognitive decline, with complex health issues and those with insurance that few dentists accept which is often public insurance.

The system I participated in and experienced in my work, provided care at a variety of community sites and utilized dental hygienists and teledentistry. My experiences give me insider

knowledge which is essential to this autoethnography and my views of expanding the reach and

role of dental hygienists to provide more oral health care to more people (Holman Jones, Adams

& Ellis, 2013) and provide a solution to the epidemic of dental disease. During this study, I was

on a significant medical leave due to a cancer diagnosis and complications from surgery. With

this time off, I was able to see more options in the dental toolkit to address the epidemic of

disease and to also see that many decisions contributing to the epidemic were not based in data

but in emotions, fear and self-interest. This distance and time made it possible for me to reflect

more deeply and to more clearly process my ideas on the epidemic of dental disease. I was able

to see more clearly the contributing factors to the collective neglect of many people by the dental

industry.

Dental hygienists are often underemployed, wish for more employment (Mertz &

Glassman, 2011), and are able to practice in telehealth connected teams (Glassman, Subar &

Budenz, 2013). With the use of teledentistry, communication between the dental hygienist

practicing in the community-based location and a dentist practicing in a clinic or office-based

location can replicate communication in an office setting if needed. An onsite dental care system

using teledentistry technology created a way for individuals and families to participate in the oral

health care system and supported the dental team in diagnosing disease and determining the best

location for subsequent dental visits (Pacific Center for Special Care, 2016).

When exploring limitations of the hygienist-based, community-located model, we must

question if the dental hygienist as currently configured in most states is the provider-type best

suited for the disease level of different underserved patient populations. Perhaps with an

extended scope of practice to the level of a dental therapist, a dental hygienist could better meet

the needs of the majority of patients and act as the primary care provider until/if the dentist as the

surgical specialist is needed. Additionally, limitations with the onsite care models include challenges with patient privacy in a setting like a school, infection control in non-clinical settings and transportation of dental team, equipment and supplies on a regular and on-going basis. The time, effort and cost of staff moving from site to site can be significant. Ergonomics can be challenging as clinicians are not as readily able to adjust the portable patient chair because the ease of the movement of the chair is less than in a clinical office. In addition, the space or practice environment including lighting, air quality, access to the practice site particularly with heavy equipment, access to storage, equipment protection, insurance for portable equipment, language and cultural compatibility of patients and clinicians, education and comfort of clinicians to practice in these settings, time and effort for relationship building and outreach as well as non-reimbursable case management are variables that must be taken into account in implementing the model. Some patients misunderstand the model and believe that all care can be completed onsite. Some dentists believe that the model is poaching patients. Finally, some medically fragile individuals may still require care in a hospital or surgical suite setting and these expectations must be addressed.

Patient-centered models of care with providers working in communities and locations familiar to patients and families create opportunities to improve the oral health of many underserved individuals. Head Start preschools, which are federally funded preschool programs for low income children, are a natural setting to address oral health issues as children and families are already in a "learning mode" about health issues (Filstrup et al., 2003; Milgrom, Weinstein, Huebner, Graves & Tut, 2008; Office of Head Start, 2017). In addition, Head Start is mandated to address oral health issues of students (Mofidi, Zeldin & Rozier, 2009; Office of Head Start, 2017). Other settings, like schools, care facilities, and day programs are increasingly

recognizing that healthy students, residents, and participants are important and that traditional dental office settings may be too challenging to access oral health care regularly or at all (Eaton, Marx, & Bowie, 2007; Fisher-Owens et al., 2007; Simmer-Beck, Wellever & Kelly, 2017). This knowledge and awareness provide an opportunity for onsite dental services to become embedded into a variety of community sites.

A hygiene workforce as the lead in a community-based model is not without precedent (Mertz & Glassman, 2011). Additionally, many years ago it was noted that "...in most private practices and as limited by some state laws, statutes, or regulations, most hygienists are overeducated and overtrained and underutilized (Lobene, Berman, Chaisson, Karelas, & Nolan, 1972, p. 66). The convergence of interests in a hygiene workforce leading a community-based, prevention-focused primary care model is reasonable, safe and can address the unmet oral health needs of many. With an increased scope of practice for dental hygienists similar to that of a dental therapist, then even more care can be provided to help alleviate the epidemic of untreated dental disease.

I hope this autoethnography can act to break the silence in dentistry by addressing understudied, hidden, and/or sensitive topics (Holman Jones et al., 2013). This study explores the collective neglect and man-made barriers people experience when trying to access adequate and appropriate oral health care. I use my personal experiences to "promote social change by compelling readers to think about taken-for-granted cultural experiences in astonishing, unique, and often problematic ways and, further, to take new and different action in the world based on the insights generated by the research" (Holman Jones et al., 2013, p. 36). Additional investigations in this autoethnography will look at the traditional power structures and hierarchy, gender bias, and identity norms in dentistry. Perhaps society's attention and awareness is

adequately piqued to partake in the convergence of interests and move the system from one that works well for dentists to one that works well for underserved patients, dental hygienists and dentists.

Research Problem

Dental associations and societies have significant power to influence the oral health epidemic on many levels including limitations on scopes of practice of different provider types and locations in which care can be provided. In addition, dental and dental hygiene educators and industry leaders influence the readiness and ability of community-based oral health providers to practice in these community settings and with underserved populations. In addition, these educators can influence the identity shift of the hygienist as the prevention-focused, primary care provider and the dentist to that of a surgical specialist. Stakeholders who are able to impact and influence the oral health arena include different members of the dental team, families, advocates, patients, employers, school or site nurses, directors, principals, policy-makers, physicians, insurers, counselors, and caregivers. Stakeholders can make a collective effort to address the epidemic of unmet oral health needs.

In my role as both director responsible for planning, implementation and evaluation of the program and a scholar, my experiences are useful to explore. In these roles, I was able to view an evolution of community-based programs as well as witness the experiences of some of these stakeholders. Cultural influences and societal issues helped put these experiences in perspective. Additional information was gathered from stakeholders I interviewed and worked with who are dental hygiene/dental educators and clinicians in the model of care. No investigation of the implementation team(s) has occurred nor have these other types of individuals and their experiences been investigated in the context of deeper learning.

Understanding the combination of these experiences can provide insight into future iterations of implementation, education, political environments and a call to action to make substantial changes to the barriers to care for those not served effectively, if at all, by the current dental system. The collection of these things informed my research and reflections and contributed to my thoughts for future considerations and decisions.

Purposes of the Study

The purposes of this research are: (1) to explore my experiences as a practitioner and researcher complemented by a small sample of those who participated and supported the integration of dental services utilizing community-based clinicians and teledentistry into various community-settings; (2) to explore intersections of larger social and cultural expereinces with my own reflections; and, (3) to explore my thoughts about expanding oral health care opportunities to more underserved indivduals and communities.

Research Questions

The critical questions which guided this investigation were: What are my experiences and perceptions of the development, implementation, evaluation and replications of dental hygienist-based, community-located, teledentistry supported programs? How did my experiences intersect with social and cultural experiences? How can these experiences inform policies, education and practice in order to bring more dental care to more underserved people?

Significance of the Study

Community-based, patient-centered systems of oral health care can positively change the health outcomes of underserved communities (IOM & NRC, 2011). In addition, health behavior change may occur among patients in various ways – through multiple influences and with support from several sources (Lima Chaves & Viera-da-Silva, 2007). The integration process of

a community-based dental team is based upon the willingness of various individuals and organizations to work together to build an embedded dental system of care supported by teledentistry into non-traditional settings. The experiences of those individuals, including school administrators, clinicians, teachers, patients, families, caregivers, industry leaders, and educational leaders can influence future processes, curriculum, and approaches to increase access to preventive and early intervention care and ideally improve oral health for the most dentally underserved among us. Exploration of these individuals' experiences combined with my own experiences helped increase understanding of factors that influence systems, behaviors, education, and training of clinicians and administrative issues that inhibit or encourage this type of care. In addition, I refer to "dentistry" to mean dentists and separate dental hygienists from this definition.

Community-based care provides an opportunity to reach underserved and vulnerable communities who lack access to or underutilize care in traditional dental offices. In some cases, this system can replace clinic-based care while in others, it can enhance and supplement clinic-based care. Perhaps some of the results of this research will contribute to the discussion of preparation and ongoing continuing education of dental professionals particularly for those who wish to practice in community-based systems of dental care for groups and populations with significant unmet oral health needs. Also, looking at who the current dental system works best for will be important. It seems to be working well for dentists, generally speaking, and far less so for patients, particularly underserved individuals who are experiencing an epidemic of untreated disease.

Chapter Summary

The implications for addressing dental disease through the integration of onsite dental services into community-based settings are significant. It is a way to improve the oral health of many underserved children and adults. In many cases, traditional approaches, which are often provider-centric, do not effectively address many of the oral health needs of underserved populations. The exploration of my experiences as a practitioner and researcher of the hygiene-based model may inform the integration of onsite dental services supported by teledentistry into various community settings in the future. Additionally, it may inform discussions about the education and identity of dentists and hygienists as well as workforce changes needed to make an authentic impact on unmet oral health needs in the US.

CHAPTER 2: REVIEW OF THE LITERATURE

But #19 is getting worse. I know it is. I'll call the dentist. I trust the new dentist. He seems very competent. I personally know several of his staff. He is local. Excellent! I'm thrilled with finding him. So grateful!

When his team finds a spot in his schedule for an emergency x-ray on a Monday morning, I'm so grateful and nervous too. Has #19 hit its expiration date? I hope not because I can't afford an implant and leaving an empty space will cause my teeth to move. I had braces for 4 years thanks to my parents' investment – the time, effort, money and travel it took for orthodontics. I know my Dad stayed at that job he hated longer for us to have the orthodontic benefit through his work and I know that even with the ortho benefit, there was still a huge patient pay portion for the family especially since Gerry and I had them on at the same time. But I stopped wearing my retainers in college and my teeth moved. Still I am generally happy with my teeth and smile. Generally happy until the pain starts up again. AGAIN! Ugh. So frustrating...why #19 again? That was "fixed" ages ago.

But I know I'm so privileged. I live it every day. I get it. I've never been without dental insurance...that I can remember. It was the worrier in me – to get a job with health and dental insurance. And even if the dental insurance doesn't cover everything, it covers something. Most things? But I know SO MANY people and not just those I've met through work, who struggle to afford, get and access regular dental care. Particularly preventive care like cleanings. Sometimes people just wanted their teeth cleaned but couldn't afford the x-rays that went along with the cleaning. Were x-rays needed EVERYTIME a cleaning was provided? To me and to most people, it didn't make sense why it couldn't work that way. And really, it was weird because my two children have NEVER had one bit of dental decay in any capacity whatsoever

*and they are 17 and 15 years old, had x-rays at each and every visit, at least twice a year since they were 1 year old. Claire has the good fortune of getting healthy and fairly straight teeth even with the baba at night...because her pediatrician said to do whatever it takes to get sleep since Steve was in school and we were desperate for sleep – co-sleeping and babas were fine. One of our favorite family stories is repeating how we gave her a baba in the night and she threw it across the room from the middle of the bed between me and Steve. She turned and looked at each of us with devastation in her eyes because of our turncoat behaviors. We had given her the baba and the milk was **COLD**. She let it dribble down her chin and said in her very sleepy but very self-assured voice, to "make it hot, make it nice..." and we did. From then on, we continued our pattern of warming the milk before bed, wrapping the baba first in tin foil then in a dishtowel and finally inserting it into an oven mitt that then sat upright on the side of the bed until she demanded it in the middle of the night. In fact, the thing I may be most proud of is, that despite each girl drinking hot babas of milk every night for several years, neither has any dental disease...ever! So far!*

I still battle the dentist about taking their x-rays at every visit. Why? Why do they need more x-rays? Did hidden disease suddenly develop even though there is no visible change to their mouths? Or is it simply that our two insurances will pay for these x-rays regardless of need? Is it habit? Is it because we live in such a litigious society and they want to avoid missing anything? Whatever. I like this new dentist so I am not going to rock the boat. The last dentist we had for maybe 15 years burned a bridge after the assigned emergency dentist for the practice refused to see Grace's two broken and bleeding front teeth on a late Saturday afternoon. When we ended up in the ER until 2 am that morning, Steve refused to give any more of our business to them. I guess I agreed but felt adrift. Starting with a new dentist makes me feel so vulnerable.

The dental PTSD sounds like a joke when I talk about it because I can ramp up the animated storytelling but I really have had tears rolling down the side of my face when I'm in the chair and the tears really do pool in my ears because I can't wipe them away. I really do have full body aches after a visit because I've been in a fully body clench every second I've been in the chair regardless if drilling and needles were involved. Even a cleaning can send me into an anticipatory funk. And I know I'm privileged. I know it. I get it. There is some small part of me that is so jealous of my children who have only experienced cleanings, sealants, x-rays and orthodontics – no needles and no drilling ever. What a lovely thing! I can't even imagine.

It's possible and very likely that every filling I've ever had has been replaced at least once. It is true and in some cases, the fillings have been replaced with crowns or onlays or white rather than silver fillings. Sure thing and it didn't happen all at once. I had to pace my torture/treatment. I had to build up the courage and often cancel/reschedule/postpone multiple times until I could be ready for the next torture/visit. And I know I'm privileged. (Maureen Harrington, 2019)

Overview

This literature review builds upon a conceptual framework of a convergence of interests. I use this framework to view how various factors intersected and contributed to an environment which appears to be slowly more open to different practice models of dental care. This reality is emerging from an environment which historically has demonstrated an inadequate response to the dental needs of large populations and communities in the US. Background information about incidence and prevalence of dental disease are provided as is the connection of dental disease to overall health. Of critical importance in understanding my experiences is the recognition that the two most common types of dental disease namely dental caries and periodontal disease, are

chronic diseases that are almost entirely preventable. These diseases should be addressed as such with appropriate clinicians to provide care and supported by customized health education and behavior change support. Power structures based in the traditional hierarchy of dentistry, gender bias, the need for identity shifts and changes in educational structures are addressed as well.

Background

Untreated dental disease plays a significant role in overall health including health issues such as diabetes, premature birth, coronary artery disease, and cerebral vascular disease (Chapple, 2009; Jeffcoat, Jeffcoat, Gladowski, Bramson & Blum, 2014). Dental disease is at epidemic proportions in US children, with approximately 20% of children ages 5-11 years and 13% of adolescents age 12-19 found to have at least one untreated decayed tooth (Dye, Li, & Beltrán-Aguilar, 2012). While, approximately two-thirds of US seniors over 65 years of age experience periodontal disease (Eke, et al., 2016).

Despite these statistics, good oral health is achievable for most people. However, many dental disease interventions focus on treatment of disease in traditional dental offices and clinics and on restorative care. This occurs despite evidence that change strategies occurring in person- and family-centered systems, supported by minimally invasive dentistry techniques and provided in convenient locations, can improve oral health (Clayton, Chin, Blackburn, & Echeverria, 2010; Compton, 2012; Ng et al., 2015). Especially for children and families, chronic disease interventions including onsite dental services in community settings and schools can lead to improvements in oral health (Leong, Gussy, Barrow, de Silva-Sanigorski & Waters, 2013). Ideally, this combination of solutions can reduce disease risk factors and these preventable dental diseases themselves.

The two main dental diseases, periodontal disease and caries, are chronic health issues that can generally be better treated in a manner similar to the treatment of other chronic diseases like diabetes and asthma. Repeated and regularly customized, risk-based interventions can support important behavior changes designed to reduce risk factors and improve the oral health condition (Chapple, 2009). Supportive disease management strategies including, in some cases, lifestyle changes have higher rates of success in managing chronic diseases than do acute disease treatment options. The implementation of robust prevention, education, and early intervention activities in conjunction with acute surgical interventions can arrest dental disease early in the disease process (Chapple, 2009) and, in many cases, prevent future disease.

Surgical suites, clinics and operating rooms are costly locations to provide prevention and early intervention procedures (Albino & Tiwari, 2016; Casamassimo, Thikkurissy, Edelstein & Maiorini, 2009; Compton, 2015; Samnaliev, Wijeratne, Kwon, Ohsoba & Ng, 2015). Additionally, those locations are not likely to be the most effective spaces to encourage and support behavior change which is often critical to improved oral health (Slayton et al., 2016). Person-and family-based health education combined with effective preventive, diagnostic and early intervention procedures can make a significant impact on the oral health trajectory of an individual (Edelstein & Ng, 2015). In addition, many community-based care models established in locations like schools, group homes, day programs, community programs and community centers are often not charged rent to have onsite dental practices. These clinics are often staffed by dental hygienists which result in care being provided at a lower cost than care provided by a dentist in a surgical suite, particularly for preventive procedures.

Generally, the types of care that dental hygienists can provide include obtaining clinical records such as intraoral images, radiographs/x-rays, charting of periodontal health, cancer

screening, and procedures like cleanings, sealants, fluoride varnish, preventive restorations, oral health instruction, nutritional counseling, tobacco cessation and personal hygiene education. Different provider types can conduct more care under indirect supervision by a dentist and this is determined on a state-by-state basis. More care can and should be given onsite in cases where different types of providers are clinically indicated (Nash et al., 2014; Simmer-Beck et al., 2017).

An even more expansive provider type that is not as costly as a dentist, is a dental therapist. As was previously noted, this type of clinician has a greater scope of practice than that of a hygienist, yet can access the patient directly and be another effective source of care. In some cases, a dental therapist may be preferable if the population's disease burden warrants (Friedman, Nash, & Mathu-Muju, 2017). Of course, there are still some cases in which even preventive services must be conducted in an office or hospital setting due to complicated health issues or the need for sedation due to dental anxiety, fear, or patients' inability to cooperate during procedures (Edelstein & Ng, 2015).

This literature review provides background for my study including the dental disease burden in the US particularly among those who struggle to access oral health care, the relationship of oral health to general health, chronic disease principles as related to oral health, workforce considerations, identity shifts including hierarchy and gender bias in dentistry and the collective neglect of dentists that results in the epidemic of untreated dental disease.

Conceptual Framework

The convergence of interest theory is the theoretical lens upon which this study is built (Bell, 1980). It contributes to my view of dentistry as an industry, public health, dental/hygiene education and unmet oral health needs. This view is a combination of my experiences and the norms I have observed to explore what is converging to make a change to this epidemic.

Historically, the interest convergence theory was based in desegregation, or lack thereof, in public education and the ability of the many stakeholders to reflect on "natural and foreseeable consequences of their policies" (Bell, 1980, p. 527). In this study, I take convergence of interest theory and optimize it in the oral health arena. The theory has social activist and social justice elements which include equity and structural barriers in Critical Race Theory and Social Capital Theory (DeCuir & Dixson, 2004; Wang et al., 2016; Watt, Williams, & Sheiham, 2014). Through interest convergence theory, this study looks at the interactions among multiple interests including the dental workforce, dental industry, dental and dental hygiene education, and community-based practice sites serving populations with high unmet oral health needs. This theory provides a way to view how various changes in the aforementioned industries are converging to make change more likely than in the past. This study combines my experiences and a small sample of participants to give me an opportunity to reflect and explore the "natural and foreseeable consequences" (Bell, 1980, p. 527) to these intersecting interests.

Disease Burden

The epidemic of untreated dental disease is a worldwide public health epidemic with negative oral conditions affecting 3.9 billion people (Marcenes et al., 2013). Globally, nearly 35% of children and adults have untreated caries – cavities – in permanent teeth (Marcenes et al., 2013). Dental health disparities are significant and pervasive in the US particularly among our nation's children (Clayton et al., 2010; Leong et al., 2013; Lima Chaves & Vieira-da-Silva, 2007; Petersen, & Kwan, 2011; Sisson, 2007). There are profound health disparities among racial and ethnic minorities, individuals with disabilities, elders, and individuals with complicated medical conditions and social situations (Da Rosa et al., 2011; Satcher & Nottingham, 2017; IOM & NRC, 2011). Lost hours from work and school in US adults indicate

disparities by race/ethnicity and ability to pay for care (Kelekar & Naavaal, 2018). Additionally, regions without dentists and without direct access to other types of dental providers struggle with access to care. According to the Pew Charitable Trusts, "More than 63 million people in the United States live in areas with dentist shortages" (Pew, 2018, para. 3).

US elementary, middle and high school student populations experience dental disease at an epidemic rate. In 2012, 20% of children ages 5-11 were found to have at least one untreated, decayed tooth, and 13% of adolescents' ages 12-19 were found with the same (Dye, Li, & Beltrán-Aguilar, 2012). Various studies indicate that children with poorer oral health status were more likely to experience dental pain, miss school, and perform poorly in school (Jackson et al., 2010).

Oral health disease prevention and control strategies implemented through systems such as K-12 education systems are effective yet not used as often as possible (Clayton et al., 2010). This is despite evidence that co-locating dental services into schools improves the oral health status of students (Albert, McManus, & Mitchell, 2005; Clayton et al., 2010; Pourat & Nicholson, 2009). Co-locating dental services into settings where individuals are engaged in day-to-day activities can increase access to dental care as well as influence the personal prevention practices of individuals who have historically not had access to or do not utilize traditional dental offices (Pourat, Martinez, & Crall, 2015; Simmer-Beck et al., 2017). These issues can influence schools, administration, principals, teachers, nurses, and parents to support addressing the oral health of students on school campuses. These individuals know chronic absenteeism and poor oral health status are problematic for their students and schools (Agaku, Olutola, Adisa, Obadan & Vardavasa, 2015). Their interests are converging to support different approaches to oral health care – more patient and family centered care models.

General Health

Oral health/dental disease has a more significant role in the national healthcare discussion since the Affordable Care Act's initial implementation in 2010 as focus on the need to provide care at lower costs became a more dominant motivating factor (USHHS ACA, 2013). Dentistry, medicine, nursing, public health, education and social services are becoming even more informed of and alarmed by the impact that untreated dental disease has on general health and the implications of this (Cohen, 2013; Grant & Greene, 2012; Griffin, Jones, Brunson, Griffin, & Bailey, 2012; IOM & NRC, 2011). Health providers recognize that an untreated infection in the body, regardless of the source, negatively impacts a person's body and overall health. The associated health costs may be reduced if appropriate care for an infection, or in this case, dental treatment is provided in a timely manner (Jeffcoat et al., 2014). Additionally, the oral health of a population and associated costs of neglect are much like that of other chronic health issues with costs increasing as untreated disease progresses (Watt, 2007). Oral diseases share many of the same social determinants and risk factors as other significant chronic diseases, including heart disease, cancer, chronic obstructive pulmonary disease, diabetes, dementia, and stroke (IOM & NRC, 2011). These determinants are gender, age, education level, income, race and ethnicity, access to medical insurance, and geographic location (DHHS CDC, 2016; Lee, Watt, Williams, & Giannobile, 2017; USDHHS Healthy People, 2014).

The Pew Charitable Trusts (2018) showed that, similar to other chronic diseases, if oral diseases are uncontrolled, emergency room use and costs increase. The costs and burden of untreated dental care are often shifted to other areas in health, social services, and educational systems resulting in things like an increase in missed school days (Seirawan et al., 2012). Fundamentally, there is an increase in pressure from the greater health care system for dental

disease to be treated in a meaningful but economically responsible way, which means not burdening the general health care system because of neglect in the dental care system (Wall & Nasseh, 2013). This pressure is one that is influencing change in the dental arena. These interests are converging and motivating change, evolution and the seeking out of new solutions and options for care provision particularly to underserved communities.

Chronic Disease Management Approaches

The use of chronic disease prevention strategies and behavior change strategies as a basis for lifelong oral health is essential and should be part of the toolkit for oral health interventions (Albino & Tiwari, 2016; Compton, 2015; Ng & Fida, 2016). Roberts-Thomson (2012) reports that often those patients at highest risk are the least able to make best use of any advice given, particularly in relation to behavior change. Roberts-Thomson (2012) also notes that individual health education alone is ineffective in effectively controlling dental disease processes.

In contrast, comprehensive community health education increases knowledge and self-reported preventive practices (IOM, 2003; Macintosh et al., 2010). Community-based care models can create, maximize, and enhance comprehensive community health education and address points with individuals and their families/caregivers with the intention of supporting behavior change essential to reducing disease risk level (IOM & NRC, 2011). Experiences from studying other chronic diseases indicate that early interventions conducted in supportive environments and with supportive social norms can change the trajectory of diseases like asthma and childhood obesity (Caprio et al., 2008; Dalton & Kitzman, 2008; Starlard-Davenport et al., 2016). Further studies related to asthma and diabetes interventions have seen management strategies integrated into location-based care models like schools and other educational systems with the end result being improved disease control, fewer school absences, and fewer emergency

room visits (Aravamudhan, Glick & Crall, 2017; Guarnizo-Herreno & Wehby, 2012; Ismail et al., 2013). Children with these health issues are supported in disease management by school nurses, medical assistants or aides who educate, inform and support the child and family in ways that prevent or reduce the need for acute care interventions (Leong et al., 2013) and these same strategies can be replicated with chronic and preventable oral diseases.

In similar fashion, integrating dental disease prevention and management strategies into educational settings like preschools and schools have shown to decrease the use of tertiary care especially in historically underserved communities (Guarnizo-Herreno & Wehby, 2012; Simmer-Beck et al., 2017). A comparison of school- and community-based dental clinics showed that when services are based in schools then barriers such as transportation issues and missed appointments due to parent availability are greatly reduced (Larsen, Larsen, Handwerker, Kim, & Rosenthal 2009; Simmer-Beck et al., 2017). Schools, like other locations where people go regularly or where they live, provide a natural location for the effective provision of preventive and responsive oral health care. In many cases, the school-based clinics increase care options and support for immigrant families who face additional cultural, linguistic and educational barriers to accessing dental care in traditional settings (Clayton et al., 2010). Many oral health advocates, federal, state and local policymakers, public health experts, general health providers, payers, and health systems are becoming increasingly aware of the value of location-based care. Subsequently, policies are being created and adjusted to reflect this greater understanding of options for oral health (IOM & NRC, 2011; Mathu-Muju, Friedman, & Nash, 2013; Polverini, 2012).

Additionally, evidence-based dentistry (EBD) as defined by the American Dental Association (ADA):

is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences. (2013 para. 2)

And although EBD is increasing in usage in general, it is similar to innovations in other industries and has experienced a slow adoption into practice. It was noted that, "Ingrained practice behavior based on personal clinical experience that differed substantially from evidence-based recommendations resulted in a rejection of these recommendations" (O'Donnell et al., 2013, p. e.26). A recent survey of US dentists indicates delays in adopting evidence-based clinical recommendations regarding the sealing of permanent first molars and premolars and that new educational and dissemination programs should be developed regarding these evidence-based caries management approaches (Tellez, Gray, Gray, Lim & Ismail, 2011). Some payers, including public insurers, have increased adherence to evidence-based practice standards with clinicians through the use of claim reviews, professional in-services and practice and procedure incentive packages. It appears that public funders like Medicaid are more readily adopting these approaches as the motivation to contain costs is significant for public entities feeling pinched by budget reductions (Compton, 2012). EBD can be increased and result in changes in the dental field particularly in preventing the two most common and most preventable diseases. These converging interests add to the story of change around community-based oral health care models and the reasoning behind increased growth and interest in these care models.

Workforce Considerations

A meaningful and thoughtful approach to determining the appropriate workforce for practice settings should be based on several factors not the least of which is the specific dental needs of a population (Bailit, Beazoglou, DeVitto, McGowan & Myne-Joslin, 2012; Castañeda, Carrion, Kline & Martinez Tyson, 2010). Preferably, the provider type(s) would be determined

in an unbiased manner with attention to responsive and effective care based on disease burden and complexity of care required of the patient base as well as recognition that the actual prevention of oral diseases is an essential basic activity of a primary oral health care provider. While the dental workforce may be adequate in numbers overall and in theory would be able to provide adequate and appropriate care to the US population, it is inadequate in certain communities and for certain populations to be served effectively and with basic provision of preventive care (BHW HRSA, 2018). This is seen in the limited number and distribution of dentists in rural communities (BHW HRSA, 2018). Additionally, there is a lack of availability of dentists who are willing to serve certain populations such as those with disabilities, using public insurance, and living in rural communities (BHW HRSA, 2018). There are many factors that contribute to an inadequate and unavailable dental workforce despite full awareness of many underserved populations (Bailit, 2017; IOM & NRC, 2011; Vujicic, 2015).

The Bureau of Labor Statistics in the US Department of Labor's 2015-2016 edition of the *Occupational Outlook Handbook* (BLS, OOH, 2017) indicates that the employment of dental hygienists is projected to grow 19 percent from 2014 to 2024, much faster than the average for all occupations. In the theme of convergence of interests, it seems that the dental hygiene industry can and will grow to meet the needs of the public not served by the dental industry as it is currently configured even if not all in-coming hygienists adopt community sites as potential practice settings. This is likely to occur in ways that are defined as "direct access" which means that the hygienist directly connects to the patient without a dentist referral required (American Dental Hygienists' Association, 2016) or via community-based or location-based care models. These changes are often dependent upon the approval of dental boards for scope of practice and supervision changes.

Yet, there are additional factors that contribute to the hygiene industry seeking more direct access and location-based care and includes dental hygienists interested in engaging work. Boyd (2016) indicates that hygienists who experience boredom and lack of benefits in private practices cite these factors as reasons to leave the dental workforce. Additionally, the dental therapist model of care can be filled with dental hygienists who obtain additional training to obtain the therapist skills and licensure. With this option, more care can be provided to more people utilizing an underemployed yet competent workforce (Mathu-Muju, 2011). This provider type has been studied extensively and is currently practicing in several states in the US (Nash, Mathu-Muju & Friedman, 2018).

Another influence that may contribute to the uptake of community-based models of care can be found in the financial pressures clinicians are experiencing (ASDA, 2017). Often, once extensive disease is under control, care can be provided to a group of patients at a lower cost than traditional dental offices because the overhead costs are less in community sites. Including dentally underserved communities plus adding Medicaid recipients into practices via community locations can concurrently increase practice opportunities for clinicians. Many new clinicians are graduating from professional education programs with significant student loan debt, which can make this type of practice model an attractive option (ASDA, 2017). Adequate work and income in order to manage dental and hygiene student debt may enhance the willingness of providers to be creative in adopting community-based models of care and advocating for the normalization of those rather than allowing policies and decisions that are restrictive (Catalanotto, 2017; Vujicic, Israelson, Antoon, Kiesling, & Paumier, 2014). In addition, Kleiner & Kudrle (2000) found that more restrictive licensing of hygienists by dental boards

resulted in higher costs for patients, higher revenues for dentists yet no improved health

outcomes for patients.

    To fully understand the dental industry, the dental "safety net" must be explored. The

American Dental Education Association describes the safety net this way:

> The dental safety net provides urgent and basic care for millions of Americans facing barriers to access. The populations reliant on the dental safety net are typically uninsured, underinsured and unable to pay for services out of pocket. Additionally, the safety net provides needed services to those more likely to have unmet oral health needs, including the elderly, children, racial and ethnic minorities, medically compromised individuals and those living in geographically remote areas....
>
> Academic dental institutions play an integral role in the dental safety net by preparing oral health professionals to deliver quality care to underserved populations. Often, the dental school is the state's largest safety net provider. With a mission to serve the community, academic dental institutions are finding new opportunities to educate dental students, dental hygienists and residents about how to effectively care for underserved communities and embrace their professional responsibilities as leaders in oral health. (ADEA, para. 2 & 3)

Community-based care models utilizing a variety of appropriate providers can alleviate

the burden on the already stretched, safety net system which experiences high numbers of

patients with significant dental disease and long wait times (Phillips, Gwozdek & Shaefer, 2015)

and is entirely inadequate and ineffective to prevent and manage chronic diseases, caries and

periodontal disease which are almost entirely preventable.

    By moving the prevention, diagnostic and early intervention services to community sites,

it is possible to reserve clinical operatories for those who are medically complex, need extensive

and complicated dental surgery and restorative care. This system would be an effective and

thoughtful use of resources and provide a roadmap to implement triage strategies. This type of

care approach can also be utilized by private practice clinicians who can respond to unmet

community needs while expanding practice opportunities – another convergence of interests

(Martin et al., 2016).

With the enormous unmet need among large numbers of individuals and populations and an underemployed dental hygienist workforce interested in providing care, the utilization of hygienists as direct care providers should be part of the solution (Bailit & D'Adamo, 2012; Bersell, 2017; Nash, et al. 2014; Phillips et al., 2015). Looking at information from many years ago in the quote below, one would ask why has the dental industry ignored or limited this data and not responded to the profound unmet need by optimizing dental hygiene colleagues with expanded functions as prevention-focused primary oral health care providers?

> Why use the hygienist in restorative dentistry when, by tradition, hygienists belong in periodontics and prevention? The reasons are that hygienists are already licensed and can be regulated by existing dental boards, and the hygiene curriculum is extensive in those basic sciences which dental educators consider prerequisites to clinical dentistry. In addition, as now utilized in most private practices and as limited by some state laws, statutes, or regulations, most hygienists are overeducated and overtrained or underutilized (Lobene et al., 1972, p. 66).

Additional interests which may be converging are the shift in attitudes and readiness for change that many stakeholders are exhibiting. Many dentists are willing and ready to provide care to underserved populations by working with dental hygienists who provide direct care (Coplen, Bell, Aamodt & Ironside, 2017). A study of attitudes of dental school deans gives some insight into the future as well. This study indicates that about three-fourths of deans' believe that the scope of practice for both dental hygienists and dental assistants should be expanded and that these providers could improve access to care for the underserved (Aksu, Phillips, & Shaefer, 2013). Follow-up data indicates that over time, faculty that experience working and training with dental therapists, have improved opinions that are likely influenced by ongoing and repeated exposure and collaboration (Self, Lopez, & Blue, 2017).

Finally, the opportunity to learn in a broader context establishes the norm of working together rather than in siloes. The World Health Organization (WHO) identifies

Interprofessional Education (IPE) as that which "...occurs when two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes" (World Health Organization, 2010, p. 13). It has been noted that interprofessional education "...promotes a broader view of the community of practice and thus a more inclusive professional identity" (Morison, Marley, & Machniewski, 2011, p. 478).

Barriers

There are many well-documented barriers to oral health and access to oral health care. This literature review does not address an exhaustive list of those barriers, but focuses on some I believe may be particularly challenging, or may influence change or be an aspect of increased openness to change in the dental care industry. Some of the barriers include education and training of the dental team and others who may participate in onsite dental care models, professional identity shifts, and payment structures (Mouradian, 2007). While some deeper issues related to barriers include the traditional hierarchy in dentistry, power structures and gender bias are important to explore as well.

The gig economy or the piecemeal approach to working in a dental office are often to the detriment of the hygienist who frequently experiences underemployment, as well as being confined to the role of an independent contractor despite it being illegal to do so. One would wonder if this oppression and abuse of power happens more often and with less concern for being held accountable because women are primarily hygienists and even among dentists, the numbers of practicing female dentists was quite low until recently. Women constituted only 3% of dentists in 1982 (Nyguyen Le, Lo Sasso & Vujicic, 2017). Still the percentage of female dentists increased to 22% in 2004 and was 32% in 2018 (US Census Bureau, 2006; American Dental Association, Health Policy Institute, 2018). While in 1985, women made up 24% of

dental students; the number increased to 42% in 2004 and 47% in 2014 (Nguyen Le, Lo Sasso & Vujicic, 2017). Yet despite these encouraging numbers, Whelton and Wardman (2015) indicate that globally there is clear disproportion of males in positions of leadership in dentistry. In addition, the more senior the position of leadership, the greater the gender imbalance biased towards men. In the US and in the "pink collar" work of dental hygiene, it is important to note that state dental boards are typically responsible for regulating the dental hygiene profession, making dental hygiene the only licensed profession regulated by another profession (Wanchek & Rephann, 2014).

The male-dominated world of dental leadership has historically prevented a predominantly female led industry of dental hygiene from providing care to underserved individuals and populations. A hygienist with some additional training can provide a significant amount of preventive, diagnostic and some restorative care to underserved populations. This provider type is supported by the American Association of Public Health Dentistry and the American Public Health Association but opposed by the American Dental Association, most constituent state dental associations, the American Academy of Pediatric Dentistry, and other dental specialty organizations. Studies conducted in the United States in the 1970s at the Forsyth Institute, the University of Kentucky, and the University of Iowa demonstrated the ability of dental hygienists with additional training to provide quality restorative care for children comparable to that of US dentists and dental therapists internationally. In addition, the introduction of dental therapists in Alaska and several other states has resulted in demonstration that these individuals are providing technically competent dental care that is equal to the level of care provided by a dentist (Mathu-Muju, 2011). The dental therapist in practice now is able to

serve all age groups although there continues to be push back from formal dentistry that this is

not the case (Nash et al., 2018).

Meanwhile it is interesting to note others such as Hoekstra (2017) presenting more raw

commentary,

> Like nurse practitioners and physician assistants are to doctors, dental therapists are mid-level providers who can perform many of the same procedures as dentists, such as pulling teeth and filling cavities. And as with the medical profession, dental therapy has run into opposition from the profession's top dental groups that continue rifling through an excuse rolodex to protect their turf. (para. 3)

In addition, perhaps there is a change that may benefit the public as well. As Lyon

(2017) indicates, dental school enrollment has reached almost equal enrollment for each gender.

With this comes an opportunity for dentistry to meet the desperate need of so many underserved.

Particularly since "In both dentistry and medicine, women favor certain specialties such as public

health, pediatrics and obstetrics" (p. 16).

Perhaps as more women enter into dental practice, educational settings and leadership,

not only will patients benefit in the arena of public health and pediatrics but also in workplace

experiences with regards to sexual harassment. Studies indicate a serious problem among a

sample of dental hygienists in the Commonwealth of Virginia with 54% of hygienists reporting

being sexually harassed and of those, 73% of perpetrators were reported to be male dentists

(Pennington, Darby, Bauman, Plichta & Schnuth, 2000). While 26.3% of Washington State

hygienists reported they had personally experienced one or more forms of sexual harassment in

their work settings with fifty-four percent of the harassed respondents (all women) indicating

that they had been harassed by male dentists/employers and 37.1% reported they had been

harassed by male patients, with the remaining 8% harassed by coworkers and others (Garvin &

Sledge, 1992). There is a deficiency in current literature in this area but hopefully with more

women entering the dental workspace and increasingly in areas of leadership, then less sexual harassment will occur.

Education and Training

The education of physicians, nurses, medical assistants and other general health providers includes opportunities for significant interactions among the various providers who participate in the health services team. This approach engages the entire health care team involved in patient care in education and practice settings. This approach expects and normalizes effective work distribution, the practice of delegation based on scope of practice and health triage strategies. Studies indicate an increased comfort and normality of distributed work and expertise among the health care team when introduced early in the educational process (Bailit & D'Adamo, 2012; Nash, 2009). Additionally, although the interprofessional education (IPE) of health professionals and oral health professionals is becoming more common in dental schools, it has not moved as successfully to implementation in practice settings (Polverini, 2012). Interprofessional socialization is another way of contributing to the success of future clinicians and is a factor in the learning and practice of how to collaborate across professions (Khalili, 2012; Khalili, Orchard, Spence Laschinger & Farah, 2013). Yet, the education and training of various members of the dental team often happens in separate clinical environments and educational programs and not in community-based settings like schools, residential facilities, day programs, and the like. We have the two-fold separation of dental education which is often separate from other dental team members including hygienists and assistants followed by the separation of the education of dentistry, hygiene and those in general health services.

In a recent presentation, Dr. Sean Boynes from the DentaQuest Institute indicates the "hidden curriculum" in dentistry in this manner:

Medical and dental professionals are educated and trained separately and then they

practice how they are trained – separately. The "hidden curriculum" about oral health in

dental training:

- Oral health means dental care
- Teeth are the domain of dentists
- I do not see a need to know about treating systemic diseases
- Physicians consider us an inferior "doctor"
- Surgical intervention gets me to graduation & pays bills after
- Why is this patient coming to ME about their health?
- Team, what team? I'm holding my own suction over here (Boynes, 2018)

In addition to socializing and educating in separate arenas, another aspect of the hidden

curriculum in dental education is the cost. Dental education is costly. Tuition at out-of-state and

private schools including living expenses and the interest accrued while in dental school can

leave a student with almost a half a million dollars in debt. In comparison, medical education is

experiencing some movement to provide free education as a way to reduce the debt burden and

encourage those interested in primary care to enter the field and reduce the physician shortage.

New York University's School of Medicine did this in 2018 and Kaiser Permanente School of

Medicine will begin doing this with their first 5 graduating classes in 2020. "As of 2017, 76% of

medical students graduated with education debt, according to the Association of American

Medical Colleges (AAMC). Total costs for a student residing at a private US medical school

averaged nearly $60,000 in 2018-2019..." (Accessed on 2/20/19 from time.com).

This is compared to The American Dental Education Association (2019) which estimates

Average educational debt for all indebted dental school graduates in the Class of 2018

was $285,184. Average educational debt for all indebted dental school graduates in the

Class of 2018 for public and private dental schools was $251,869 and $326,133,

respectively. 40% of indebted dental school graduates in the Class of 2018 reported

student loan debt of $300,000 or more. (para. 3)

I believe there is a hidden curriculum in dental education to learn to navigate the perverse

incentive to find more disease as more money can be made when more procedures are

conducted. Compton in 2015 reported that "...maximization of preventive services has not

occurred in dental practice nor been promoted by dental plans" (p. 290). In addition to being a

clinician, most dentists are often small business owners and it has been noted that practice

recommendations will not be adopted if "...changes that do not support their businesses" (p.

288). Compton (2015) also notes that "Benefit plans provide far greater financial reimbursement

for surgical treatments like crowns and root canals than for preventive services" (p. 288).

In my work with dental students, I explained that most hosting organizations for onsite

dental clinics did not charge rent to the dental team and often provided substantial support to the

system. I shared job descriptions and a different lens through which to view their colleagues,

particularly dental hygienists. *I could see their minds working, getting their heads around this*

idea of sharing the clinical world with another person. A co-leader in some respect. It made me

realize that these dental students were at a significant disadvantage by not being educated with

hygienists. They didn't have a baseline experience working with this essential colleague and

team member. No wonder there was distrust. (Maureen Harrington, 2018)

Finally, the training of clinicians can be expanded to include experiences of those living

in poverty and with experiences of trauma. This is especially important in relation to those

living with the residuals of trauma since that trauma exposure can have a negative impact on

daily functioning (Ko, Ford, Kassam-Adams, Berkowitz, Wilson & Wong Layne, 2008). Those

who experience repeated, chronic, or multiple traumas are more likely to experience substance

abuse, mental illness, and health problems (Substance Abuse and Mental Health Services Administration, 2014). With community-based care, the dental team is embedded into new practice settings and the site's students, employees, clients or residents may have experienced or continue to experience trauma and the clinical team should be making decisions that help rather than unintentionally harm these clients (Thyer & Pignotti, 2010). Clinicians who are well-versed in these issues can more readily address and integrate appropriate support mechanisms and strategies into dental care and personal hygiene practices.

Identity Shifts

As the location of practice sites for the dental team and team members' roles change with indirect supervision and teledentistry then changes in work processes, flows and expectations occur. This includes a distributed authority in this model wherein the hygienist is with the patient at a community site and the dentist is in an office or clinic in another area and doesn't see the patient in real time. The distributed authority is often a principle found in community-based models of care. However, it may result in professional identity threat (Chreim, Williams, & Hinings, 2007; McNeil, Mitchell & Parker, 2013) and fear of status loss (Morison et al., 2011; Stuart-Wilson, 2008). This identity shift among dental team members can prove to be a barrier to creating and maintaining effective systems of care resulting in ongoing neglect of those who are underserved by the dental industry as it is currently configured.

Payment Structures

Despite awareness of the effectiveness of chronic disease management strategies and co-location of services, many public and private dental insurance payers do not reimburse oral health care providers in a manner which encourages such approaches (Inge, 2011). Indeed, many dental insurance payment structures create a type of perverse incentive to treat dental

disease with extensive and expensive treatments, which have higher reimbursement rates rather than utilize options more suitable for intervening in the chronic disease process at lower reimbursement rates (Compton, 2012; Nash, 2017). Payment structures such as these can create a challenge for both private practice and community-based clinics (Nash, 2017). There is significant dissonance between what is clinically necessary and evidence-based and what is reimbursable by insurance plans. This dissonance creates a system where treatment plans may be recommended even though the plan is not optimal and evidence-based for chronic disease processes and ultimately the patient's health outcomes, but reimbursed at a much lower reimbursement rate for the dentist (Compton, 2012; Inge, 2011; Nash, 2017). This means that a surgical approach may be recommended by the dentist rather than an approach that utilizes risk reduction strategies complemented by the science of minimally invasive dentistry (Inge, 2011; Compton, 2012). Or said another way, high revenue procedures are increasingly attractive for the dentist to upsell by diagnosing, treatment planning, and performing more expensive procedures.

Additionally, there is a view of dental insurance as being an effective type of insurance but many people will testify to the contrary. There is often an annual $1500 maximum benefit but a crown is likely to cost between $1500-3000. Meanwhile, dentistry's for-profit status demands revenue for stockholders. With this, we see things like significant portions of revenue from premiums being allocated to revenue for stockholders and the salaries for dental insurance CEOs. A recent example of this which gathered media attention is Delta Dental, paying its CEO more than Tim Cook, the CEO of Apple – and paid more by a significant margin (Barry-Jester, 2019). Specifically, the article in Kaiser Health News (2019) reports,

Dental insurance giant Delta Dental of California is facing mounting criticism for paying

its CEO exorbitantly, flying board members and their companions to Barbados for a

meeting, and spending a small fraction of its revenue on charitable work — all while

receiving significant state and federal tax breaks because of its nonprofit status....Board

compensation has also drawn scrutiny, with members receiving from $46,000 to

$203,000 in 2016 for one to two hours of work each week, according to tax filings.

Board chairs received substantially more that year, in the range of $172,000 to $223,000.

And travel for companions and staff to an annual meeting on the Caribbean island of

Barbados is part of that compensation for some board members, according to tax filings

from Delta Dental of Pennsylvania, an affiliate of Delta Dental of California.

Compensation for board members is not the norm in the nonprofit world, Owens

said, though that doesn't mean it's inappropriate, particularly for a company as large as

Delta Dental. The corporation's bylaws say board members shouldn't receive any salary,

but can be compensated for the time and expense of preparing for and attending board

meetings.

Critics have drawn attention to high executive pay at Delta Dental plans in other

states as well, including those in Washington, Michigan and Missouri.

Delta Dental of California defended its pay structure, saying, "We need to attract

top executive talent to provide best-in-class service to our enrollees/members. Therefore,

we are guided by a 'pay for performance' philosophy and employ many governance tools

to ensure that executive pay is appropriate" (n.p.).

Chapter Summary

Various interests that may influence changes in the dental industry and the manner in which care is provided are converging in a unique way. Dental disease, both treated and untreated, has a significant impact on many aspects of an individual's life. Addressing the most common dental diseases, caries and periodontal disease, as chronic rather than acute diseases is a critical shift which should motivate different activities from clinicians and patients especially in the context of person- and family-centered care approaches. This paradigm shift combined with collaborative education, evidence-based dentistry, location-based care models, current technology, changes in the dental workforce, and the extreme unmet needs of large populations in the United States can be viewed as converging interests which appear to be motivating change.

Embedding oral health services into systems and community locations like preschools, schools, group homes, day-programs or in rural communities can improve the oral health of many underserved individuals as well as increase the knowledge and adoption of proven disease prevention practices among patients, families and caregivers. Clinic-based and provider-centric models of care have not successfully addressed the many oral health needs of underserved populations. Creative system changes, however, can meet the challenge this reality presents. New combinations of tools, different tools and a willingness to change can be combined and implemented to serve many people who have historically been and currently are left out of the dental care system. Making these changes despite the financial interests of dentists being at risk are critical to examine. There are several interests intersecting at the right time to make significant change opportunities a reality for many.

CHAPTER 3: METHODOLOGY

How many x-rays have I had of that tooth? I can't seriously have any tooth structure left or can I? How many dentists and endodontists have worked on it? Maybe three endodontists and four dentists. Ah! This is too crazy. How much exposure to radiation in these ongoing x-ray adventures becomes dangerous? I still think the dental PTSD is more dangerous. It lurks just beneath sometimes and other times it is DOMINATING my thoughts. But my PTSD in the dental world was nothing compared to Anthony's in regards to all medical care...any clinical setting at all.

He avoided any and all clinical settings – hospitals, doctors, nurses, dentists at all costs. Without a doubt. And to my and many other's great regret. After his car accident, when he was taken out of a smashed car with the Jaws of Life that severed an artery and nerves in his left leg then subsequent BKA or below the knee amputation, he avoided all clinical interactions like the plague. Or did he? Hospitals he avoided because of his experiences in them, the lack of control, the claustrophobia, the legacy of horrible things he saw and experienced. But really I have no idea about the dentist. Maybe that was my deal. That was my space. Maybe if he had dental insurance, he would have gone to the dentist more. He loved his smile – I think! I know everyone else did. His smile and dimples were charming. Larger than life personality with a mischievous smile. I remember giving him information multiple times about dental hygiene schools near him where care was often provided free. I remember telling him to ask the receptionist to schedule him with the best student who was closest to graduation. That combo would likely be a winning experience. Plus – he always could charm people and he might meet someone lovely to date. You never know what the future holds.

His social network was deep and broad. Loved deeply. By many. A maven. Generous – incredibly generous. He wasn't mediocre or safe. He was not always happy but tried to always be positive and kind. Steadfast in love and loyalty for family and friends. Uncle Fun! We found that out at his viewing before the funeral and after one of his wakes because one or two wakes didn't cover it for him. Too many people knew and loved him. Too many were heartbroken when he left us.

He used to have a job that provided dental insurance to fulltime employees. I can't remember how often he went to the dentist during that time but I know he went. Then he got "laid off" while he was on a medical leave for an infection on his residual limb. I guess the job didn't see how hard he worked. Maybe they didn't care. Clearly they didn't care. Who knows? But he always walked around the store because he was the manager. And he hated his wheelchair because people looked down on him while they were standing and he was sitting. Plus he couldn't get through the racks at the store too and it drove him crazy. He hated his crutches too. And it was a huge sporting goods store in Marin County. He walked that place and was the best at customer service and a great teammate. He had a favorite story of kitting out Robin Williams' kids' with ski gear. I think he got Robin's cell phone number. I know he did because he showed me and we giggled. He was going to call him when the ski gear was ready. I'm not sure if he ever used the number after that one call but I wouldn't be surprised if he did. His commitment to his store and team was amazing. He was devastated when he was "laid off". It might have happened when he was in the hospital with MRSA. The time all of his clothes and bedding needed to be disposed of/burned/dumped...he was devastated. Maybe that whole thing sucked something out him. Like a dementor. He seemed so dejected. Maybe it was why he avoided a "regular job" again. Avoid the possibility of rejection. I can see that.

Maybe he ground his teeth when he was stressed too. I don't know. I was out of the house when he was 11. He was born the day before me. The day before I turned 6. It took a while for my maternal instincts to kick in. I know Marlo and Maggie would take him out for walks in his stroller but not me! I don't know when I got worried and anxious about him but I did and it was a big thing. I wanted him to be mellow, predictable, small, and ...predictable. None of that was in his DNA though. None of it – he was wild, large-as-life, fun-filled, and gregarious! And I worried and wished. But with his beautiful smile and charm...too much! (Maureen Harrington, 2019)

This autoethnography gives me an opportunity to make sense of my experiences as Director of Operations and Community Education and faculty over ten + years of implementation of a hygienist-based, community-located, teledentistry-supported oral health care model. Autoethnography gave me an approach to research and write as I worked to describe and systematically analyze my personal experiences in order to understand various cultural experiences (Ellis, Adams & Bochner, 2011). In addition, my natural storytelling approach fit well with an autoethnographic approach. "These texts (autoethnographies) do more than move audiences to tears. They criticize the world the way it is, and offer suggestions about how it could be different" (Denzin, 2001, p. 24). Additionally, Hermann (2017) framed an approach as a means to "...use autoethnography to examine the intersections of our working lives in organizations (p. 1). With this in mind, I reflected on my work in various communities in California and other states for this study which gave me an opportunity to describe my experience and reality as both practitioner and researcher. But most importantly, I was seeking to achieve four things with the use of autoethnography: 1) to cultivate "reciprocity with" and compel "a response from audiences," 2) embracing "...vulnerability with purpose", 3) making

"contributions to existing scholarship," and 4) commenting on/critiquing culture and cultural practices (Holman Jones et al., p. 22).

In addition to my own experiences, I included information from a small sample of others involved in this work (Abma & Stake, 2014; Lather, 1992; Maxwell, 2013; Patton, 2014; Qualitative Report, 2008). I looked at the intersections of my work and experiences as influenced by society and the culture around me. The individuals I asked to participate in this research included those who worked in some capacity in the development and implementation of this system of care and who were educators as well. The clinicians were both clinical leads for their practices and hygiene and dental educators. These participants were identified via a purposeful sampling approach (Crabtree & Miller, 1999; *Qualitative Report*, 2008). The addition of these voices to my experiences gives me the opportunity to interpret and contextualize meanings from the participants' beliefs and practices (Denzin & Lincoln, 2011). Further, conducting this type of study created an outlet for me to call out the injustice of the current dental care system and "call attention to the vulnerabilities that other human beings may endure in silence and in shame" (Holman Jones et al., p. 24). It also gave me a way to write to "change the inherently unequal structures" (Dutta & Basu, p. 156) and call out the bullying some dentists and the dental industry perpetuates on others.

In my reflective journaling and the interview processes that I used in my study, I sought to answer the following questions about my own experiences: What were themes and commonalities from my experiences directing a hygienist-based, community-located, teledentistry-supported dental program in community settings? How did I view and experience the behaviors of myself, the administrative team, clinicians, industry associations, policy-makers, funders and others in adopting and implementing this type of care? How did my experiences and

perceptions intersect with those of others involved in the model and how did they differ? What changes did I observe over time? What were the social, cultural and political environments which influenced the process, plans and outcomes? I sought to answer the following questions when interviewing others: What were the experiences and perceptions of individuals participating in a community-based, teledentistry-supported dental program? How did participants change their behaviors based on experiences and participation? How can these experiences, perceptions and behavior changes inform education and practice?

This type of study required a robust reflective process (Acosta & Goltz, 2014). My experiences were not bounded by my work on this project but were influenced by every experience I have ever had. Both personal and professional experiences in my past, influence how I make sense of my experiences and how I perceive the intersections of organization and societal interests. The individuals I interviewed to complement my own experiences was a sample of my colleagues (Yin, 2016; Stake, 1995).

The hygienist-based, community-located oral health care model, is a system of care that was envisioned and deployed by a California based dental school during the past 10+ years. There have been no in-depth investigations of perceptions of program staff, clinicians, site staff, and educators, so this type of exploratory inquiry into my and a sample of their experiences is timely and significant particularly in regards to policy, norms, culture of dentistry, as well as dental and dental hygiene education and practice. Ultimately though, "Autoethnographers recognize fully that the personal is political, and that our work involves pursuing social justice..." (Hermann, 2017, p. 2). Ideally, the study gives insight into interests that may be intersecting with the goal of providing more care to more people. I believe this study provides information for clinicians, site staff, administrators, and others who support underserved populations to look

at influences to the culture of dentistry and its role in supporting or preventing getting dental care or not to underserved communities. This study provided an investigation into my experiences, the experiences of various individuals and supporting documents while building on convergence of findings (Knafl & Breitmayer, 1989). Ideally, I hope it provides insight for stakeholders interested in addressing the profound oral health disparities that exist and the systemic issues which contribute to those. I hope it influences those responsible for policy and curriculum decisions. Adopting a health equity perspective as a guiding principle and not leaving the mouth out of the equation is essential. I hope it influences dentists to reflect on their role as health care providers and that the dental industry comes to a greater understanding of the need and value of a diverse dental team especially in light of the enormous unmet need in the US.

Purpose of the Study

The overarching purposes of the research were (1) to understand my lived experiences and the experiences of a sample of other stakeholders who participated in the integration of hygienist-based dental services into community-settings that was supported by teledentistry; and, (2) to determine if elements of my experiences and this study indicate opportunities to bring more dental care to more people and move oral health into a patient-centric health issue rather than provider-centric system.

This research may be valuable as more clinicians, schools, districts, organizations, clinics, communities, and states consider the significant dental neglect of large portions of the US population and look at who benefits from the system as it is currently configured. In some cases, the model that I worked with may be a solution to the epidemic of disease but in some cases, it may not be enough.

Research Design

The level of analysis is my lived experience and was informed by a sample of California community-based clinicians and a site lead who were part of the program between the years 2009-2018. I analyzed my experiences with a core foundation of health equity as a reference point.

I used a method of two reflective journals combined with verbal interviews to gather data. One journal was used to create a chronology of my work and notable experiences. The second journal was as a scholar exploring and reflecting on those experiences while making sense of this in the context of cultural occurrences. I conducted multiple interviews with myself as well, which were audio recorded and then transcribed. These transcripts were placed in a computer file and were labeled sequentially. This computer file acted as a third journal in some respects. In some cases, I cut and pasted relevant interviews into either the work journal or the research journal if I determined the data needed to be added for greater understanding.

Additionally, I conducted interviews with three individuals to give a different perspective from my own and to give a compare/contrast base for the research. I used semi-structured interviews with these individuals. Each person participated in some capacity to create hygienist-based, community-located, teledentistry-supported dental services in California. Each interview was an hour long. Two interviews were conducted in-person while the third was conducted on the phone. I believe the data gathered enhanced my autoethnography.

Participants. The data for the study emerged from extensive journaling of myself in relation to my work and in relation to my role as a researcher. In addition, I conducted interviews with myself and others. The individuals who participated in the research included a sample of currently and previously engaged community site administrative lead, dental team

members including a dental hygienist/hygiene educator, and dentist/dental educator who practices treatment planning virtually. As the Director of Grant Operations and Community Education, I reflected on my experiences as both the operational lead in implementing the system of care and as a member of the original administrative team.

Invitations to participate in the additional interviews were emailed along with consent forms. I conducted interviews with a small number of individuals who I believed implemented the system of care well and were educators. I achieved my goal of interviewing three individuals as a complement to my own story and reflections. The interviews were one hour in duration for the others and my own interviews were many hours.

I am not identifying the University in the study and utilized pseudonyms for other participants to protect privacy.

Data collection. I conducted all of the interviews with myself and others. I spent hours reviewing notes, timelines, grant proposals, reports, my personal notes, previous journals, and meeting agendas prior to beginning my own interviews and those of others. This helped me remember things from various projects and revisit important details of the planning and implementation processes, communication norms and various issues in the different communities where the system of care was implemented. Additional data to inform the study included marketing and outreach materials for patient enrollment and recruitment. These materials were gathered from various sources but primarily from the program records and archived materials.

For interviews with others, I conducted in-person or phone, semi-structured, one hour-long interviews. The narrative method gave participants a chance to give a rich description of the personal, social, and historical context of their stories in adopting this system of care (Creswell, 2013). A general story-telling approach was used initially to allow for an organic

description of experiences. For interviews with participants, I also used ad hoc questions illustrated in the interview protocol to elicit more information from the participants. The self-interview questions, participant interview introduction communication and participant interview guide are presented in Appendices A, B and C.

   Data analysis. I conducted my analysis of the data by utilizing an iterative process. The data were analyzed as they were collected in a simultaneous process as recommended by Merriam and Tisdell (2016). As recommended by these same researchers, I analyzed the data using memos, codes, and categories then developed categories and themes. I used data from both my perspective as a practitioner and researcher then used the interviews and journals to enhance my view of the experiences. I then excerpted and coded while adding this information to my research journal enhanced by traditional methods of pens, paper, highlighters, and sticky papers in various colors as tools to organize the data. These tools helped me manage and code my data. This was especially important because my goal was to determine if there was converging evidence from these sources for me to build consensus on the emerging codes and categories (Yin, 1999). As I noted earlier, I double journaled – as a practitioner then as a researcher in two separate journals (Duncan, 2004). I then double coded by doing a first set of coding on the data then revisited and coded the same data set and compared the results (Krefting, 1991). The successive reviews of those journals and my interview transcripts and the grouping, categorizing and organizing that happened with each review was an essential part of this process. This process helped me build a deeper and more thorough understanding of various experiences including my own as each analytic step was conducted (Duncan, 2004).

   Trustworthiness. In order to maintain trustworthiness, I did not edit original interviews of myself. I did journal at each step as both the practitioner and a researcher. Meanwhile, in

order to ensure credibility of the participant data, triangulation was necessary. This provided an opportunity to view the data from different angles. Triangulation occurred with review of the themes identified in the interviews and by cross-checking the elements identified in the interviews. This process validated internal consistency of the participants' perceptions and experiences. In addition, the input from various professional types and levels added strength to the triangulation and information for me. In order to protect the identity of those interviewed, I used pseudonyms and removed any identifying personal information. Additionally, I provided thick description of the community-based practice sites where each of these individuals practiced. In addition, I accessed online data and printed articles and opinion pieces which were used as sources of additional data and in some cases, critiques of the model. These documents were posted on listservs and in professional journals.

In regards to the interviews of others, I worked to give each individual a neutral, unbiased space to discuss their experiences. I believe their interviews were "...authentically shaped by the respondents and not researcher bias, motivation, or interest" (Sutton & Austin, 2015, p. 229).

Limitations. I deeply and critically examined my own experiences as both a practitioner and a researcher. I worked to be neutral, yet candid, when analyzing my own interviews, journals and experiences.

My relationships with interviewees may have caused them to be less candid than they would be with an unknown researcher. But to guard against these limitations, I worked to keep my practitioner role at a distance from my analysis of their interviews. In addition, I worked to ensure that my role did not influence participants by stating clearly in the interview consent and repeating it in the introductory discussion before beginning the interviews. The invitation to participate established the expectation of the participant to be open and frank. I introduced the

interview request and my study as based in a process of improvement and an authentic

exploration of experiences. I explained that their experiences combined with my experiences

and the social and cultural context of these provided an interesting backdrop of learning.

Another limitation is that patients, parents, and caregivers were not included in the study.

This information would add to the literature and enhance future studies and these will likely

occur in future studies of the model.

Researcher perspective. As noted earlier, my role in the program implementation at

many sites gave me insight into the inner workings of the system as well as knowledge of who

was involved in planning and implementation. This role helped me dive into the nuances of my

experiences and in particular to explore the culture and social norms at various stages and with

various activities. My role as the Director of Grant Operations and Community Education was

multifaceted. I frequently connected the site leads and clinical leads with research, tools, or

other individuals to support or guide planning and implementation or to help talk through or

learn from previous experiences. My approach with site leads and clinicians was based in an

often-stated commitment to constant learning and iteration to improve. The act and results of the

dual journaling process gave me an opportunity to investigate definitions, questions, issues, and

concepts. It also gave me an additional opportunity to look at the culture of dentistry, political

environment, and health equity issues. I spent time reflecting on bigger pictures as I was out on

an extended medical leave for cancer treatment then a bit longer due to complications from my

surgery prior to completing this study. During this time away, I found that this new, unexpected,

and unplanned space gave me a chance to see things in a different, perhaps less emotional light

than in the past. This type of reflective process and outcome gave me space and distance that

enabled me to see that the model that I addressed was not the only answer to the epidemic of

untreated disease. In many cases, thoughts would emerge when I did not have my journal and in those cases, I would send emails to myself. If driving, I would use the voice memo tool and capture my stream of consciousness. In cases like this, I cut/pasted these memos into an electronic research journal in my laptop.

As a researcher, I tried to candidly explore my professional work with these community-based dental programs. I worked to be sensitive to reality and tried to be open to negative themes and topics that appeared to be critical of the program or of my own work. I also worked to not give the negative more space and energy than the positive. My commitment to being a lifelong learner was an important baseline that I revisited often as I worked to be open and investigate my thoughts on the past and on an improved next step in developing care models for the underserved. The other participants' contributions, particularly as educators, helped me reflect on ideas about what the next versions of the model in the context of dental and dental hygiene education could be and even to explore if the model was the best for various underserved populations.

Chapter Summary

This autoethnography provided an opportunity to bring my expertise, knowledge and experiences into a thoughtful process of making sense of the cultural norms in dentistry and used a critical lens to do so. My experiences were complemented with additional data of a sample of stakeholders involved in the implementation of hygienist-based, community-located, teledentistry supported models of dental care. I focused my work with a social justice perspective to bringing more oral health care to more people.

CHAPTER 4: RESULTS

When I'm out of pain, the last dentist who did the dental work for me is a god! I'm serious. An absolute GOD. Her or his hands are divine gifts to me, the ignorant and begging peasant. I have literally thanked God for the skillful hands of my dental surgeons.

The challenge is not all of my dentists have solved the problems I came to them for. I'm pretty sure some contributed to more problems. I know I should have spoken up when I saw the assistant using her gloved hand to touch the handle on the light above me and the light didn't have a protective covering. I cringed but didn't say anything. What was on that handle? Is it someone else's spit or worse, blood? Ugh!! Or maybe I should have just gotten the crown that was suggested by dentist #2 and left it at that? Maybe the onlay was a mistake by dentist #3 who suggested that it was a better solution for me than a full crown. But both offered better suggestions than dentist #1 who wanted to replace all my silver fillings (maybe 10) all at once, that day, the first day I ever met him, even though at least 9 were perfectly intact and holding up well. To say I was horrified by this suggestion was an understatement. I bet he saw my mouth as a quick several thousand in his pocket with my two insurances.

Maybe if I stopped drinking milk after I brushed my teeth before bed when I was a kid, I wouldn't have so many fillings. I didn't know. I loved milk. It was "good" for me. How could it hurt me? No one told me it did. I was just told to brush my teeth twice a day and eat less candy. I did that. I swear I did. But the sugars in milk were secrets to me. I didn't know. So my silver-filled mouth was the result of many visits to the dentist's chair. With Arnie's belly hanging in my face and heavy breathing filling the space between us. Not good for a little kid, I can promise you that. And another thing, why did he clean my teeth and not a hygienist? Why didn't he even have a hygienist? It always hurt so much. There was so much blood all the time,

every time. It made me appreciate Grace refusing to have her teeth cleaned by the dentist again.

She said she would only have her teeth cleaned by the hygienist. Ah! Brilliant idea. Makes

sense to me since the hygienist is trained to clean teeth and the dentist's expertise is dental

surgery. Different skills and focus. She was right to suggest it and I, although uncomfortable to

ask the dentist to do this, was right to request it. It got the right provider to do the job and it

taught Grace to speak up too. Or at least I hope it did.

Yes, the trauma is multi-faceted and the racing of thoughts back and forth are almost a

coping mechanism in this world. Just keep moving like the game 'hot lava'. Don't leave your

feet in one place too long or you get burned. Just keep moving to keep the memories at a

distance. To keep the yuck from getting in...Too much going on to bother with going that far

back. Let the past be the past. Let Arnie, Quigley, San Mateo dentist #1, Pacifica dentist #2, #3

– let them all be in the past. I usually remember so well but I really can't remember those names

now. That is so strange. Maybe trauma just pushed these things to a dark space or maybe there

was a big CTL/ALT/Delete that purged some things my brain... says I don't need the info

anymore. Maybe like Hermione's beaded bag...hard to find what you need. Accio adventures of

#19.

Still, the white, still fairly straight teeth in the front of my mouth can't hide the

black/silver teeth in the back of my mouth that you can totally see when I smile or laugh. Oh

well. I have other things to worry about and besides I hate needles. Love my god-like dentists

when they get me out of pain and don't use needles...or the drill. The drill – the sounds, the

smell as my tooth is ground away, the dust of the ground tooth floating across my cheeks and

forehead. At least they use glasses now. Before those, I had that gruesome remnant of my

traitorous tooth on my cheeks, up my nose, in my eyelashes and eyebrows, in my hair...every

time. I want to shake myself off like a dog does when it comes out of the bay. Just shake it all away. Every time.

Anyway, smiles are beautiful. Aren't they? And I don't mean the "perfect" ones. It's not always about the straightness. I like my slightly crooked teeth but I don't like the yellowing as I get older. Thank you Costco for those whitening strips. Maybe it's the wabi sabi aesthetic I adopted when the installation of the dimmer switch for the kitchen light resulted in the hard wood floor being thrashed with deep divots from the fridge. The flooring was the only nice thing in the fixer-upper we bought. The only thing that didn't need to be replaced, repaired, painted or something. Oh well. Wabi sabi.

The gap between the front teeth was a signature family connection but almost everyone who has that gap has "fixed" it now with crowns. I miss those gaps. Just like Lauren Bacall's gap. So different and so beautiful, so unique. Those gaps were a visual familial connection. Particularly to Papa – but even he got that "fixed". But I didn't have that cute gap. I had crisscross applesauce teeth. My fix helped.

I adored my Papa. Most people did. He deeply influenced my social justice views. He would say in his very discreet story telling way what he needed to say or show you what he wanted. So my work has been inspired and motivated to DO MORE to help others see and understand the pain and suffering of so many. Then DO something about it. I can use my privilege and experiences to improve the lives of those with fewer opportunities, those who are struggling and those who need it. I can DO MORE!

I didn't know he had removable fake teeth until I went to the hospital when he was dying. After all the time, yes – I knew he had fake teeth but I didn't know they were removable. A partial or whatever you call those. I watched him as we all said our good-byes and thought he

wouldn't have wanted his teeth to not be in his mouth. He was very proud of his beautiful smile and took great care of his appearance. I should have told a nurse to put them in for him. Where were they anyway? The teeth? Where were they? This was long before I learned about and fully embraced the Japanese aesthetic world view of Wabi sabi or beauty in imperfection. His beauty had nothing to do with his teeth. (Maureen Harrington, 2019)

My role as both practitioner and researcher offers an interesting view that I hope will be informative. As I reflect on my roles and the evolution of this study, I use a storytelling, less formal approach than the earlier portions of this manuscript. I do this for several reasons. I recognized through the robust reflective process required in this autoethnography that my storytelling approach has been integral and essential to my work and scholarship. It is a tool that I am comfortable with particularly while collaborating with colleagues, new staff, dental teams, patients, clinicians, dental and dental hygiene students, families, evaluators and policy-makers. In my work, I toggled from a method of sharing information that was formal and structured to a less formal, less academic, and more collaborative approach. This style has served me well in the past and most recently with my work in dentistry, community-based care, and dental/dental hygiene education.

I use storytelling to unravel and explore some of the cognitive dissonance and consonance I experienced. There is an exploration of my practice, my view of growth opportunities for educators, clinicians and administrators, and discussion about the cultural changes which may influence dental care particularly to underserved communities. The data I gathered in my reflective journals and interview processes helped me make sense of my experiences as they intersected with changes in the dental industry and societal/cultural

occurrences as well. Among the things I need to reiterate is that I refer to "dentistry" to mean dentists and separate dental hygienists from this definition.

I noted this preference for storytelling in my own reflective interview,

Some of my colleagues used a lot of data. "This is how many children could be seen. This is how many procedures were done. These are the types of procedures." I really came at it from a different perspective of grabbing heartstrings and pulling on those to have people understand and admit that this problem was a big deal and that oftentimes the structures and choices that dentists made directly contributed to the neglect of large chunks of our population and communities...

Storytelling helps me do many things in my work. It helps me process my own experiences and is a tool I use to facilitate and guide others in doing the same. This was particularly true for dentists who had a strong, negative idea about "others," particularly when the "others" did not have private dental insurance or were from a lower socioeconomic background. Shared storytelling supported the process of partners building relationships and trust, which ideally led to a willingness to do hard work together to achieve health equity. Storytelling was useful for me as both a learning strategy for myself and as I built an ever-growing library of information for use with others. It was a particularly helpful process to facilitate collaborative learning among working adults who often had years of experience and expertise in their field but were trying something new in their practice. This approach gave me and these colleagues a chance to build relationships with one another while learning about and understanding different perspectives and concerns. In time and with trust, we were able to openly and safely discuss different perspectives about the unique issues related to access and barriers to dental care in their communities. I noted,

We (the Administrative team) *had multiple site visits. I couldn't even count how many, but they became really the conduit to changing people's minds from a negative view of the (hygienist-based dental practice) model with the idea of patients' being poached to really understanding that it's not that. It's not that poor people don't love their children and want them to have healthy mouths. It's that the social context that they live in is very, very complicated and oftentimes it just prevents them from accessing care in the traditional model. Really bringing people to low-income schools and having a school nurse, or the principal, or the vice principal, or teachers, or counselors explain to the policymakers or California Dental Association members what the needs are, what the unmet needs are, what the social context is of the families and how this model would be helpful and an answer to helping children have healthy teeth. We know that childhood caries is an epidemic in the United States, so helping families be better equipped to prevent that disease from even starting - those stories have been really important. I think among the things that have been interesting is really giving a voice and a process for people – to have a voice about their community's experiences with unmet dental needs and their own experiences.*

In the sequence of launching a new dental practice site at a location, such as a school, it was important to determine basics such as:

- Who would be served by the hygiene-led team onsite?
- What was the general dental disease status of the potential population?
- What was the potential practice environment like?
- What were the norms and political environment of the dental and dental hygiene community in the proposed practice environment?

During these initial meetings, we participated in co-creating a story with potential practice sites, interested clinicians, and any others who wanted to improve the oral health status of a certain

group or population. The goal was to determine if the hygienist–based, community-located model of care that was supported by teledentistry could be viable at their site, in their organization, and in their community. Co-creating the story included the building of collaborative norms among team members. This was especially important because the onsite care model needed intense collaboration to succeed. The leader of the project needed to be able to build consensus, guide a collaborative process, and create or participate in the creation of a supportive environment for clinicians to practice in a new manner and setting. Finally, the collaborative process needed to provide care to patients in a culturally appropriate manner and with attention to the patient's social context (Watt, 2012). Intense collaboration with a practice site was essential in the early stages of the launch. In my reflective interview, I noted,

> *...finding a champion on the site (was important). That means someone who would get their hands in the system. Not someone who would just say, "Sounds good. Go for it. Here's your room," but someone who would facilitate and operationalize the work and make collaboration with patients, interacting with patients happen....Those are some new experiences.*

One thing I had in mind while using storytelling as a teaching and learning tool was to encourage others to do this as well, particularly clinicians. It seemed that by paying attention to how other people shared their own stories and understanding the content of their stories, the collective "we" could learn about a potential site's norms and provide insight for the clinicians as they learned how to become part of the fabric of that site. Among the things that I learned from my Hawaiian colleagues was the phrase "talk story" which is the Hawaiian way of saying sit and chat. I believe it is a brilliant way to build a relationship and in the dental access planning world,

to build a person and family-centered oral health care practice in a location such as a school or group home or other location convenient to patients.

Background: Professional

My role as a public health practitioner with a dental school began as Program Manager in 2008, then I was promoted to Director of Grant Operations and Community Education. My master's degree was in public health and focused on community health. My role was to operationalize hygienist-led, community-based dental practices that collaborated with dentists using teledentistry. The practice sites were established in a variety of settings and communities during a six year pilot project. Many of the site types including an elementary school, a rural community, and a long-term care facility were requested by grant funders. My position was based in a small policy and research center in a university dental school. The center was initially known for grant funded community-based research and programs that primarily addressed populations with special needs. When I joined, I brought a broader view of public health issues and experience of other underserved communities including populations with lower-incomes, rural communities, community engagement approaches, new strategic partnerships and collaboration, child populations, and work with various types of schools.

My work included site identification, site and clinician recruitment, training, mentoring, and guiding implementation processes. I was in this role for 10 ½ years. The additional expertise I brought to this work included translating science and clinical standards to usable information for others especially those with lower health literacy and marginalized communities. Upon deeper reflection, I believe my focus naturally evolved over time as I saw that many clinicians and sites simply did not know how to work with one another. In addition, some dentists did not know how to work with a hygienist or had not done so in any real manner. The

model of care emerged to be most attractive to community dental clinics of which most did not

employ hygienists. In many cases, the grants or contracts that we provided to the health centers

were what enabled the hygienist to be hired. Finally, although the various partners demonstrated

a commitment to bringing care to those who could not access it in the traditional manner of the

clinic-based, dentist-centric model, they did not have experiences or real understanding of what

it meant to have an onsite dental team providing care on a regular, ongoing basis.

Additionally, I believe encouraging hygienists to take a critical look at their self-identity

emerged as an important part of my agenda overtime. This self-identity issue was moving the

hygienist from a place of an "auxiliary" or "allied" underling of the dentist in a traditional office

to the primary care provider in this model of care while the dentist became the triage-focused,

surgical specialist. This movement with the dental hygienist's view of herself was often

nuanced. Overall, the hygienists felt competent and capable with their clinical skills. Some of

the technology was new as was the portable equipment for many but most got a grasp of it

quickly and many seemed at home and were successful with their community practice sites.

Often the biggest challenges were the overarching distrust the dentists had of the ability of the

hygienists to work without direct supervision by dentists. In some cases, these issues were

embedded in egos and the identity threat the dentists felt and in other cases, the dentists simply

did not know, understand, and subsequently did not trust the clinical skills of the hygienists. I

reflected,

> *I often had off-line discussions about this with the hygienists because I witnessed and the*
>
> *hygienists discussed, that often the dentists would behave in one way, namely supportive*
>
> *of the model, in formal meetings and when their clinic would be receiving new equipment*
>
> *or a robust budget to do the work but behave in an entirely different way when*

"practicing" virtually later. It was often then that the real thoughts and opinions of the dentist would emerge. It was then that the dentist's true concerns about the ability of the hygienists to be the primary care provider would be brought to light. And it was often discouraging.

The model of care that was built and demonstrated was fairly controversial at the time of launching. The initial six years of the work were defined as a pilot project, which I believe helped temper the anxiety of many dentists in regards to the model. In fact, the controversial nature of the work is one of the reasons that many grant funding organizations were willing to fund this work. In some arenas, the model was defined as a disruptive innovation within the dental field. I believe that change was particularly unwelcome with many dentists as countless dentists benefited from the current system even if it was broken for most patients or potential patients (Little Hoover Commission, 2016). Examples of resistance to this work can be found in the challenges that were experienced with the beginning of the project. Here is a quote from my reflection on my initial experiences at the dental school,

It concerned me that the new dean at that time was not only <u>not</u> enthusiastic about the project, but quite the contrary...apparently had indicated to others that they were not to provide assistance or help or limit their support as much as possible in pretty much every way. I think that people, and from what I understood anecdotally from colleagues at the dental school, were willing to help because they believed in the heart of the model which was bringing dental services to underserved populations – individuals in long-term care facilities who had problems either getting out or physical limitations, individuals who lived in group homes or were at day programs where just accessing a dentist in a traditional clinic setting was very hard. These patients couldn't get care in the traditional dental office because of their own behavioral issues

such as tremors or the like presented challenges for staff at a dental clinic to provide care – also schools where parents could be working multiple jobs, so they weren't able to take off and take their children to dental clinics during clinic business hours that didn't match up with theirs, their work time off. There were people who supported the spirit of the model and actually somewhat subversively defied the dean and helped. I worked hard to persuade people and talk about why we were doing this, why I was doing this. Everyone has someone in their family or life who has restrictions to getting to a dental clinic. I shared those stories and was very willing to make the most of people's heart strings as they related to their own stories and to the stories of others. That became less necessary over time again as the model moved from a pilot phase to a system of care that was more identified and recognized as viable and valuable.

Background: Doctoral Studies

In the fall of 2013, I began my doctoral studies and that adventure opened a new world for me. I pursued a doctorate degree for several reasons. The first is that my experience at the dental school indicated that without the title "Doctor" in front of my name, my opinions and expertise would be minimized or valued far less than colleagues with less expertise in public health than me but with the title of doctor. This seemed like an essential next step professionally and I intended to teach as often as possible. Muncey (2005) noted in her work that how knowledge is produced and who produces it are important in the status that is attributed to that knowledge. This became increasingly real for me and was book-ended by the reality I experienced that expert knowledge is socially sanctioned in a way that common-sense or personal knowledge is not (Muncey, 2005).

I was excited to bring a pragmatic, service-oriented approach to dental and hygiene education and continuing education opportunities. Also, I hoped to bring more public health

principles and humble service ideals to the curriculum. Finally, I am a committed life-long learner and was delighted with the prospect of learning from highly regarded professors and classmates alike. On my drive to my doctoral program admission interview, I listened to Sheryl Sandberg's book on tape, *Lean In: Women, Work, and the Will to Lead* and felt compelled to do just that. I was ready and excited to enhance my toolkit.

With these new educational experiences and information, I began to view my work, the dental industry, dental and dental hygiene education, as well as dentistry's culture and norms, in a new light. With this light, a realization about the collective neglect of the dental industry was irrefutable. The collective neglect was created by traditional power structures in the dental workforce, gender bias, and lack of health equity. A quote from Ida B. Wells, an African-American investigative journalist, educator, and an early leader in the Civil Rights Movement, has been helpful in this quest for my truth. Her quote was especially important to me, "The way to right wrongs is to turn the light of truth upon them." (Washington Bee, 1892). My studies encouraged me to examine and reflect on what I believe are the obstacles created and supported by many dentists which contributes to the poor oral health of a large number of people in the US, particularly those of color, of lower socioeconomic status, and those with disabilities.

As I worked towards my doctorate, I was fortunate to have the support of many people including my team at work and my family. This was especially important as I made a two-hundred-mile round trip drive one night a week for three years to complete my coursework. I found that as I moved from a practitioner in public health to a scholar in education, I developed a stronger voice about health equity and the factors that prevent this from occurring in dentistry much like I had done in other fields in the past. As I reflected on potential changes in dental care and dental education systems to improve patient care, it became clear to me that more

transparency and social awareness were essential. I believed that critical reflection in dental and dental hygiene academia would result in curriculum iterations, improvements and lessons learned. These would then be shared and grounded in a commitment to improvement, growth, change and ultimately improve the health of underserved populations.

However, it became apparent to me that a hygienist-based, community-located model of care supported by teledentistry was likely to be the maximum amount of change large parts of dentistry could handle until some other motivation caused or stimulated change. During my reflective process, I came to believe that replication of the hygienist-based care model was likely enough for most dentists regardless of whether this model authentically and appropriately addressed the oral health needs of any portion of the US population. As I brought the light of truth to my critical reflections, I saw that this hygiene-based model would likely be replicated even though there was significant evidence showing that many people did not receive the care that was needed in this current iteration of the model. The dissonance within myself was a challenge as I always viewed myself as a vocal public health advocate and my doctoral studies were enhancing that, yet my work life suffered.

What was everyone so afraid of? It seemed like we all saw the elephant in the room and it was fundamentally protecting dentists' practices. Perhaps aspects of it were distrust of the hygienists' training but good heavens very little of the conversation was authentically about getting care to underserved people. What was going on? I frequently felt just tired of soothing the ego and fears of wealthy, powerful dentists who hardly gave a damn about people in pain and with infections, who couldn't eat. What in the world was going on? How did we get to this point where the dentist was the rarified deity who could come down from the throne to bless us with his magical hands to care for us peasants? In

some respect, it did feel like the dentist was a priest. The idolized, perfect and beyond

reproach priest. The hypocrisy of the priests who abuse children and women, have

extreme wealth, and who will, at all costs, protect their power structures, is not too

dissimilar to me from the dentists who are protecting their positions regardless of the

neglect and suffering of so many. (Maureen Harrington, 2019)

In fact, the model was not really a hygienist-based model. Rather, it is a phrase I am using now but prior to this paper, the system was almost entirely referred to, correctly or incorrectly, as a "collaborative" approach to dentistry. However, among dentists and particularly those dentists who were suspicious, fearful or combative about not changing the traditional dental care system, the model was referred to as a dentist-led model of care and framed as one that maintained the traditional hierarchy. I believe this is why so many additional states and locations have been willing to adopt the model more readily without adequate data to do so. This model was a "solution" in terms of addressing some of the complaints the dental industry was hearing about the epidemic of untreated dental disease. Regardless of the naming choices of the model, I believe that the data indicate that this model is an inadequate solution for the current oral health needs of the majority of underserved communities that are currently using it and others who might wish to implement it.

The data I am using for this autoethnography will be presented under a general umbrella of underlying collective neglect of dentistry as viewed through issues of workforce, power structures and gender bias. Issues related to unmet oral health needs will focus on health equity and my perception that community-based models of care alleviate this if utilizing an enhanced scope of practice for a hygienist or a dental therapist as a prevention-focused, primary oral health care provider. This makes sense in light of the expertise of the hygienist that is prevention

procedures like cleanings, fluoride varnish, sealants and other prevention focused activities while the dental therapist is able to do those same things as well as restorative work like fillings, extractions, root canals and placement of crowns on baby teeth. The data from my experiences and reflections are complemented with data from others on how person/family-centered care is possible in hygienist-led, community-located care models.

Language and Framing

Some things that intersected for me as a practitioner and researcher include language norms. We know words and the framing of issues matter. I witnessed what seemed to be a default to using clinical language rather than common or more relatable language although I found this to be improving overtime. From my experience, many hygienists demonstrated excellent skills in this area already. Some examples of accessible language are words like cavities or small holes rather than caries, x-ray rather than radiographs, cleaning rather than "prohy" or prophylaxis, deep cleaning rather than scaling and root planning (SRP) or, next visit rather than periodicity. I spent quite a bit of time reflecting on this and called it out specifically and repeatedly in trainings, curriculum, and classes in which I participated. Yet, there seemed to be an interesting dynamic wherein a hygienist's use of common language rather than clinical, particularly if the dentist and hygienist were not well-acquainted, was viewed by the dentist as being less clinically competent and capable.

In addition, I found the language of dentistry to be hierarchical and misogynistic in many ways particularly in relationships with dentists who were male and dental hygienists who were primarily women. I noted my concerns and intent this way,

> *When we were developing language for both grant funding proposals, and also in writing*
>
> *reports, developing a website, and any kind of literature or public relation documents*

related to the project, it was important to imprint more collegial language than hierarchical language. I used words such as team, colleague, collaborating dentist, phrases such as co-create, and tried to remove references to the dentist being the lead. This model is not that. It's a collaborative model, based on the hygienist in a community setting as the primary care provider. It was very different from traditional, hierarchical dentistry.

I noted in my reflection,

Some of the things that I was hoping to imprint, but I think that came along later in the evolution of the model, was a more humble and service-oriented approach. I think that the hygienists we brought on early, exhibited those types of characteristics, or those qualities. There wasn't as much ego involved. And this was true for the vast majority of dentists who entered this model willingly and enthusiastically early in the process. Those dentists were among the most generous and humble clinicians who were well aware of the trauma of dental neglect that their communities experienced. I consistently thought that if these individuals were the faculty at dental and hygiene education programs and in leadership in their respective associations, there would not be an epidemic of dental disease. These individuals would have made laws, regulations, scopes of practice and practice opportunities that addressed these issues. These people were open to realistic and healthy systems of oral health care for all.

Additionally, I experienced a type of possessiveness in dentistry that I had not experienced in the past in public health. Perhaps this was influenced by the academic setting wherein possessiveness of knowledge and expertise is essential to climb the rungs of tenure. But a humble service approach was something I felt strongly about particularly when a clinician

would be going to a school or setting that was not a traditional dental practice, meaning the clinical team would be an "immigrant" into this new world. Having a humble understanding of what it meant to be part of this community in which they would practice was important. I reflected on it more by saying about the dentists in many leadership roles and in academia,

> *...that the egos involved in it with, "That's my scope of practice. That's my responsibility," and in a lot of cases, demeaning language and demeaning norms, particularly for hygienists, who historically have been female. That was alarming to me.*

I did not find this same issue with hygienists who appeared to me to integrate themselves in their new practice sites readily and successfully. Perhaps this was because many of these individuals were not in academia and were already practicing as portable dental hygienists with vulnerable populations.

There are incredibly low numbers of individuals of African-American, Latino and Native American backgrounds as dentists which makes their numbers in leadership low as well. Similar experiences are reflected in dental faculty and dental student numbers. Despite intensive recruitment activities and investment at federal levels and private foundations, there were and are few dental students from underrepresented, minority groups. This leaves many of our least dentally served communities without dentists from similar experiences as their patients and language/culture barriers continue to be a factor for many people. An example of this challenge was with a community clinic in an urban setting that was serving a large monolingual Korean speaking senior population. Despite significant recruitment activities, we did not find a Korean speaking hygienist to serve this group. Although we used an interpreter and had various consent/medical history forms translated, there were opportunities to support robust health education and more organic discussions about diet norms, brushing strategies and care

recommendations that were more challenging with an interpreter. This was because adding a full-time interpreter was beyond the budget of the project. Therefore, the project partner provided an employee to act as an interpreter. This individual already had a full-time job so adding these activities to her workload was extremely challenging. Even though she was a wonderful asset to the project and was smart and dedicated to improving the oral health of her clients, the dental interpreter workload proved too much. We received excellent feedback from the patients about their experiences but still the model was not sustainable on several levels. A full-time interpreter was essential as the project was too labor intensive for the project partner. This proved too costly based on the forecasted revenue of the clinical care provided.

In addition, the time needed to properly take care of seniors, many of whom had mobility issues and complicated health issues, took a significant amount of time in the clinical setting. Before providing care, the hygienist needed to work with the interpreter and patient to confirm current medications, doses, allergies and obtain then discuss thorough health and dentistry health histories. Additionally, just the time and effort needed to get a patient in/out of the dental chair often took more time than that of other patients. This resulted in fewer patients who could be seen in a day than that of a traditional dental practice. The revenue with this practice norm of "decreased productivity" proved too much for the system.

I tried to think of how to improve the skills of our clinicians in serving communities that might not be similar to those clinicians' backgrounds. In my reflections about the curriculum and training program, I noted that it was critical to

> *...help the dentist understand the social context that families lived in. The curriculum to*
>
> *achieve this would be more vignette or involve case-based studies....I would have*

> *implemented a mentoring process...a seasoned team matched with a newer team would*
>
> *have been helpful.*

This type of learning could open opportunities for dynamic feedback and also enable the mentor and mentee to further strengthen what would hopefully become a long-term mentoring relationship.

> Finally, the dentist in the model indicated that,
>
> It was really about increasing capacity and thinking of more innovative ways to create
>
> that capacity while also thinking about what's the most amenable way for the families to
>
> receive care, that we have to look outside of the traditional model of a fixed dental site
>
> because not everyone perceives the need to go to a dental practice the same way.
>
> Collaborating with medical practices and or dental practices or preschools and programs
>
> like we have done...I think is key.

While the dental hygienist noted,

> Actually being there, having access to somebody in a public setting. I mean easy access,
>
> not somebody that's intimidating or doesn't want to accommodate you, somebody that's
>
> like, "Hey, come in here and sit down for a minute. Talk to me while I'm cleaning this
>
> room." "Sure, we'll look into that," and getting back to them. Making them feel
>
> important because sometimes they haven't had that experience with health care providers.

These opportunities came from a place of humble service orientation as well as being culturally engaged. Neither the dentist nor the hygienist were from the racial or ethnic groups they primarily served but each spent time becoming deeply immersed in the site's culture and spent a great deal of time learning about the norms of patients and families from the site leads

and others. These clinicians' minimized their "otherness" to a significant extent which benefited the families they served.

Collective Neglect: Workforce and Power Structures

When I reflected on and continue to reflect on my experiences, one phrase continues to come to mind — collective neglect. There is a willful, collective neglect perpetuated by many dentists on those with disabilities, communities of color, those with public insurance and those of low socioeconomic status. In some cases, we have been conditioned, habituated, intimidated or threatened into participating, being complicit or ignoring this collective neglect. In some cases, silence was a safer option than speaking up about the collective neglect. For various reasons, speaking up could come at a high price personally and professionally. Hygienists whose work and practices are almost entirely controlled by dentists, remain silent and tolerate bullying to stay employed and employable. Dentists are silent about the malpractice of colleagues as a manner of course because silence is the norm and reporting is burdensome and may cause retaliation. In addition, referral relationships between general dentists and specialists may be jeopardized. Medical professionals have a respectful silence because of the different practice realms. Very few physicians discuss neglect of a patient by a dentist or the oral health system's failure to meet the needs of large groups and communities. Educators and school administrators are silent because so few providers take Medicaid or public insurance that saying anything to those providers could jeopardize care to their students. In addition, these educators are charged with educating children and often have very demanding jobs already meeting the educational needs of their students.

> *Why were dentists preventing care from getting to people? It seemed like Sisyphean*
>
> *madness. I heard over and over again that dentists couldn't care for people pro bono*

and that Medicaid is too hard to work with. Medicaid pays too little. There is no access problem...which one was it? Each and every excuse resulted in the same thing to me as a public health practitioner which was that formal dentistry was obstructing a clinically competent, lower cost provider like a dental hygienist with expanded functions or a therapist from entering the market to address this epidemic. This felt like it was to protect their own self-interests yet it was often couched in the argument of patient safety and irreversible procedures.

First I will present a concrete example of the controversial nature of the project I directed that can help set the stage for where this project began as a way to address unmet dental needs and then additional examples will show my perspective on where dentistry is moving. A few years into the pilot project, the then Dean of the dental school apparently did not allow support from others in the school to help with organizing a local press event. The event was intended to highlight the model of care and demonstrate the system for the media. The event was held at a local preschool with the clinical team, a young patient, her parent, and other project partners to highlight the model of care and its success with underserved children, their families, and integration into a preschool setting. This lack of support from the dental school was not very surprising but was disappointing. I organized the press event without much experience in this area. It is critical to understand that the location of the event was in a large media market which had a high likelihood of getting decent press coverage. Still the press coverage could have been received in different ways by different people. There was a significant chance of negative feedback for the dean from dentists and dentist alumni, particularly in regards to the model being a hygienist-based model of care. On the other hand, there could have been positive feedback from the perspective of those interested in addressing the epidemic of dental disease.

I understood through a conversation with a communications specialist that the dean indicated that this type of care model was not an investment that the school was prepared to get behind. Rather, this hygienist-based model and the work to support it, was to have as little engagement as possible from any other dental school employees. The staff within the center were to ask and expect little additional support despite grants providing the dental school with financial support for such activities. In contrast to this experience from my own organization, the event proved to be very exciting for many other partners. There was representation from the dental hygiene association, clinic partners, local dental society, funding agency, host site which was a preschool, two state legislators, and local city council members. However, not all project partners were excited to be part of this event and I found this to be true in other press events as well. It seemed that the least willing to engage were dentists including dental associations and societies.

My reflective interview about this experience notes,

Another particularly challenging, but noteworthy story, is a public relations event, a big press event I was organizing in a low income community in the Bay Area, and the dean had specifically indicated to our PR person to not provide assistance to me because, again, the controversy or his disdain for the program. I'm not exactly sure which. I did my best. There were many policymakers coming to speak. We had the city council there, the dentist, the executive director of the clinic that we were collaborating with, the executive director of the funding agency that had funded the project, and so forth. There were local policymakers, state representatives, and so forth.

The night before the event, when the press release had been sent, I received a call on my work cell phone, from the police chief of the city, asking to be on the agenda. He

indicated that he believed there were many people in his community who suffered from poor oral health...where they might not have understood what preventing dental disease was.

Maybe they didn't drink the local tap water that was fluoridated, so they were at higher risk of dental disease. There were just no affordable dental providers in the area, or the providers that were in the area didn't take the patient's type of insurance. Lots of reasons for poor oral health in that community, but what he really said was that he thought poor oral health participated in the pipeline to prison he witnessed in his community. People who stopped smiling, stopped socially engaging, were ashamed of their mouths, were often labeled bad. In some cases, they ended up in prison. He didn't say it was a cause and effect relationship so I don't want to misrepresent it. But he did think that poor oral health impacted employability among other things. He wanted to talk about the importance of having dental care for young children. He understood and valued the basics of prevention. We were specifically working on a project at preschools in the area - basically from an infant to five years old, and what that meant to start life with good oral health practices and establishing good oral health practices for the long term, also teaching families how to prevent dental disease and how their diets contribute to higher risk. It was a really, really impactful moment for me. In fact, it felt like I got kicked in the stomach on that call. I had just not heard it presented that way. He was so earnest when he was talking to me. It was really painful and sad that he believed so many in his community were suffering needlessly. I shared that story often, and I think it was meaningful for many funders and policymakers, as the project progressed, for me to share that story, his thoughts and experiences.

The police chief's opinions were in direct contrast to that of the dean, many dentists, and many in formal dentistry. When I look back and reflect, this dissonance was normal. Dentists did not hear or were immune or so desensitized to the plight of the common person in regards to accessing dental care.

In some respects, this attitude or type of disengagement was not unique. It seemed to indicate what I had experienced before – that the project was unwelcome or at a minimum a required annoyance. By required annoyance, I mean that this model of care provided something like a red herring or a selective marketing strategy for dentistry. In some respects, it could indicate to policymakers that dentistry was "doing something" about the epidemic of untreated disease. However, I now believe that this type of hygienist-based model without an enhanced scope and more independent practice was a diluted and an inadequate response to the huge numbers of people with untreated dental disease in the US.

At about the same time as this pilot project's launch, there was a proposal for a dental therapist model of care to be "studied" in CA. This study would have been housed at another dental school and would have been paid for by a private foundation. However, the proposal and study were rejected. It was my understanding from both participating in discussions about this topic and reports of other meetings/discussions that the hygienist-based project I worked on was offered to the dental association as a more attractive alternative than the dental therapist model. This was due to the scope of practice of each provider type. As was noted earlier, the dental hygienist scope was much more restrictive than that of a therapist. It was said repeatedly that the attraction for many dentists to the hygienist-based model was to maintain the traditional hierarchy of the dentist as the lead in the dental team. It was a bit of a smoke and mirrors relationship in that the dentist would maintain the position as the top of the hierarchy and link the

dentist to the hygienist via teledentistry and in billing as well. All billing would be linked to the dentist or the majority would be. The threat, real or perceived, by dentists of the dental therapist model contributed to a more welcoming environment for my project than likely would have occurred without the direct and immediate threat of a dental therapist model coming to California. I was told this same thing by many in the dental associations in other states that adopted dental hygienist-based care models using teledentistry – that this was preferable to the dental therapist and could alleviate the pressure on dentists to authentically address the epidemic of dental disease.

In my opinion and with distance to reflect, a fair amount of data from the pilot project was curated, distilled, or neutralized to appease dental associations and dentists who did not want to "give up power to hygienists" by having an independent clinician like a therapist in a community-setting. Although change in dentistry is desperately needed, this model did not change the current state of affairs enough as the sheer number of referrals to a dentist were significant. When the disease level was beyond the scope of the hygienist, then a therapist could have succeeded. So, although the hygienist-based model was somewhat of a solution, it was inadequate for\ the dental disease burden present in the majority of populations served in the model.

These choices and decisions of dental associations and states to prevent the entrance of dental therapists into oral health systems occurred and continues to occur despite extensive global and US-based studies showing that a dental therapist is able to safely and effectively provide care. There are examples of this type of provider practicing in the US successfully but not without significant legal battles to do so. An example is the American Dental Association and the Alaska Dental Society which filed a lawsuit against the Alaska Native Tribal Health

Consortium, the State of Alaska, and the dental therapists that were practicing with federal

licensing authority. The suit aimed to prevent dental therapists from being allowed to practice

procedures for the Alaska Native population, including tooth extraction, cavity filling, and

pulpotomies (root canals on baby teeth) (*Alaska Dental Society v. Alaska Native Tribal Health

Consortium*, 1/2006). The suit intended to remove the qualified and highly trained oral health

providers who were willing, able, and enthusiastic about serving in some of the most remote and

dentally underserved communities in Alaska. Additionally, this is despite Alaska Natives having

some of the worst oral health in the US (Sekiguchi, 2005). Neglect to significant swaths of

people was preferable to jeopardizing the dentists' standing. It is easy to see why this would be

as a dentist's salary ranks among the highest in any profession in the US and the typical four-day

work week makes the field attractive.

Meanwhile, in California, the proposed dental therapist project ended before it even

began because the hygienist-based, community-located program was more palatable to the

dentists in leadership and power. This maintained a system that works for them which keeps the

dentist in the traditional role as leader and the hygienist as an "allied" or "auxiliary" dental

provider. This was also despite the ADA Code of Ethics Principle 4, Justice which states,

> Section 4 PRINCIPLE: JUSTICE ("fairness"). The dentist has a duty to treat people
>
> fairly. This principle expresses the concept that professionals have a duty to be fair in
>
> their dealings with patients, colleagues and society. Under this principle, the dentist's
>
> primary obligations include dealing with people justly and delivering dental care without
>
> prejudice. In its broadest sense, this *principle expresses the concept that the dental*
>
> *profession should actively seek allies throughout society on specific activities that will*
>
> *help improve access to care for all {emphasis added}.*

But it did not and does not authentically happen that dental leadership actively seeks allies to improve access to oral health care for all. It is the opposite at almost every turn. This hypocrisy is alarming. The majority of care for an "underserved" person or family was episodic and in response to pain or infection and not prevention based.

> *I think that dentists have been resistant to giving up their traditional cottage-industry practice model as it has been very lucrative for many, many dentists. Restricting direct access for hygienists actually does serve their financial purposes in a lot of ways.*

In some ways, this is similar to big pharma and for-profit health insurance plans which have framed their exorbitant costs on a variety of issues when the reality is that profit is the entire motivator. Additionally, several dentists with whom I worked, told of the strategic plan to lower dental hygienists' salaries. Dentists determined that dental hygienists salaries were too high so dental associations devised and executed a plan to flood the market with hygienists in order to bring down salaries. The plan was to create associate degree programs designed to be hosted at community colleges and they were successful in doing so.

Hopefully, prohibiting successful models of care and other types of clinicians from providing care to those who cannot access care in traditional dental offices will become unacceptable to such a degree that others – government, insurance companies, policy-makers, and potential patients – will be louder and more demanding in calling out the fundamental inequities that the current dental system perpetuates. I used storytelling to provoke and stimulate some deeper thinking about what seemed to be a fear reflex among dentists to say "no" to any solutions. The hygiene-based model supported by teledentistry provides a type of false hope to many, particularly since the disease burden is so much higher in historically underserved populations.

It is essential that we begin looking at the reasons why someone or an industry wants to look for ways to maintain the status quo even when large swaths of the US population suffer and the best interests of the public are not served by current policies. *I wondered, if a dentist won't provide care to the students at the school that regularly is shut down by the SWAT team because of local gun and gang violence, but a hygienist will go there, then why not?* Investigations, reporting and controlling for conflicts of interests need to be conducted and addressed.

Another factor I found intriguing as I reflected on the project and my evolving roles was the reality that in academia, there is a significant role of ego. Perhaps this is because self-promotion is required for tenure and that becomes normal. In addition, the role of ego may be magnified with the intersection of dentistry since a private dental practice is the norm for the majority of dentists and the success of this practice often requires building an individual reputation. To sell oneself and skills is essential to a successful dental business. I noted in a reflective interview,

> *What concerns me a little is having something in an academic setting versus a public health setting. In academia, self-promotion is essential to promote in that setting. There's more ego than what I have found and experienced in public health in the past. That's a bit concerning. I see that this model would be ready to jump to a more public health setting and supported by public health leadership. That would be a great next evolution, and remove it from a dental school arena because of that academic culture and the norms in that environment. Some of the things that probably were my norms coming into a dental school setting and taking this on was collaborative capacity building. Hire smart and get out of the way has been my motto for basically my whole career. I realized that motto actually is not universal. In fact, it's the opposite in the*

dental school arena. There's a lot more possessiveness and a proprietary approach in dentistry. Again, this is part of the academic norm that is an unnecessary challenge for the model.

In addition, data were curated in order for "evidence" to appear more beneficial to the model than was accurate. I believe this was allowed and even encouraged by dentists as a way to have this model of care succeed rather than to have a dental therapist model or an enhanced practice hygienist enter the market and break the monopoly of dentists on the provision of prevention-focused oral health care at a lower cost. I believe the sheer desperation of so many people including policy-makers, foundations and many in public health and portions of the dental industry, opened a road for this type of model to be accepted quickly. There were no external, unbiased reviews conducted of the project and to my knowledge, no data has been published to replicate the model. Of particular interest would be matching the health burden of patients to the most suitable provider type. This lack of unbiased evidence converged with the willingness of dentists who feared damage to their current role as the leader of the dental team to adopt this model quickly at the price of appropriate, patient/family-centered care utilizing highly trained and clinically competent hygienists as primary care providers. The hygiene-based model appeared to address the access to care problem and "give" power to the hygienist but it maintained the dentist's workplace power and hierarchy while another independent clinical provider like a dental therapist which was seen as a threat to traditional dental practice was kept at bay.

I believe that if an unbiased evaluation and published results in peer-reviewed journals occurred, there would have been more scrutiny resulting in the understanding that the oral health needs of many people and populations were too significant to be effectively addressed by the

teledentistry-supported, hygiene-based model. I believe that the majority of patients were not appropriately served by the hygienist-based model of care linked to a dentist and that an independent clinician like a dental therapist model or independent, enhanced hygienist model would be better suited to providing care in most settings in which we practiced. The limited scope of practice and lack of independence, hygiene-based model of community-based care that I worked with was better suited to the provision of prevention-focused dental care for those whose disease burden was far less than what we found in the majority of sites.

Compton's (2015) article addressed this important issue in another way.

While dentistry likes to pride itself on being prevention- focused, the data may not bear that out. For example, Medicaid children as a group are at elevated risk for pit and fissure caries on permanent molars, which represents the largest area of re-storative care. Dental sealants are a proven preventive treatment that significantly reduces pit and fissure caries; nationally, however, only 16 percent of six- to nine-year-olds on Medicaid received benefits for dental sealants in 2013.

Let us look at the word "dentistry" in the first line of the quote above to mean dentists. Looking at skill sets and training, dentists are the surgical specialists while dental hygienists are the provider type best suited to the provision of preventive practices. Even a hybrid of a dentist and hygienist which is a therapist can be appropriate and successful in implementing prevention focused care as well as some restorative care.

But, power structures within dentistry are interesting. In fact, the power of dentists is significant. Dentists are among the best paid professions in the US and with that financial reality comes a lobby that is well-funded. The result is that dentists' interests are protected and politics, policy, and regulations often follow dentists' wishes more than anything. It was noted by Smith

(2007) that the introduction of dental therapists "...threatened the exclusive control that dentists previously held over dental procedures. Competition in the dental field will be good for consumers because it sends a strong message to healthcare providers that those who cannot afford high-cost dental care need a low-cost alternative, which is already becoming available." (p. 107). This was written about 12 years ago and very little real progress has been made to address the epidemic of dental disease.

But, as I vacillate between being an optimist and a pragmatic public health practitioner, I noted in my reflections that this type of practice model could be healthy and viable for patients *if* dental providers would work together to the benefit of the patient which means no one person or industry's self-interest takes precedence over the needs of the public.

> *...one thing that emerged in absolutely every practice setting was that there were people with dental insurance, for example, teachers at a school, or counselors, or the nurses at a long-term care facility who asked if they could also receive preventive care from the hygienist because it was so convenient. Again, we know that scheduling and keeping dental appointments is one of the hardest appointments to keep. There's plenty of data to support that reality. Just having people understand that this practice model could absolutely be viable was important also.*

However, I joined in the Sisyphean work of convincing dentists and dental students that a hygienist-based model of care would be an asset to them. Many dentists and dental students were appeased by the analogy of a boat. With a crew, the captain could sail a larger boat and work could be delegated and distributed whereas with no crew, the boat was smaller and the captain did all the work. I noted,

We used the analogy of a ship and discussed that a captain of a ship could actually have a bigger ship if they utilized a crew versus only rowing or sailing on their own. This really helped the dentist to view his or her colleagues, like the hygienist and dental assistants, as the crew of that ship. That was helpful and an interesting evolution.

Yet, the idea of the effective use of resources and effective delegating based on scope of practice seemed almost foreign to many. There was a power structure that many seemed unwilling to reflect on or see that it might be detrimental to patients, a practice or the health of a team. The norms of dentistry in many ways, infantilizes and demeans the skills of other provider types particularly dental hygienists. Hygienists, therapists, and assistants are often aligned with conventional, traditional roles without attention to scopes of practice that make delegation not only feasible but preferable. I frequently came back to this quote in my reflections,

Non-dentist providers with expanded functions have a positive impact on dental practice. This sentiment has not changed as previous studies have confirmed that dentists support delegation to allied personnel as a means to increase dental services. Yet, expanding the scopes of practice for allied providers has not dramatically changed dental delivery. Since the 1960s, studies have demonstrated that non-dentist providers can reduce cost, provide high quality care and do not put patients at risk (Blue et al., 2013, p. 6).

And this was further supported by the collaborating dentist in our program who reported that

...about 700 kids this past year got preventive care, not having to set foot in a dental office. The other big thing is that those who do need dental care and a referral actually have come with a set of records and a bunch of background information that can be used to formulate their next visit with us in the office. ...not all the 700 kids that we saw last year were disease-free. Only a portion of them were disease-free, but all the 700 got

preventive care. Last year, I think it was roughly about 60 percent that did not need dental services in the clinic.

In a recent conversation with the same dentist, it was noted that the number who can be kept healthy by the dental hygienist alone is decreasing. This means that the disease burden is increasing and more referrals are needed. The reason for that is not fully understood but it is becoming increasingly evident that the referrals to the dental clinic are important to address. Although the hygiene-based model of care works in many cases, my perspectives as a public health practitioner and a researcher shows me that adding another portable dental clinician like a therapist or enhancing the hygienist's skill set to match that of a therapist would benefit the patient and community.

Site Integration

Additional ideas about viability of the model include a dental hygienist in the system of care who shared thoughts about her role and her new identity as part of an elementary school. Notice her language when she describes her work. She is storytelling to me during an interview and I witnessed this process with her own school-based practice when I was able to observe her.

One of the most awesome things that happened is I became a server of their school community. I went and I did that. When we started this, it was one of the things where I felt like we needed to reach out to the teachers because they need to understand how important this is. Sometimes it is going to be hard because the students are going to be gone from their classroom.

I'm going to be going into their classroom asking for their student, maybe interrupting some of their lesson plans. A very small amount of time, but also still that was happening. I would go to the teacher meetings. They had weekly meetings with the

principal. A lot of times the teachers would be going over their week. I would go to

those meetings. I did presentations for them. I explained to them how things were going

to work. I also did that with the nurses at the school, the medical people that were at the

school, and also the administrators so that everybody knew what was happening.

       The cool thing at our school was there was a really active parent community.

They even had a little casita where they would make little lunches for people. They were

raising money that way for the PTA. I would go and talk to those ladies, bring them

treats sometimes, and just try...I became part of the community at the school. Also, I

would have lunch with the teachers. About once or twice a week I would go in and sit in

their teacher lounge when they were eating, which at first I felt out of place because I was

like, "Is this going to be comfortable? Are they going to want me in there? Are they

going to be wanting to talk about things that I shouldn't be hearing?" Then, after a while,

it just became so fun because they'd ask me questions, and I'd ask them questions. They

became more comfortable with me.

A difference with a patient/family centered, community-located practice can be seen in another

quote from the hygienist,

A perfect practice day is to get there, to open your doors, to have everybody in the

hallway say hi to you and greet you. Like I said, you're part of the fabric of the

community. You're one of the people there. It feels good to be that way. To have

people saying hi to you, trusting you, smiling at you, and then to open your doors and to

see your patients.

There are provider types willing to be this patient and family-centric who can safely and

effectively provide dental care at a location that is convenient for underserved populations.

Dentistry has a small safety net and in general, many providers who are not practicing in the safety net system appear to be tolerant of the profound limitations of the dental safety net. In my experience, even faculty in dental schools which are defined as part of the safety net, seem tolerant of this wholly inadequate source of dental care or are at least comfortable not demanding significant change to the system on behalf of patients. Meanwhile, dental services in an emergency department almost entirely consists of antibiotics for infection and pain relievers then a referral to a dentist. This means that dental care is not provided in that setting yet the burden of untreated dental disease is repeatedly placed on this area of general health services. This approach of addressing an infection and pain does not address the core of the problem and merely "kicks the can down the road". Receiving dental care in an emergency department is not an authentic answer or solution to dental diseases, the majority of which are entirely preventable.

However, public health dentistry seems different to me. Much like other public health services, it is regarded by the general dental field as second class or less than. Often, I observed how those with low incomes, with jobs that do not provide health and dental insurance, those with cognitive and physical disabilities and others who struggle to access care and the dentists who cared for them were viewed in a similar manner. I noted that,

> *I believe there is a quiet but still present undercurrent that individuals' experiencing those challenges are perceived by many private dentists as in some way less deserving of care. That if one couldn't afford care and had public insurance like Medicaid, then providing services to that individual became less urgent or necessary.*

The dentist we worked with explained it this way, "What are the basic principles of public health dentistry? What is public health dentistry? How can we benefit more people? It's not a threat. It's not eliminating dentists and putting them out of work. They will always be doing it, placing

implants..." and so forth. In comparison, the American Dental Association reports about the role of dentists in public health in a more defensive way:

> If dentists with strong public health credentials are not overseeing the assessment of community needs, developing and implementing health policies to meet those demands, and assuring that proper evaluation is ongoing; the door is left open for well-meaning, but less qualified, advocacy and philanthropic organizations to become the primary guidance for governmental entities (American Dental Association Dental Public Health, 2019, p. 11).

I think the statement "...well-meaning, but less qualified, advocacy and philanthropic organizations to become the primary guidance for governmental entities" is very telling. This is motivating formal dentistry to move. Based on my experience over the past 10 ½ years, this is a veiled call to dentists to organize and prevent other clinical models from being established. The summary of the Dental Public Health ADA online module indicates the following:

> Too often the principal role of Dental Public Health is thought of as "taking care of the poor." While assuring that necessary dental services are provided to meet the oral health demands of the underserved is part of the core functions of assessment, policy development and assurance; this is only a part of the role that dental public health plays. Unfortunately, this most visible expectation of the profession fails to meet the needs of those who must rely on the dental safety net to receive basic dental care. The public has given our profession the right and the obligation to be the provider of oral health services for all persons. If we fail to live up to that obligation as a profession, we may well lose the trust of the public and open up the door for others with less knowledge and interest to

make decisions affecting the profession and the public (ADA Dental Public Health, 2019, p. 14).

I noted in my reflections,

> *I think among the things that was particularly interesting was realizing the profound culture differences between private practice dentists and federally qualified health center dentists...both the norms of their thinking and their willingness to acknowledge and do something about lack of access to care for underserved communities. I think the willingness of these types of dentists to be bold and brave in trying new things and also the political environments and the cultures of dentistry in these various communities, and what was influencing them and their realities are important to see.*

It seems the public may be becoming more vocal about the dental neglect it has experienced and continues to experience. The experiences of people with ongoing unmet dental needs, the exorbitant cost of care, and how few dentists accept public insurance is increasingly becoming an absurd but painful and costly rabbit hole. Questions and ideas about bringing more care to underserved populations and communities seems to be emerging more often. Perhaps embedded in this is a calling for health equity in oral health. A community liaison who was the onsite project lead at a school, said "I also think that the lack of urgency around what is really a barrier to oral health needs being addressed in our community overall....The lack of urgency – that was really concerning for me." I spent time reflecting on things I heard and witnessed including the misconception that "poor people don't care about their teeth" – that was a direct quote from a dental hygienist from Napa County. Many people experience insurmountable barriers to obtaining care. Not being able to access care is not the same as not caring. Wealth

and adequate financial resources help make good oral health a reality while poverty makes poor oral health a frequent reality as well.

Another challenge for achieving good oral health is that most private dentists do not take Medicaid insurance which is a public insurance plan for those with lower incomes. This further exacerbates the problem of historically underserved individuals having few to no options for care. Perhaps we can look more critically at the quote from the ADA which states that the public gave "... our profession the right and the obligation to be the provider of oral health services for all persons" (ADA, Dental Public Health, 2019, p. 14). It is a challenge to look at a system that many of us trust that in reality, has repeatedly failed so many. Still, the ADA states, "If we fail to live up to that obligation as a profession, we may well lose the trust of the public and open up the door for others with less knowledge and interest to make decisions affecting the profession and the public" (ADA, Dental Public Health, 2019, p. 14). The comment above makes me think,

...but of course the profession has failed many while also being successful for many – particularly dentists. But what is the profession so afraid of that they prevent others from providing care to those they neglect? It seems that anyone who has experienced a toothache would be an advocate for those who aren't able to advocate for themselves. Unfortunately, I believe the leadership in most state dental associations and the national association have betrayed the public's trust and there is a profound lack of political will to make a change to finally put patients first rather than dentists.

In hindsight and with the lens of social justice and health equity, the idea of confrontation and political will was interesting for me to reflect on and probe. I noted in an interview,

For example, some communities were more conservative and others less so. Some required that we do more continuing education or political interfacing with the powers

that be, speaking to them and helping them come along to allowing this in their community without a big fight. We definitely tried to avoid at all costs any kind of political arguments or conflict so as not to get the hackles up of the California Dental Association. We really went about things with a very soft hand, very collaborative and collegial, and focused on education. I think it helped being in a dental school to bring that educational focus in. We were able to host continuing education events if a community seemed to be particularly alarmed by having something like this in their community and introduced things in a slow and methodical way, kind of like a formal curriculum. That was very helpful.

Among the most disturbing aspects of my work over the past 10 ½ years has been the willingness of trained dentists to simply and unequivocally refuse care to people living with pain, infection and in some cases, significant trauma. An example of particularly distressing cases includes the following: a former dental student with whom I worked during his time in dental school and kept in contact with during his residency and the launch of his own practice shared a story with me that I think reflects where we are as the culture of dentistry for those who do not have the finances to pay for private care or who have public insurance. This individual, who I will call Joseph, was completing his residency in a large urban children's hospital. A young Latina girl from the Central Valley who was six years old went to four dental offices prior to getting an infected baby tooth extracted. Her parents were farm workers with low incomes and insured by Medi-Cal which is California's version of Medicaid. Their young daughter was in extreme and relentless pain with an infected tooth. The parents called, drove, registered and consented to have their child sit in the dental chairs of four different dentists. Each dentist sent her and her parents on to get care somewhere else. Each one refused to care for her. The

reasons, as reported by Joseph, was that the dentists did not take her insurance and/or didn't feel comfortable providing care to a child that age. Each of the visits occurred during regular office hours not a weekend. According to Joseph, the needed procedure was a minor extraction that he finally did for the child in a hospital setting.

My initial reaction to this type of refusal to care for patients particularly those with significant disabilities and children, was one of disbelief. Maybe I became desensitized to what I should have been outraged by – namely barriers to care for many patients that were in many ways, dentist created. Maybe I was desensitized to this collective neglect. But I met countless colleagues including dentists, hygienists, dental/hygiene educators, and stakeholders who were authentically interested in and committed to improving the oral health of vulnerable populations, particularly children, those with disabilities, and elders. But power was still embedded with the group with the most money and that was not the hygienists nor public health dentists. I believe this has directly contributed to the significant neglect of large numbers of the US population.

Gender Bias

I believe there are multiple examples of gender bias in dentistry and dental hygiene. Within many dental hygiene programs, the default colors for hygienists is often the color pink – pink gowns and pink scrubs. I noted, *this world really does feel familiar – the patriarchal world of dentistry is familiar.* This idea simmered under the surface for a long time. I experienced an awakening about this in my doctoral studies and in the various issues related to gender discrimination. I had not studied this before nor was I versed in feminism in any meaningful way. I noted,

> *There is no questioning the power structures. You either fit the "good girl" role and*
>
> *you'll do fine or you don't, and you aren't. It feels like if there were more women*

leaders, then this could be different for more people. But I know that although many

women saw and experienced this gender bias in a negative manner, many also

perpetuated it because it worked for them in some capacity.

The California Dental Hygienists Association (CDHA) did not until recently have a paid executive director. Rather, individuals volunteered as president, vice president and so forth and these positions changed annually. I believe this yearly change in leadership put the CDHA at a disadvantage during negotiations and discussions about making changes to the wholly inadequate dental care system. The institutional knowledge and relationships built over time are not able to be maintained when leadership is so fluid. I believe this gave leverage to the California Dental Association (CDA) to continue to dominate negotiations. I was left perplexed that patients, their suffering, and neglect were rarely part of the discussion except in the context of Medicaid reimbursement needing to be increased in order for dentists to be willing to take on the patients with that type of insurance. It seemed to me, as discouraging as it is and was, that there were battles for practice territory and this was the dominant theme of most discussions. Limiting scopes of practice and obstructing other provider types from entering the market was the goal of many in dental leadership and this was despite sound scientific evidence that patients could be safely and effectively cared for by independent hygienists as prevention-focused primary care providers for all populations particularly with minimal expanded training to match that of a therapist.

The veiled adversarial nature to the relationship between dentists and hygienists was a challenge. In meetings with multiple hygienists over many years, there was a significant number of hygienists who reported that they did not tell the dentists with whom they worked about their interest in obtaining a license to practice underserved populations independently as Registered

Dental Hygienist in Alternative Practice (RDHAP). Many RDHAP students reported frequently

feeling vulnerable in their work and future employment options in their communities and

professionally if they told and it angered or threatened the dentist for whom they worked. These

future RDHAPs struggled with navigating the gaps in care and neglect they observed in the oral

health system. Many felt compelled to help alleviate the pain and suffering of patients but felt

vulnerable to retaliation based in the self-interests of dentists in their communities. Many of

these RDHAP students shared their stories of fear with tears in their eyes and quavering voices.

They talked about hiding their enrollment in the RDHAP course from their dentist employer

because they thought the dentist would be threatened by the potential of the RDHAP to "poach

patients" and then retaliate.

Since I was a public health practitioner, I was able to safely say that "this was not my

scope battle" as a way for me to be more outspoken in calling out neglect and systemic failures

of the oral health care system. Perhaps my patience hit its limit. Maybe like #19, there was

underlying decay that I could not continue to ignore and it became less tolerable to cope with

obstruction to basic oral health prevention procedures that was created and perpetuated by many

dentists. I noted,

> *As I witness the intentional neglect, the willful interference with appropriate care models*
>
> *particularly for underserved groups despite evidence that patient safety is ensured, I am*
>
> *obligated to call out the inhumane, immoral and unacceptable outcomes that we have*
>
> *now with unnecessary pain, infections, tooth loss, and general suffering that underserved*
>
> *communities endure. Again, this is despite evidence that various dental team members*
>
> *are willing and prepared to serve these patients but politics, fear, and greed interfere*
>
> *with decisions to do so. I believe these patterns of oppression are multifaceted.*

Collective Neglect: Health Equity

Patients, often through years of experiencing poverty and the reality of that suffering, are conditioned to tolerate the collective neglect of the dental industry and do so in relative silence. When those with developmental disabilities are in need of dental care, the wait times for sedation dentistry can be several years long. I understand there is a wait list of four years for sedation/hospital dentistry at the dental school now. Many dentists, despite learning how to and practicing providing oral health care to those with special needs in dental school, often refuse to provide care to these individuals. I understand that it is imperative to ensure the safety of the patient and providers however, this selecting to refuse essential health services to vulnerable populations is alarming. The stories I have heard over and over again indicate that many dentists simply refuse to care for this population and that safety is not the entire issue. In addition, dental leadership often prevents or obstructs other providers like RDHAPs from providing and being reimbursed for preventive procedures to these populations. There are often severe and unnecessary restrictions placed on these prevention-focused provider types as a way of controlling access not ensuring access.

To hear parents, family members, case managers, nurses, social workers and others repeatedly and with increasing desperation try to obtain oral health care for their loved one with no authentic answers about fixing problems because the system is so profoundly broken, is heartbreaking. A cynical side of me believes that a federal lawsuit may be the best or only answer to this problem. In my mind, this collective neglect of the most vulnerable among us is an egregious act by the dental profession. Much like wheelchair access is mandatory in the US, basic oral health services should be not only mandatory but done in a timely manner, particularly for those individuals with special needs. A four year wait list for dental care should motivate a

lawsuit to provoke change since the industry will not hold itself accountable. A very small group of dentists provide care to individuals with disabilities and general dentists may provide limited care as well. Pediatric dentists may do so on occasion since they are often well-versed in behavior support strategies. Still the number of people turned away and ultimately left without oral health care receives hand-wringing and lip-service from dentists in general but very little, if any, systemic change occurs.

*My parents have been disabled and live on a limited income and have for many years. When Dad ate toffees at the hospital visiting my cousin, two crowns popped off. They were totally intact, not chipped or broken in anyway. Just stuck in the toffee. One crown was made by Norm who, if I remember correctly, didn't charge us for it. Since he is the husband of my best friend, it was a benefit of a long term friendship and saved us **at least** $1000. Dad kept the rogue crowns wrapped in tinfoil and safely tucked in his wallet until he could get them glued back on. I arranged for this to happen at the dental school since dental schools are defined as part of the dental safety net. For this reason, I expected it to be more affordable than a private dentist's office. The dentist who re-glued the crowns did so in faculty practice but I was shocked to hear the final bill of $800 to re-glue two crowns that were perfectly intact. That was it. I was too horrified to tell my parents and put the charges on my credit card. I relayed this story and my shock about the cost of the procedures combined with the time needed to replace the crowns – maybe 3 mins each, to a hygienist and she noted that she could have done it for him for about $10 or basically the cost of the glue, the bib, gloves and other disposables like cotton pellets that were used in his care.*

Talk about dissonance. I didn't want to see this part of dentistry and had been successful in tamping down my concerns while working with the hygienist-based model of care. Now what? The cumulative evidence is really just too much to ignore.

There is significant interest in trips abroad to various places like Jamaica, South America and so forth to provide dental care to underserved communities. The ADA recently tweeted that Global Dental Relief was seeking dental volunteers for 2019 trips.

Why is this? Why do we leave so many of our US children and families, elders, working poor, and those with disabilities neglected and go to other communities to provide dental care? If local dentists don't or won't respond to vast unmet dental needs then what can be done? How can we address these unmet dental needs in light of local or state laws that are designed and intended to prevent a prevention-focused provider from practicing that then results in people not getting the care they need?

We can enhance learning opportunities so our dental professionals acknowledge individuals' distress and powerlessness in order to achieve greater empathy toward people receiving social assistance especially in this time of incredible income inequality. Additionally, a socio-life view of poverty is one that views poverty as a structural, rather than an individual process (Loignon, 2012). Embedding this information deeply and often in dental and hygiene education will be important so future clinicians are prepared to care for the already significant and growing number of lower income, underserved, and vulnerable populations.

I experienced discussions about and was repeatedly recruited to participate in large dental events wherein dentists, hygienists, assistants and others donated time on a weekend to provide free dental care usually in a location like a convention center or a fairground. Potential patients would wait outside, often in the early hours, in the dark, as the dental care is provided on a first

come, first served basis. Often only one dental procedure is done even though usually more are needed. For example, one extraction or one crown is placed. There is essentially little follow-up as the volunteer dentists generally do not provide follow-up care in their own private dental offices. So if something does not fit well or there are adjustments needed that is often not possible or has limited opportunity to be corrected. This method of providing care to vulnerable and economically fragile populations is not a system of care that we as a country should feel good about. Nor should the dental industry feel good about it. Yet, these events often attract significant media attention and provide a "feel good" experience for the providers. An online search results in extensive "how-to" manuals and to-do lists for events such as these. But in my reflections, I repeatedly came back to the thought that this is not an acceptable way to receive or provide oral health care particularly for caries and periodontal diseases which are almost entirely preventable and chronic in nature. Would treating diabetes or asthma in this manner be acceptable? I think not.

Here are some examples of the recruitment, "feel-good" narrative related to these pop-up dental events. Image 2. California Dental Association Website related to CDA Cares events (2019) is one example.

Figure 2. California Dental Association Website related to CDA Cares events (2019)

Many of those who attend these events to receive dental care are people who work and often at more than one job but these jobs do not provide dental insurance. In other cases, these individuals work hours that are just below what would be defined as full-time and therefore they are not entitled to dental insurance coverage. Some employers offer health insurance but not dental insurance. Many workplaces intentionally limit work schedules so as not to pay for insurance as a cost-saving measure. Still other patients at these events are disabled and on limited incomes so cannot afford private practice fees or do not have access to a dental safety net clinic because there are so few.

Here are other examples of people standing in line for care in a fairground setting with some responses from people critical of the framing of this as a reasonable way to get oral health care, Image 3. Waiting in line for Solano County Fairgrounds dental event, Image 4. Twitter replies about Solano County dental event, Image 5. Twitter posting of camping on street for Phoenix dental event, and Image 6. Topeka, Kansas dental event.

Figure 3. Waiting in line for Solano County Fairgrounds dental event.

Figure 4. Twitter replies about Solano County dental event

Figure 5. Twitter posting of camping on street for Phoenix dental event.

Another example is OkMOM (Oklahoma Mission of Mercy) which is sponsored by the Oklahoma Dental Association, the Oklahoma Dental Foundation and primarily funded by the Delta Dental of Oklahoma Foundation. They report that the Oklahoma State Department of Health endorses and supports their mission. The event opens at 5 am but courtesy parking is open at 10 pm the night before.

Frequently Asked Question for The Kansas Dental Charitable Foundation (KDCF) 2018 Kansas

Mission of Mercy (KMOM) free dental clinic on February 9-10, 2018.

FAQ: Patients do not need to bring dental records or proof of income.

Services are first come, first served and ALL patients must be able to wait in line – no

appointments. The clinic opens at 4:30 a.m. on both Friday and Saturday and waiting in

line or determining how early to get in line, is up to the patient. We only let in as many

patients as we will be able to treat that day (approximately 700) and we will then close

the doors. Standing in line on Friday and not getting in does not give the patient priority

the next day. It is the same process on Saturday—first come, first served. Be prepared to

wait and potentially be there all day. We let approximately 700 patients in the clinic so it

may be mid-afternoon before a patient is treated. (Kansas Mission of Mercy, 2018)

Figure 6. Topeka, Kansas dental event

The article from the *Topeka Capital Journal* by Tim Hrenchir, Posted Jan 29, 2016 at 6:47 AM noted the following,

Three of Vicki Frost's bottom teeth — all in a row — were so sensitive she couldn't even bear to bite down on toast. But the Great Bend-area woman, who is on disability, was forced to live with the pain because she couldn't afford the payment to have those teeth pulled. So, Frost said, she and three other Great Bend-area residents pooled their money to finance the roughly 190-mile drive Thursday to the Kansas Expocentre's Landon Arena for a clinic offering free basic dental care. Frost said she felt fortunate to benefit from the 15th annual Kansas Mission of Mercy clinic, an ongoing commitment of the Kansas Dental Charitable Foundation. "The people here have all been very kind and very sweet," she said.

Newton dentist Brett Roufs, who is state director for KMOM, said about 150 volunteer dentists and 80 to 100 hygienists conducted cleanings, fillings and some extractions at Friday's event. Clinic organizers fed breakfast and lunch to Friday's patients and plan to do the same Saturday, Roufs said. Roufs said one patient had begun camping Wednesday morning outside the clinic site, where treatment was offered on a first-come, first-served basis.

Organizers had announced in advance they would evaluate the number of dental professionals on hand and close the doors to additional patients once they thought the clinic had reached the maximum number of patients it could effectively serve that day.

Frost said she and her friends arrived about 11 p.m. Thursday and began waiting outdoors in roughly 30-degree temperatures. They anticipated getting into the building about 4:30 a.m., when organizers had said the clinic would open Friday and Saturday.

Fortunately, Frost said, the clinic allowed those waiting outside — including Frost and her friends — to go inside about 12:30 a.m.

Roufs explained, "We didn't want everybody standing outside all night long." But not everyone got in. At 5:15 a.m., about 150 people remained standing in line outside the Expocentre. They learned soon afterward they wouldn't be admitted to Friday's clinic session. Roufs acknowledged some people who had arrived as early as 3 a.m. were upset to learn they wouldn't be treated that day. He stressed that those people could still come back and receive treatment Saturday. The clinic allowed 750 to 800 people inside before closing its doors Friday morning, Roufs said. Dental professionals on hand began treating patients about 7 a.m. (n.p).

I reflected on this by saying in an interview,

How is this supposed to work for people? We have such a profound disconnect between those with ongoing and profound unmet dental needs and dentists as small business owners. I certainly have no intention of disparaging my dental colleagues as so many do not represent this willful collective neglect however, this cannot go on. It must change. What other health care profession can withhold basic, low-cost, and effective disease prevention procedures from people with no consequences?

Among the challenges that I experienced and reflected on were dental screenings. I noted that,

I could never understand the value of a dental screening. I couldn't understand it in any sense of the word or in any capacity. It was just pointless because it seemed that everyone needed something dentally whether it be a cleaning or a sealant or something! The first time I was asked to attend and help at an event like this was specifically serving elders at a church in San Francisco. I held a flashlight for a dentist and helped

"patients" complete consent forms and escorted "patients" to the chairs where a dentist would sit knee to knee with the person and use a tongue depressor and a flashlight to look in the mouth. There was no way to recline the person to get an accurate view of the mouth and without an x-ray, it was not possible to truly know if underlying decay was present. Each and every patient was referred to additional care – for a cleaning, for x-rays, for restorative work, extractions, a crown, or dentures. It felt inhumane to tell people they needed care when they already knew they needed care. They were desperate for dental care, real dental care, not a referral to something that was unattainable to them. Most of the people hadn't seen a dentist in years for a variety of reasons – most because once they stopped working and enrolled in Medicare, they did not have dental insurance anymore. Most had a limited income upon retirement or from becoming disabled. I couldn't stomach going to these events anymore and didn't. I just felt sick about it. I couldn't see how anyone could feel good about this kind of thing. I really used this feeling of disappointment in the stories I told when recruiting new sites-particularly those who had experienced screenings before. They knew that no real care was provided in a screening. They saw that the referrals to more care which almost everyone received, was inevitable. I know in almost every case, I felt like we were on the same page – the sites and I, by saying about the screening – like why bother? Why bother to screen? Do something! Screening was just the pits and it was depressing. It felt so hollow and empty. I just couldn't stomach it. It just kicked the can down the road. Nothing happened.

I know this experience with screenings made recruitment of potential sites and clinicians easier because they were desperate for more care to occur too. I could say that care could actually

happen in this model meaning that cleanings, x-rays, intraoral photos, sealants, an exam by the dentist using teledentistry technology, and ongoing preventive care would occur with the hygienist. And a referral was provided if/when restorative care was required. Unfortunately, many sites had populations whose dental disease was too significant for this model to be truly effective. Too many people required referrals and the case management became a very heavy burden on patients, families and case managers.

Shame

An additional issue which concerned me was the shame people experienced related to their teeth and mouths. As I reflect on the intersection of experiences, I realized that many people have shame related to their own dental disease believing they are entirely to blame or their lack of financial resources are entirely to blame for their mouths. Yet in many cases, the system has failed these individuals and families.

I know that my own experiences with dental care have influenced this view. My grandparents were born in Northern Ireland and were Catholic. Among the reasons that they immigrated to the US was an experience my grandfather had as a young man looking for work in a predominantly Protestant community that often violently discriminated against Catholics. My grandfather was basically pushed downstairs by the police simply for being Catholic and looking for work in what the police deemed was a place he should not be. His front teeth were knocked out when he was thrown down those stairs. His family pooled their money to replace his teeth as quickly as possible because he would not be able to get a good job without his teeth. My mother had her front teeth knocked and basically the teeth turned dark gray when she was about 12 years old. Again, to repair her teeth was about a thousand dollars in the mid-1950s which was a big

financial investment but essential to her future well-being. This was a huge amount of money for an immigrant family of very modest means.

My daughter broke her two front teeth on the Saturday before the start of 8th grade. We spent hours on the phone and basically begged a dentist who we did not know but was recommended to us, to fix her teeth on Monday as the new school year was scheduled to start on Tuesday. There was no time to pursue making a mold or model to replicate her lost teeth so a dentist would be required to reconstruct the shape and size of her teeth "freehand". We worked so hard to get her teeth fixed quickly because she refused to go to the first day of school with two broken front teeth. She was ashamed and embarrassed. When I mentioned this experience to various people, each one said, "that makes sense" or "I don't blame her." We were fortunate to have colleagues to refer us to local dentists, insurance, finances, and the ability to take off work to travel to complete all of this on Monday so she could start school on Tuesday morning.

Her emergency department visits – one for stitching her leg which was punctured by her front teeth in the trampoline accident and the other to try to protect the teeth from infection until they could be repaired were essential. The first emergency department did not have a dentist and so she was referred to another emergency department which did have a dentist available. This is despite texting the dentist covering the private practice where we were patients for the prior 12 years. The private practice on-call dentist was specifically supposed to care for emergencies with the clinic's patients. We called and texted him multiple times with pictures of her two broken and bleeding teeth. The dentist refused to see her even though we were begging for him to do so in order to try prevent an infection from entering the tooth structure. We understood preventing bacteria from entering the open tooth structure was a simple procedure of applying a

temporary sealant to the open and bleeding tooth structure. We were desperate to avoid an infection which could possibly lead to more extensive care like root canals and crowns.

There are so many stories of dental shame and embarrassment. I remember the 7th grade boy at soccer practice who would not look me in the eyes when I spoke to him then covered his mouth and looked away when he finally did speak to me. He had a significant need for orthodontics but his family could not afford private pay while his insurance was not accepted by any orthodontists in town. I remember Angela who held her hands in front of her mouth while she spoke to hide her teeth which were in increasing disrepair due to uncontrolled periodontal infection linked to her diabetes. Finally, she limited her socializing and going out to do even basic things like grocery shopping for her family due to her embarrassment and shame.

More than 1 in 3 low-income adults avoid smiling because they are ashamed of their teeth, according to a Harris Poll survey conducted on behalf of the American Dental Association in 2015.

And I say to this...but of course! What do we expect? Among the questions that go through my head more often than I care to admit look like this – What do we expect? How many people do we know who experience shame like this? Do we notice their shame and withdrawal? Do we know the cause? I see the challenge of those who have worked their whole lives and had dental insurance then upon retirement realize that Medicare does not cover these costs. I wonder if they knew this and thought about the implications of budgeting oral health care in retirement. I wonder how people are handling these issues. Do they get into the high interest credit accounts dental offices suggest with interest rates upwards of 23%? How do we as a nation, deal with the expectation of keeping our teeth throughout our lives? We live in a very different world

from previous generations who often lived much of their lives without their own teeth and used dentures. What now? How does this work for people if their already low-paying jobs are designed to give them not enough hours to be eligible for dental benefits and yet some employers have policies that prohibit or restrict the hiring of people without their teeth? There seems to be no winning in this mad world.

This happened with Andrew Puzder, the former CEO of CKE Restaurants who told managers of Hardee's burger shops in a memo that came to light when he was nominated to be President Donald Trump's labor secretary, "No more people behind the counter unless they have all their teeth" (Berfield & Giamonna, 2017).

Missing School

There is no requirement to ask a student who is home ill if there is an oral health problem causing the absence. The general description of "out sick" does not give us or a school information about the cause, particularly if the issue is untreated dental disease. A recent experience with an elementary school in the San Francisco area indicated that at least 2 children in each class where dental hygiene students were hosting small group teaching sessions about oral health reported children who self-reported mouth pain. In working with the clinical team who went to the same school to set up a portable dental clinic, a young girl of 6 years old was identified by the school nurse as needing care. The nurse helped the family complete consent forms and shepherded this child to the clinical team. She had almost no visible teeth due to decay. She had tiny dark nubs for her teeth and said that she only ate rice and bananas because these were the only foods she could eat without pain. Two sisters at another nearby preschool have the same issue, infected teeth to the point of having brown nubs only. Both parents of these sisters work. Each parent has private dental insurance. They have taken the girls to the same

dentist multiple times. The dentist will only provide care in a hospital setting for their treatment and the copay will be $500 for each child. In San Francisco, which is among the most expensive places to live in the US, the patient pay cost is insurmountable for this family. How does the suffering of these children fit with our understanding of health?

The collaborating dentist indicated,

The programs all understand. When you go to any of these programs and you say, "Why do kids miss school?" or "What's the hardest medical appointment to make?" Dental is on the top of that list, unfortunately. They know the challenges their families face. They also know, to live in San Mateo County and survive on a minimum wage is nearly impossible for families. They have multiple jobs. But this was more convenient and was preventive. If the kids needed more care, then they could actually access it and now have a point of contact in the system..."

Yet, the following quote is from a dental hygienist who practiced in a school setting. She noted that in her work with young children, the customized school-based approach was important. She shared,

It's actually very valuable because that sets them up for the rest of their life, maybe, since this might be their first experience or sometimes their first experience in the United States because maybe they've come here from other countries. They've had experiences in other areas, but a lot of them have not had a formal setting when they've had these experiences. It gives us more, I guess I could just say, leeway. I'm able to individualize that treatment for each and every patient. The best thing about being on a school site was being able to customize it, not based just on a timeframe, but based on the patient.

I also noted in many site visits, discussions and observations of practice sites that patients and potential patients were very happy with the care provide by the hygienist and they reported learning more about the role of sugar, frequency of sugar intake and the role other diet in dental disease. The dental hygienist who practiced in a low-income school setting indicated that the potential for more care to more people could happen if the school-based clinic could open up to more people. She said, "I would get questions all the time. 'Are you going to be open in the summer? Can we come and see with other family members that don't go to school here?' I started to think, 'Why not? Why can't this be a community-based practice?' This same sentiment was repeated over and over. However, dentists from CDA and the state appointed evaluation committee simply nodded their heads and basically said 'duly noted.'

I believe many dentists were intimidated to voice their true opinions about real solutions to care. There were many who were busy with practices, families and their communities that were not in the positions of dental leadership for their voices to be heard. I do believe that many dentists felt the hygiene-based model was enough to address dental disease in historically underserved communities. But again, in hindsight and with significant reflection, I believe that this model is inadequate to address the epidemic of dental disease without changes to scopes of practice and supervision levels of these community-based hygienists. This model was a step forward in providing care but mostly it was a gift to dentists who were able to say that they "did" something about unmet oral health needs in California and other places. The model was wholly inadequate for the amount of dental disease that is present in many populations and age groups, particularly those who have been without regular preventive care for long periods of time.

The collaborating dentist I interviewed indicated,

This is not the only model. There can be several other models. It's not about one model (being) better than the other. It's about creating an advanced practice or a mid-level provider within that context. That's kind of the second layer in my mind that they need to understand and then talk about the various different examples, the therapist model, or the hygienist in private practice.

An additional comment from the dental hygienist who worked in the system indicated that,

That's the key-to have that! When you become that fabric or, like I said before, that expert in that area, it comes from having case managed those patients and being successful or continuing to offer your services to them and not giving up on them. Calling back and checking on them. Going in and asking. I had, even, had some of the parents come in and ask me about their treatment that they were talking about a lot. "I need to have a denture. Can you explain to me what that is? Where would I get that? I think I need one. This is going on." They'd show me they have a little abscess." This reached deep into communities and the trust that is built over time is essential to reaching those with the highest rates of disease and those who are more likely than not utilizing public insurance or Medicaid. In reality, much like most of public health, moving to prevent the disease or upstream investments prevent pain, suffering and many other ills including downstream costs which are often incredibly high too. It wasn't just the children. It was the parents. It was the grandmas. It was the aunties. Their caretakers. That part of case management, I think, needed to be addressed.

The hygienist commented,

... the patients or the students, over the years, they would get healthier. They'd get different teeth. Of course, when you start seeing them when they're little, in second

grade, and you're sealing those teeth, then all of a sudden they're going in fifth grade, you're seeing them again and you're like, "Wow. Great." That sealant is on that tooth, there's no decay there, and their plaque index is down. They're able to tell me what they're eating. They're able to tell me, "Oh, I don't get chocolate milk anymore. I get the regular milk for lunch." It's amazing. I would see their tissue is better....I would see that the tooth that needed to be sealed, that it was still healthy. We were there. We could reseal them. We could check in on them. I could see them in two months if they had bad gingivitis or if they had a wiggly tooth and they weren't brushing their teeth because their tooth was loose. That happened all the time.

On a recent Friday, I was presenting to a group of middle-schoolers in San Francisco about the new dental team coming to their school and sharing consent forms with them. We had a casual discussion about how to prevent disease and keep teeth healthy. The children's stories involved having root canals and crowns which means that these children had extensive disease already. The children wanted the hygienist and assistant do everything at school and not to refer if possible because they could not get to the dentist easily and as often as is needed. They valued their teeth. They wanted straight, healthy, white teeth but did not generally have access to the dental care that would help make this happen in a way that worked for them and their families.

Reality and Hope

Before, I didn't clearly see the system's design and the intention of dentists to obstruct care so blatantly. Before, I thought the system was broken but the system is not broken for dentists. The system is working as it was designed by dentists. The system was never authentically about getting care to people. Before I saw the model that I was engaged with for over 10 years as being a strong component of the solution to the epidemic of the disease. Before

I did not see the pervasiveness of self-interest, gender bias and power structures embedded in

dentistry. I now fully appreciate that access to dental care particularly restorative care is often

an elite experience. I bet the champions I spoke of earlier when starting a new site, experienced

this too. I know many who had similar thoughts. We need them on our side. We need them to be

vocal and activated.

Despite all of this, there is a sense of hopefulness and that is important. In looking at a successful implementation of the model, the collaborating dentist indicated,

> ...both my training, my mindset and the mission of my clinic is this dedication to public
>
> health. Dedication to improve the health of our community. Not just those who come
>
> into our practice here..

I can see that with a few more tools in the hygienist's toolkit, there is a better chance of controlling and managing these almost entirely preventable diseases. This would ease the burden of a referral on the family, particularly if the disease is not extensive.

CHAPTER 5: DISCUSSION

No doubt I have dental PTSD. I want to cry every time I'm in the chair and sometimes I do. Sometimes I wait until I am in the car after the appointment. Sometimes I don't cry at all and I feel very much like a "big goyle" as Claire would say when she was young and acknowledging a new found skill that she mastered on her own. Maybe I was a big goyle now and moved past the PTSD.

I am very grateful that I have two dental insurance plans – one through my work and one through my husband's work. I am grateful for the skills of my dentists and hygienists. The last endodontist who worked on #19 said I was so easy to work on because I didn't move at all. He said I was like a typodont which is a dental mannequin. Typodonts are used in the training of dentists and hygienist. Little did he know that I was frozen with fear and dread. My whole body simply wrapped in dread. My hands were gripped so tightly together that they hurt. I forgot my earplugs. OMG- the sounds were torture. The dust and crown structure that was being flung on my face felt evil... even though it is technically beautiful and has protected #19 for a while now. Little did I know that the beautiful crown also protected a bum root canal. One that apparently wasn't finished and had a cotton pellet left in the tooth structure which the crown then covered. Rotten cotton.

That crown and root canal were the most expensive thing I bought that year including all Christmas and birthday gifts combined. More expensive than anything else that year. Next time I need a crown, I'll ask Norman to make it. I hate asking for favors but good heavens, even with insurance the cost is shocking and can throw a major wrench into a family budget.

The dentist needed the hardest tool to drill through that beautiful crown. I think it was a diamond head drill. Oh #19, you are like my own personal diamond. My own blood diamond – expensive, beautiful and hated all in one!

Converging Interests

Motivations for change appear to be coming from a variety of sources. Access to oral health care is increasingly seen as a social justice issue. As we saw in the literature review, the sheer number of people who experience this neglect and the epidemic of dental disease is staggering. "More than 63 million people in the United States live in areas with dentist shortages" (Pew, 2018, para. 3), and we see there is a critical need to diversify the clinicians who can be part of the solution to address this epidemic. Yet, poor oral health is a relatively silent, individual disease and one that has been incorrectly framed as an entirely patient-caused health issue. Although there is significant research to show that oral health diseases are at epidemic levels, the issue must be more aggressively framed as the result of an industry's decisions and policies rather than simply patient's personal health practices causing poor oral health, particularly among historically underserved communities.

With increased awareness about the need for change in many aspects of healthcare, a new light may be shining in the oral health arena as well. General health service providers are being held more accountable for care given, health outcomes and costs. Increased accountability seems to be emerging in dentistry also. Policy-makers, doctors, nurses, health insurance companies, advocacy groups, and others are increasingly aware that the oral health of many are neglected by the dental industry (IOM & NRC, 2011; Pew, 2018).

Health care providers expect oral health care to be provided by the dental industry. These same providers know that the mouth is part of the body and can be a significant source of

infection. The health issues that are exacerbated by uncontrolled oral infections can be both

burdensome to the patient clinically but present challenges to other general health clinicians and

cause costs to rise elsewhere in the health system. As was noted, there is ample evidence of

emergency room visits increasing and other costs being incurred when oral health is ignored

(Singhal, et al., 2015). By enabling dentists to prevent other provider types, particularly

prevention-focused providers like hygienists from entering the market and directly accessing

patients, we are compromising the care provided and contributing to the epidemic of preventable

diseases. I am not sure that other types of health care providers would be given such a wide

berth to profoundly neglect large numbers and groups of people particularly for almost entirely

preventable diseases.

Other examples of organizations and industries that are impacted either directly or

indirectly by the epidemic of untreated dental disease includes schools and employers. Schools

are impacted because children miss school and/or struggle in school when they experience pain

and infections due to untreated disease. Parents and caregivers miss work when children are

unable to attend school. In addition, there are limited employment options for people with

extensive tooth loss. Poor oral health is impactful in seeking employment as we saw from

Andrew Puzder's memo that indicated "No more people behind the counter unless they have all

their teeth". My experience with the police chief showed me that there are more negative

consequences than many even imagine. The chief particularly noted that in his experience poor

oral health contributes to the pipeline to prison that many individuals and communities

encounter. The non-health focused groups and organizations impacted by this epidemic and the

extreme consequences of the industry's neglect are an interest that can influence and impact

change.

My experience and findings indicate that schools have demonstrated incredible enthusiasm for oral health care to be provided on campuses. This same enthusiasm was demonstrated by long term care facilities, group homes and community centers where dental teams practiced. This was especially exciting for people who had dental insurance but struggled to get to a dental office for simple, routine preventive care as they would miss work or require childcare and so forth. Many such people included administrators, teachers, nursing staff and others. The idea of an onsite clinician who would provide regular, prevention-focused oral health care was very exciting. Not only was it convenient for the patient to receive onsite care but it gave the patient and hygienist an opportunity to build an organic, supportive relationship that could result in improvements in diet and brushing techniques all while providing regular preventive care such as sealants, fluoride varnish, cleanings and periodontal maintenance. We see this same model happening at high-end workplaces like Event Brite so it should work in other workplaces and places where people gather. This gives an employee a convenient way to obtain routine, prevention-focused oral health care without leaving work. In situations such as this, the students as well as the staff are able to access this type of care. The portable nature of prevention-focused, hygiene care model, as we have seen, is well-suited to a variety of environments.

A willing and able, prevention-focused oral health workforce combined with significant unmet dental needs in a population that struggles with accessing care is not only a viable match but a preferable, less costly match than the current dental care system. The findings related to site integration processes and outcomes offers a glimpse into what can happen for patients. The hygienist and onsite dental team are able to grow in a solid, supportive relationship with the patients and site as a whole. They embraced one another in a collaborative, nurturing way. My

experiences and findings show that the dental teams were enthusiastic and committed to their sites, their patient and families. The nuances and unique characteristics of the sites were an invigorating challenge that made the hygiene-based practice vibrant and exciting. The sense of boredom that seemed to creep into the practices of those hygienists in private practice caring for generally healthy mouths was not present in these dynamic, community-based, prevention-focused practices.

The literature from many decades ago indicates that educating hygienists with expanded clinical skills can be successful and result in increased care to patients that is both safe and effective. This data can be a beacon for those looking to improve the oral health of more people while addressing the obstruction of dentists who have historically worked to prohibit other providers from entering the market and addressing the epidemic of disease.

Why use the hygienist in restorative dentistry when, by tradition, hygienists belong in periodontics and prevention? The reasons are that hygienists are already licensed and can be regulated by existing dental boards, and the hygiene curriculum is extensive in those basic sciences which dental educators consider prerequisites to clinical dentistry. In addition, as now utilized in most private practices and as limited by some state laws, statutes, or regulations, most hygienists are overeducated and overtrained or underutilized (Lobene et al. , 1972, p. 66).

We know the two most common types of dental disease, caries and periodontal disease are chronic health issues that are almost entirely preventable. The reasonable management approach would be similar to that of other chronic health issues like asthma or diabetes. Prevention should be the ultimate goal if disease is not yet present, then interventions that are part of an ongoing maintenance plan rather than surgical interventions or emergency room visits

must be the standard of care (Singhal, et al., 2015). Surgical interventions should be the final source of care when preventive practices and early interventions using minimally invasive dentistry have failed. Instead the current approach provides perverse yet extremely tempting financial incentives for dentists to perform extensive dental surgery. With adjustments of expectations, standards of care and reimbursement or penalties, then the provider with the most appropriate skill set will be utilized based on the level of the disease and needs for disease management and support. Much like other chronic health issues, the provider type best suited to support behavior change and day-to-day management of the disease is likely not the surgeon who in this case is the dentist. A hygienist's expertise is periodontal disease management, oral health hygiene education, oral health hygiene techniques, the removal of calculus and plaque, and providing preventive procedures like sealants and fluoride varnish. With additional training like that of a therapist, the hygienist can also fill cavities, do primary tooth and nerve treatment, and simple extractions.

Health disparities in the United States are garnering more attention and oral health disparities are included in this. Although my research confirms the extensive information about the access to dental care problem, it also reveals that dental hygienists can be incorporated into community-based sites to provide high quality preventive oral health care that is customized to a community or group and is a fulfilling, dynamic practice for the hygienist. With this type of practice, there is a heavy focus on prevention that can improve the long term oral health of historically underserved individuals. Obstructing dental hygienists from practicing in more locations and with an enhanced scope of practice is a decision based almost entirely in the hands of dentists as dental hygiene is regulated by dental boards rather than its own board. It is the only the profession that is regulated by another profession. Embedded in this are certain issues

with authority, autonomy and professional identity threat that are important to see and understand particularly as these issues impact decisions related to access to care for underserved communities.

My findings indicated that increased collaborative opportunities and improved oral health outcomes are certainly possible with different expectations of oral health care providers. As I noted before, the framing and language around the issues are critical. Although there is substantial data about the ever-increasing levels of untreated dental disease and those without regular, prevention-focused access to oral health care, the causes are multifaceted. However, a genuine and critical review of the barriers dentists' create to prevent the resolution of many of these issues is essential.

By viewing these things with a more critical lens, we can see where structures and decisions contribute to the neglect of many people. It is helpful to look at things like charity events that I explored in my findings to see what benefits are had and who receives those benefits. In addition, it is important to recognize the long and short term benefits and how these events fit into our general understanding of health services particularly for diseases that are, by and large, preventable. The benefits to the public who is offered this free service, perhaps once a year if one makes it through the long lines and waiting for many days, are significant particularly if one is in pain or has an infection that is able to be treated at these charity dental events. However, since the events are only held once a year, people often suffer long periods of time waiting for essential care and prevention of disease is not the focus.

While waiting for this event to occur, nutrition may be compromised as we saw from my findings of a child who was only able to eat rice and bananas due to mouth pain. Social engagement may be reduced. Sleep may be impacted if pain is difficult to manage. An

uncontrolled dental infection can negatively impact other health issues. In addition, there are a limited numbers of procedures that can be completed for each patient at these events. In some cases, teeth may be removed but replacement dentures are not available until the next year. The spaces are limited so people may spend several nights in a tent or campground to hold their spot in line. This is particularly concerning for those who are already medically fragile or disabled. Often if oral disease is present, it is not only on one tooth but many teeth that are impacted by the disease so the number of available procedures per patient is inadequate. This is especially true if someone has gone a long time without accessing dental care. These events require incredible amounts of planning and preparation. The amount of equipment and volunteer hours is enormous. The benefit to the clinicians are often that they feel good about volunteering and helping those in need. There is media attention and collegial value to contributing as well. However, if we view these events through the lens of collective neglect, we see that charity care is not a system designed to impact an epidemic of preventable diseases. It is an acute, episodic response to chronic, preventable diseases and a misdirected use of dental resources.

Additional motivators are happening naturally too. We see the dental industry moving from the traditional "cottage industry" to one of larger, more cost-efficient practice models and group practices. This change in the industry will hopefully result in increased adherence to best practices regarding prevention rather than the perverse incentive of more surgery = more revenue approach many dentists use now. As Dr. Sean Boynes (2018) indicated in his work, dental students clearly see that "surgical intervention gets me to graduation & pay(s) bills after." Ongoing regulation and monitoring of this change will be essential. More importantly, bringing another provider into the mix will break up the monopoly dentists have on providing oral health care. An authentic culture shift of the dental hygienist as the prevention-focused primary oral

health care provider may result. Being threatened by another provider type then preventing access to appropriate dental care is not the role of a health care provider (Hupp, 2017) and it should not be allowed by dentists.

The shame people feel about their oral health, teeth and smiles can be tremendous. As my findings show, this issue has significant and far-reaching effects including disengagement from social, academic and employment activities to name a few. It is critical to recognize that there are structural issues that are contributing to the epidemic of untreated dental diseases. The system is broken for too many and the social awareness of this is increasing making it more difficult to hide the dental industry's collective neglect. There are many examples of proverbial "housekeeping" happening in various industries now. Why not have this occur with dentistry too? As I noted in my reflections, *I worked hard to persuade people and talk about why we were doing this, why **I** was doing this. Everyone has someone in their family or life who has restrictions to getting to a dental clinic or getting care when they are there since it is so expensive even with dental insurance.* The increased social awareness is a motivator or factor that is emerging and hopefully influencing change in the industry.

Collective Neglect

Collective neglect relates to the choices, policies, recommendations and barriers created and applied by dentistry that contributes to the epidemic of oral health diseases among large numbers of people in the US. Confirming what previous research indicates, my findings point to patterns of willful, collective neglect perpetuated by many dentists on individuals with disabilities, communities of color, those utilizing public insurance, and those of low socioeconomic status. Certainly, the literature has addressed access to care issues, increased and ineffective usage of emergency departments for dental issues, low rates of interactions with

children and others using Medicaid, low adoption rates of preventive strategies like sealants by dentists but the use of the phrase collective neglect seems uncomfortable to use. I know it is for me. But to see it anyway other than collective neglect feels like I am participating, being complicit or ignoring what the data shows. Perhaps it is the sense of gratitude for the skills of dentists – the science and art of making the pain go away and the beauty reappear that makes the phrase uncomfortable. Perhaps it is the many, many dentists we know who are deeply committed to their patients and communities that contributes to this discomfort as well. Despite all of this, the phrase fits and to shy away from it minimizes the ongoing and needless suffering of so many people who are desperate for regular, ongoing, preventive-based care.

However, the areas of previous research that I challenge include that there are not structural solutions to the epidemic. I believe there is ample evidence of other providers being able to address the huge unmet need. Specifically, dental hygienists are viable and interested clinicians who are able to care for historically underserved patients as prevention-focused, primary oral health care providers.

My findings identified areas that are dentist created and perpetuated that prevent direct access of dental hygienists to patients who are not engaged in the dental care system. These issues are oppressive to both patients and hygienists and can be changed. Much like if a pediatrician had an immunization rate of 16 % for their practice, I believe someone would call out that practice for extreme negligence in appropriately addressing preventable diseases. Yet, here we have 16 % of six- to nine-year-olds on Medicaid who received dental sealants in 2013 (US DHHS, CMS; 2014). The use of a proven, low cost prevention strategy for children or young teens of sealants is no different from that of immunizations. Based on this information, and according to their own standards, I believe dentists have violated the trust given to their

profession by the public. It seems that if a pediatrician so grossly underutilized effective, proven preventive strategies and children missed substantial number of school days because of those diseases, and parents missed work to care for those children, there would be a public outcry on many levels. Since periodontal and caries are almost entirely preventable and each has significant impacts on many other areas of life including employability, burdening general health services with untreated dental disease emergencies, and impact on other health issues, as well as missed days at school and the shame which often results in social disengagement, then decision making about providers and access to preventive services should be entirely removed from the purview of dentists. We see that the conflict of interest is too great for dental leadership and subsequently the public suffers. Dental hygienists should have direct, independent, prevention-focused access to patients as primary care providers nationally.

Lawsuits to prevent dental therapists from practicing despite evidence indicating that care provided by that type of provider is safe and effective for patients is an example of the willfulness of the collective neglect. In settings where therapists currently practice with direct access patients, the epidemic of disease is decreasing. I challenge the notion that is present among dentists that dental therapists have not proven to provide safe and effective care. They do and if dental therapists are able to effectively and safely address the epidemic of disease among Native Americans and Native Eskimos and in several states in the US and in many other countries around the world, then these provider types must be able to do so with other populations in the US. I challenge the notion that by implementing effective prevention strategies using these other provider types and with enhanced scopes of practice that dentists would be putting themselves out of business. Rather, my findings confirm what we already know from the literature review-that there is plenty of disease to go around. Although the

practice lives and small businesses of dentists may change, this cannot be a reason to avoid addressing this collective neglect immediately and with evidence to support these decisions. Again, if dentists will not act as authentic, prevention-focused primary care oral health care providers, then let us have other provider types do so. Dentists can and should be the specialist surgeons that they are trained to be. Dental hygienists should be the prevention-focused primary care oral health providers and if more disease is present, then a therapist or hygienist with enhanced scope would be.

I witnessed a bizarre knee-jerk reaction to the phrase "dental therapist" among dentists. It seemed that it was almost an incendiary phrase. I believe that dental therapists are going to be integrated into the primary oral health care arena and perhaps with a change of the phrase from dental therapist to dental nurse or dental practitioner to mirror the medical care system, then we can remove some of the emotion and look at data and evidence more clearly. I wonder if the variety of interests have converged to a point where change will occur. I hope so.

I was raised in a fairly patriarchal environment particularly being raised Catholic. Although I experienced flashes of dismay or concern with systems which demeaned and marginalized women, I did not use the lens of feminism in any noteworthy manner. However this began to change with the intersection of several cultural experiences including the emergence of rampant child and female sexual abuse in the Catholic Church, the role of NRA money in our government, my doctoral work with feminist theory, more international attention to misogyny, and the current political arena of #metoo. These experiences gave me a new lens with which to view my experiences. Many hygienists are female and I believe many, similar to me, have yet to deconstruct the implications of being a "good girl" in a man's world. The gender bias embedded in dentistry is reflected in the dental hygienists' skills and abilities which are

demeaned and devalued to the detriment of all but particularly the underserved. In addition,

dentistry has been a male-dominated industry and we are just recently starting to see women in

dental leadership. This may be a factor in the changing culture of dentistry (Maureen

Harrington, 2019)

It feels important to keep our focus on dentally neglected individuals and dentally

underserved communities' access to oral health care. If we look at the barriers to prevent

another provider from authentically entering the market like dentists do with dental hygienists

with extended scopes of practice and dental therapists, it should be unacceptable. Perhaps we

need to draw more equivalents to general health services in order to communicate this

outrageous reality more effectively. If a community or population had no doctors but a nurse

practitioner was willing to work there, would the public tolerate this type of neglect because

doctors didn't want it to occur? Would we refuse a nurse from providing immunizations for

preventable diseases if a doctor did not want them to practice? I think not.

Yet this is the case for dental care. Again, the framing and language around this issue is

ready for change. We can and must begin to address the monopoly dentists' have on oral health

systems and call it out more intensely and forcefully.

Overview

This autoethnography offered me an opportunity to investigate and reflect on my

experiences with the culture of oral health practice, policies, and educational systems. I believe

various interests are converging to motivate change in the industry which ideally will result in

improved oral health for more people. I believe my findings show that through increased access

to oral health care for more people by using dental hygienists as the prevention-focused, primary

care provider, this is achievable. By exploring my findings of the systems, choices and decisions

that contribute to collective neglect in oral health and reasons why it is maintained, a different lens may be adopted and used in the future. This lens can be used in identifying aspects of the education and training of future oral health clinicians and the role of customized oral health services as implemented by dental hygienists. I then hope to challenge the culture of collective neglect with ideas for a culture shift that supports extensive prevention-focused oral health services positioned with hygienists as primary care providers while dentists are surgical specialists.

Education and training.

"Be a nuisance where it counts.
Do your part to stimulate and inform the public to join your action."
Marjory Stoneman Douglas

Dr. Boynes's (2018) discussion about the hidden curriculum in dental education is based on the reality of an independent clinician/small business owner. In many respects, the educational systems create exactly what they are designed to create – private practice dentists who are small business owners. Expecting a different result without different inputs is absurd. When dental and hygiene education build strong public health and population health themes and dynamic, valued learning opportunities into their curriculum, then we can expect clinicians to practice in that manner. My findings support this and when dentists are prepared in their professional education experiences to value the role of prevention and see other clinicians not as a threat but as an ally in the prevention of disease, then perhaps dental disease will not be the epidemic it currently is.

It is not realistic to expect effective, trusting and collaborative working relationships between dentists and hygienists when the majority of their educational pathways are separate.

To expect these two professions to inherently know how to work with one another, and to do so effectively, is absurd. When our clinicians are not trained together, they enter a workforce unprepared to work with one another effectively. The practice of separate education perpetuates a systemic distrust and imbalance in power structures rather than fostering collaborative, patient-center clinical care. As I noted in my reflections, *it was often then that the real thoughts and opinions of the dentist would emerge. It was then that the dentist's true concerns about the ability of the hygienists to be the primary care provider would be brought to light.* Addressing these issues early in educational programs can imprint respect and value of dental colleagues' skills and training. By embedding a growth mindset in the curriculum and using "team" language, we can bring a more collaborative approach to solving the epidemic of disease. This idea was addressed by the project's collaborating dentist who hoped for a way to "collaborate to prevent problems."

In addition, co-learning can happen with hygienists as faculty for both dental and hygiene students on clinical rotations in the school setting. Integrating combined and collaborative, community-based educational opportunities into dental and hygiene curriculum can increase the likelihood of future clinicians to be able to practice effectively in a variety of settings and with a variety of new colleagues like teachers, school nurses, counselors, caregivers and so forth. This onsite co-training can make relatable language rather than clinical language the norm in settings like this. This kind of learning can foster the norm of the dentist and hygienist as engaged and authentic *health care professionals* in the broadest sense of the phrase with non-traditional leadership occurring at various times in different types of dental practices and as appropriate for different population types. This would be a more authentic professionalization process than the current standard of separate education systems and limited interprofessional practice and

education. Fundamentally, this type of educational norm can reduce turf protection behaviors which ideally results in putting not just a patient's oral health first but that of a population's oral health as well. Fundamentally, dental/hygiene curriculum and norms can begin to frame hygienists as prevention-focused, primary care providers and dentists as surgical specialists. However, it should be noted that not every hygienist wants to practice in community-settings or independently. Some prefer not having as much responsibility as is required in a non-traditional clinical setting or an independent practice.

In addition, my findings showed that clinical empathy increased when the social context of families and communities who struggled to access appropriate and timely dental care was understood. Yet in order for the social context to be understood, these stories first needed to be told.

Women and men in oral health care systems. Dental and hygiene curriculum can aggressively reflect on gender bias in dentistry and hygiene. Although there is now a fairly equal representation of women in dental school, the same cannot be said of men in hygiene and parity is not present in leadership of either profession. When we look to how this impacts workplace environments, leadership opportunities and decision making, it is noted that "...when women threaten the authority of men in health professions, men may subconsciously look for ways to re-exert an unequal and gendered subject-object binary." (Hunter, Maxwell & Bruner, 2015, p. 4). Micro-inequities and the hidden curriculum of patriarchy can create a gendered climate in which women feel less confident, less accepted and ultimately more marginalized (Hunter et al., 2015). With this type of culture, it is not a surprise that the number of women in tenured faculty and leadership positions in dental schools and dental associations, as speakers at conferences and in

continuing education events are not nearly equal to men and that a significant pay gap exists as well.

With this change in the hierarchy of dentistry, particularly for hygienists and therapists as primary care providers, imposter syndrome and space to learn and grow within this new role will be important. Although working in a team is not new for dental professionals, community-based work and the role of the dentist as a surgical specialist rather than a primary care provider is new and will require a new learning environment in order to be successfully adopted. These outcomes could certainly be positive but my findings indicate that the concept of interprofessional professional education (IPE) is limited with the types of professionals involved and in some cases a cursory event in the educational pathways of dental and hygiene students. IPE seems to be limited to doctors, nurses and social workers. With community-based dental care becoming more normalized, IPE can and should include others like teachers, counselors, principals, school nurses, caregivers, administrators and certified nursing assistants.

Poverty. Transformative learning opportunities can be integrated into dental and hygiene curriculum so there is an increased and deeper understanding of the role of poverty in health and the challenges that living in poverty presents which can prevent, inhibit or obstruct an individual's ability to achieve and maintain good oral health. In addition, knowledge about patients' living in poverty must be linked to clinicians' trauma informed practice. When conducting community-based care, these principles will be essential for providers to integrate into practice as we know from the literature and from my findings.

Many chronically neglected populations and communities experience the trauma of poverty as well as other traumas. For clinicians to be informed about, familiar with, and able to practice trauma informed care strategies is critical. For example, the idea of community-based

clinicians being able to see clearly the role that the lack of access to fresh food has on one's oral health is significant. Recommendations for improvements and behaviors that support better oral health must be based in reality for individuals and communities experiencing poverty and/or trauma or we miss the mark again. Much of oral health is based on personal care practices and the impact trauma has on daily functioning can't be underestimated by health care providers. We saw from the literature and my findings that many who suffer from poor oral health often live in poverty. A willing, able and lower cost provider with a variety of tools to address a variety of oral health issues as well as one who is able to address situations of abuse, neglect, and violence that results in tooth trauma are critical to successful community-based care models.

A robust socio-life view of poverty is one that I witnessed among many of the hygienists and dentists who worked in the hygienist-based model of care. The perspective that poverty is a structural, rather than an individual process was important to our success. In fact, this view of poverty seemed to be a fundamental aspect of successful integration into a community-site. I believe this is why so many site visits proved to be incredibly successful. The structural nature of many of the communities' deep poverty was explored during these site visits with storytelling by the clinicians, administrators, teachers, nurses, patients and families. We provided learning opportunities so our dental colleagues were able to acknowledge individuals' distress and powerlessness in many aspects of their lives including accessing oral health services. This resulted in greater empathy toward people receiving social assistance which I believe will be important going forward in this time of significant and growing income inequality. And we know this will continue to be critical for oral health professionals to understand as they provide care for the already significant and growing number of lower income, underserved and vulnerable populations and individuals. Still, in my experience this was not understood by many

in dental leadership. There is room for growth and development but our movement to making

dental hygienists primary care providers should not be hindered by this lack of awareness and

knowledge by dentists.

      Debt. The impact of living with student loan debt can be significant and negative. My

findings show that often aspects of dentists refusing to allow another provider into the market is

based on the need to pay off student loan debt, and in many cases, to purchase a private practice.

A healthy income is necessary for these things to occur. In some respects, a dentist's interest to

protect this monopoly of the dental industry makes sense. However, the cost of this monopoly is

too great to the public and results in the collective neglect of large portions of the US population.

The entrance of another provider into the market would likely be less threatening to dentists if

the need for a robust income could be lessened with loan debt reduction strategies. Instead of

professional identity threat or income threat being a motivator, the idealism and empathy many

dental and hygiene students have upon entering professional education programs could be

enhanced. This could result in energized clinicians addressing the epidemic of untreated disease

in a new manner.

Customized Oral Health Services

      Building on my findings, we can see that a variety of ideas emerge to support a

community-based, dental hygienist-led model of care. We know that site norms change when an

oral health professional is woven into the fabric of a practice site. The person and family-

centered, oral health services can be customized in many respects while the basics of prevention-

focused clinical care are maintained. When an oral health professional is onsite, the need for

travel of a patient and family is eliminated and the frequency of preventive visits becomes more

regular. My findings showed that the integration process, when successful, provided a long-term

relationship with the patients, their parents/caregivers and the site. This was especially important for children who were experiencing significant oral health changes with losing deciduous or baby teeth and emerging permanent teeth and the critical need for effective and timely preventive procedures at certain points in a child's dental development.

Since the two main dental diseases, caries and periodontal disease are chronic, it makes sense that supportive care strategies replicate the successful management strategies of other chronic diseases such as asthma and diabetes. Those two diseases receive extensive support in school-settings for example. This same thing can occur with dental disease in a school and who better to do this than a school-based hygienist. Not only are preventive services timely with a school-based hygienist because the care can be provided during school hours, but this type of community-based, prevention-focused, primary care oral health provider can check up on brushing, diet and the emergence of molars then place sealants on those, apply fluoride varnish on a regular basis and so forth. With effective integration of the hygienist into community settings, there is a greater opportunity for the hygienist to adapt teaching materials and health messages for the practice's patients and families. This is particularly important if clients have low health literacy levels (IOM, 2013). Effective and meaningful communication with clients, their families and caregivers means being able to explain disease origins, disease processes and various prevention strategies used to reduce disease risk levels.

In addition, we learned that multiple studies show that children with poorer oral health status experience dental pain, miss school, and perform poorly in school. My findings suggest similar experiences of school nurses being notified by teachers and sometimes from children themselves having dental pain and struggling to learn, sleep and eat. Successful integration of an oral health team, as we learned, is based on multiple factors. It is not particularly common place

for community sites to host onsite dental providers on a regular and ongoing basis. In order to

establish relationships and expectations for a site, it is essential for the team to become part of

the community and create training opportunities for site staff and potential patients and others.

Aspects of a robust integration process may include consent and patient enrollment

opportunities, health education campaigns, use of campus space and anticipated culture shifts

related to having oral health services onsite.

Further Studies

I am no longer working in the dental school setting and this additional distance has

significantly contributed to a more open reflective process. In addition, I am not intimidated or

fearful of voicing, writing or sharing my lived-experience as I would have been in that work

setting. With this distance, I was able to more fully embrace my identity and reality of a public

health practitioner with a health equity lens. This change created an opportunity to voice my

concerns more freely and without fear.

Implications for future research related to dental hygienists as prevention-focused,

primary dental providers may include things like learning the opinions and thoughts of hygienists

about this role. It would be important to know hygienists' views on independent practice options

to reach more underserved populations and perceived barriers to such endeavors. Additional

studies that may be of interest include the experiences of misogyny and gender bias in dentistry

and education programs, experiences with sexual harassment in education and workplace

settings, awareness of illegal business practices and insurance fraud in dental practices,

experiences with upselling of products and procedures that are not clinically necessary, an audit

of dental boards and responses to complaints received, and the role of student loan debt in future

practice plans. Additionally, studies can look at the interest of men in hygiene and women in dental leadership to create more gender-balanced work environments.

Additional studies related to patients could be focused on their experiences with shame and embarrassment related to poor oral health and the reasons that contributed to these issues, willingness to receive care from a therapist or hygienist with expanded scope, and their experiences with neglect/lack of care by the dental industry. Meanwhile policy-makers and advocates, public health leaders and insurance leaders could be asked about their understanding and experience with dental insurance fraud, opinions and perceived barriers to hygienists and therapists as mid-level providers, and finally their personal knowledge of and experience with people who experience barriers to oral health care in traditional dental offices.

Storytelling. Those with untreated dental disease and unmet oral health needs, oral health care providers, public health experts, general health providers, dental/hygiene/elementary and other educators, dental and general health insurance companies, policy makers and others who witness the reality of unmet oral health needs are motivated to explore alternatives to care provision. Many have an interest that is converging to make change probable, possible and likely, in light of this epidemic of untreated dental disease. Dental providers, specifically hygienists who are willing to be prevention-focused, primary care providers for these underserved individuals and communities can be a robust part of the team. With integration of dental hygienists with a more vigorous scope of practice and authentic billing options in Medicaid, then these unserved and underserved communities would finally have access to prevention-focused oral health services. More people can achieve better oral health if a culture shift occurs and results in systems that serve the greatest number of people with effective prevention and early intervention strategies. This shift should not diminish or threaten the

identity of the dentist. Instead, this shift can build on and enhance the skills of various provider types and distribute responsibility to others on the dental team while the dentist maintains the role of dental surgeon.

Storytelling can add to the toolkit needed to get the attention of policy-makers and others in order to encourage, demand or force change. We can cultivate the hidden or undiscovered oral health champions who excel at these stories – like the police chief at the media event. But more stories are not needed, as there are plenty. These stories are much like those of excessive drug costs that command our attention and more importantly, they gain the attention of policy-makers. When patients' speak and are willing to share their experiences of pain, infection, suffering, neglect, depression, loss of work, and missing days at school then we have stories that can hopefully tip the scale against the dentist-centric oral health system. By using real life language in our storytelling, not clinical or academic language, the horror of this collective neglect is made more real. Let us have teachers' talk about witnessing their students become less engaged because of shame and embarrassment or begin to have problems with academics because of missing school due to tooth pain or eating poorly due to pain. Weight loss is a significant issue when people can't eat due to tooth loss so let's talk about it and change this reality. Call a tooth extraction an amputation. An infected tooth is not like a pimple. It is a part of our body that we use and need and hope to have in a healthy state our entire lives. The removal of an infected tooth is an amputation that should be avoided at all costs. And the tools to prevent this from occurring as often as it does, should be based in community-based, prevention-focused hygiene practices that are as ubiquitous as schools.

And the last time I saw Anthony, he was leaving the clinic after having his infected tooth removed, amputated, extracted...whatever you want to call it. He tried for weeks to have the

tooth taken care of – visits to multiple clinics and multiple visits to each because he was part of the gig economy – having multiple jobs but none providing private medical or dental insurance. He paid income taxes and sales taxes and participated in the state, local and federal economy but he did not have a job that provided dental insurance. So he was on Medi-Cal. The first clinic diagnosed the infection, gave him antibiotics and pain killers with a referral to another clinic because the first clinic didn't do extractions. The second clinic took more x-rays and confirmed the same diagnosis. The third clinic at the dental school was closed for spring break – no emergency clinic. Then when it was open, the spots for emergency care were taken almost immediately every day...almost as soon as the doors were open. If you blinked, your spot was gone and you were back another day to wait in the early morning hours. Hoping the antibiotics would last until the infected tooth was removed...so the pain wouldn't reemerge and keep you up at night.

When I look back at my calls and texts with him from that time, it's hard to know exactly how many times this happened with the antibiotics. It's hard to know how much pain his tooth was causing because he was always in pain with his residual limb and the prosthetic that was always troublesome. But it's easy to understand the stress of life and the need to deal with the toothache later....And the willingness to tolerate the pain. It's easy to see how that happens. It's easy to see how frustrating it is to experience more referrals, more "kicking the can down the road." It's easy to feel discouraged, ignored and demeaned by a system that is broken. The experiences of many is the same – frustrated with the broken system - but it certainly works for those who designed it – our dentists.

So many calls and texts...with increasing desperation. The mortgage was due. His transmission blew. The root canals aren't covered by insurance. 1700$ not including the crown.

He was so proud and did not want any help...

I found out that the saline wash that was used in his oral surgery was recalled due to bacteria being present.

The clinic told him his blood pressure was high. The last time I saw him alive – right after the extraction, his face was so red. Bright red. And I know being Irish, that happens to us but this seemed different. More alarming. After this tooth healed and he got back to work then my plan was to help him figure out his blood pressure. To make sure to learn if the high blood pressure was a one-off from the stress of the procedure or was it real on a daily basis.

Wabi sabi – dictating his obituary while driving across the Golden Gate Bridge on my way to the funeral home to plan the viewing for Wednesday, to complete details of his death certificate and prepare his remains for flying on Thursday to the formal funeral on Friday. I don't even know how to write one. I've never done that. Why me? I need more time. To think. To plan. I need to know why. Why did he die? Why did I hold his cold hand while he was on the floor? Why couldn't I see his face? Who says I can't lift the blanket and why? Why? To protect me or him? Was it an uncontrolled dental infection that caused his death? When will they do the autopsy?

I wanted the coroner to get all of his recent health records so I gave Kaci, the coroner or coroner assistant, (who was she anyway?) the clinics' names and contact info. Each said they didn't have records of seeing him. WTH? Really? He was there. He was your patient. I know it. There is no negotiating this.

Come early and wait in line. Get there by 7 am. Since no oral surgeons would take his insurance near where he lived, I said I'd bring camping chairs and coffee for us. I joked that we could bond while watching the wacky world go by us at 6 am in SF.

*Did his heart give out because of sepsis from the recalled antibiotics he was on for his infected tooth **AND** the recalled saline solution used in his surgery?*

How could I deal with everything with only four days of "funeral time"? I've never used "funeral time" before. Each day to plan the funeral was the longest day of my life. Did I start grinding my teeth more in those long days? I know it felt like I hardly slept. Maybe I was grinding my teeth when I wasn't sleeping. I know that I was sending emails through the night and doing research on the antibiotic recall. When I look back at the emails in my sent box, I sent so many to the coroner's office. I send the batch numbers of the antibiotics to the coroner's office to see if they could cross reference what he had as compared to the batches that were recalled. What are the chances that both the antibiotics and the saline wash were recalled? What are the chances?

...and everyone had healthy mouths. Sure...things still happen, like Grace breaking her teeth when she hit her mouth jumping on the trampoline but we can get those fixed. Angela can take back the chore of grocery shopping for the family again because she isn't ashamed of her mouth and non-existent smile. Our soccer-playing friend in the 7th grade can go back to being an engaged student and not resist smiling or talking to people because of embarrassment about his teeth.

If #19 has to go, maybe it'll be some comfort that he and I shared this experience and maybe this extraction, amputation, removal – whatever you want to call it, will bring him closer to me again-even in some weird way.

If #19 has to go, I want it to happen before we spread his ashes from Bruce's boat on Saturday. I want that tooth that represents my privilege to mix with his pain and his ashes. I don't know what it will mean for me but it feels like maybe I can take my stupid wish for him to be small and predictable and let it go. Let him be wild, free, gregarious and charming. Maybe.

*Maybe we can find our new wabi sabi without him. We can find our **Happydayzz.***

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APPENDIX A: SELF INTERVIEW QUESTIONS

Study Protocol
Personnel:
Maureen Harrington, MPH

Interview of myself
1. Describe chronological evolution of the project and my role during different phases
2. Interview questions:
    a. Briefly describe your role as it relates to onsite dental services in community settings supported by teledentistry? Include plans, timelines and considerations for the creation and implementation of the model? Include information on political environment, culture of dentistry in the location, and any other issues which may be relevant.
    b. Can you describe what changed in your work overtime related to having onsite dental care? In different practice locations?
    Probes: Can you talk more about any new experiences in this model?
    c. Can you describe what if anything you observed or notes as a change in the agencies or organizations that wanted or did practice in order to integrate onsite dental services?
    Probes: Can you describe who you worked with and how you worked with that person/people?
    d. Can you describe what could have been improved in the training curriculum, implementation processes and outcomes?
    e. What resources did you have to do your work? What kind of different, unexpected or unique resources were needed for this work?
    f. What other resources would have been helpful to have or would have improved the processes or work?
    g. What limitations or restrictions would have been helpful to have removed in order to conduct the program?
    h. Can you describe how you would change curriculum for people working in this model in the future – either with students in a professional education program or in a continuing education program?
Post Interview Comments and/or Observations:
_____
_____

APPENDIX B: PARTICIPANT INTERVIEW INTRODUCTION COMMUNICATION

Email introduction to Stakeholders
Hello! I hope you are well. I am connecting with you today as I move to conduct my research in fulfillment of the requirements for the degree of Doctorate of Education at the University of XXXXX. The purposes of my proposed research are (1) to understand the experiences of stakeholders who participated in the integration of dental services utilizing community-based clinicians and teledentistry into schools and (2) identify elements of promising practices and education strategies for future replication.
I am writing today to ask you to participate in my study. The interview will be 1 hour and will ideally be in-person at a location convenient to you. If there is not a day/time/location that is workable for both of us for an in-person discussion, then we can use a phone call as an alternative. To support accuracy, I will audio tape our conversation. I will have access to the tapes which will be destroyed after being transcribed. I will maintain transcriptions for up to three years in a password protected file at the University. If you agree to participate, then we will both sign the consent form which is required to meet the University's human subject requirements. This consent form states that:
Your participation in this interview is completely voluntary. If at any time you need to stop or take a break, please let me know. You may also withdraw your participation at any time without consequence. I know that we worked together on this project in the past and believed then and do now that I have a strong commitment to improvement and learning and in that spirit, hope you know that I am open to your honest and frank discussion. I commit to bracketing myself out of the analysis of the data and will work to present the results in an unbiased and open manner.
Again, the purpose of my research is to learn about your experiences and perceptions as someone who participated in the integration of onsite dental services supported by teledentistry into a school setting in some capacity. If you agree to participate, please let me know and I will begin scheduling our time together.
If at any time, you wish to speak with my faculty advisor, please feel free to contact him. His contact information is: Dr. Ronald Hallett at rhallett@xxxx.edu.

Thank you for your consideration.
Regards,
Maureen Harrington
xxx-xxx-xxxx
mharrington@xxxx.edu

Phone introduction: If speaking in-person or leaving a voice mail, I will state the following:
Hello! I hope you are well. I am connecting with you today as I work to complete my Doctorate of Education at the University of XXXXX. The purposes of my proposed research are (1) to understand the experiences of stakeholders who participated in the integration of dental services utilizing community-based clinicians and teledentistry into

schools and (2) identify elements of promising practices and education strategies for future replication.

I am calling today to invite you to participate in my study. The interview will be 1 hour and will ideally be in-person at a location convenient to you. If there is not a day/time/location that is workable for both of us for an in-person discussion, then we can use a phone call as an alternative. To support accuracy, I will audio tape our conversation. I will have access to the tapes which will be destroyed after being transcribed. I will maintain transcriptions for up to three years in a password protected file at the University. If you agree to participate, then we will both sign the consent form which is required to meet the University's human subject requirements. This consent form states that:

Your participation in this interview is completely voluntary. If at any time you need to stop or take a break, please let me know. You may also withdraw your participation at any time without consequence. I know that we worked together on this project in the past and believed then and do now that I have a strong commitment to improvement and learning and in that spirit, hope you know that I am open to your honest and frank discussion. I commit to bracketing myself out of the analysis of the data and will work to present the results in an unbiased and open manner.

Again, the purpose of my research is to learn about your experiences and perceptions as someone who participated in the integration of onsite dental services supported by teledentistry into a school setting in some capacity. If you agree to participate, please let me know and I will begin scheduling our time together.

Thanks for considering. You can take some time to consider my request and let me know your response by either calling or emailing me. I can be reached at xxx-xxx-xxxx or mharrington@xxxx.edu.

If at any time, you wish to speak with my faculty advisor, please feel free to contact him. His contact information is: Dr. Ronald Hallett at rhallett@xxxx.edu

Thank you, again.

Maureen Harrington

APPENDIX C: PARTICIPANT INTERVIEW GUIDE

Interview Guide Script
Welcome and thank you for your participation. My name is Maureen Harrington and I am a doctoral student at the University of XXXX conducting my research in fulfillment of the requirements for the degree of Doctorate of Education.
To support accuracy in my note-taking, I will audio tape our conversations today. I will have access to the tapes which will be eventually destroyed after being transcribed. I will maintain transcriptions for up to three years in a password protected file at the University. In order to move forward, we will both need to sign the consent form which is required to meet the University's human subject requirements. This consent form states that:
Your participation in this interview is completely voluntary. If at any time you need to stop or take a break, please let me know. You may also withdraw your participation at any time without consequence. I know that we worked together on this project in the past and believed then and do now that I have a strong commitment to improvement and learning and in that spirit, please be aware that I am open to your honest and frank critique of the model and the work to implement the model. I commit bracketing myself out of the analysis of the data and will work to present the results in an unbiased and open manner. Do you have any questions or concerns before we begin? Then with your permission we will begin the interview and thank you for participating.
I have planned this interview to last one hour but it may go over that timeframe slightly. There are several questions I am hoping you can answer during this timeframe.
As a reminder, the purpose of my research is to learn about your experiences and perceptions as someone who participated in the integration of onsite dental services supported by teledentistry into a school setting in some capacity.

1. Interviewee Background
    a. Name _____
    b. Position with Project _____
    c. Institution _____

2. Interview questions:
    a. Can you describe what a practice day looks (ed) like for you? If you are still practicing, can you describe your most recent practice day?
       Ad Hoc Interview Questions: If the information about role, individual and site work and those who collaborated with the participant are not described, then I will ask the following questions.

    b. Briefly describe your role as it relates to onsite dental services in community settings supported by teledentistry?

    c. Can you describe what changed in your work related to having onsite dental care?
       Probes: Can you talk more about any new experiences in this model?

    d. Can you describe what if anything you observed or notes as a change in the agency or organization that was made in order to integrate onsite dental services?
       Probes: Can you describe who you worked with and how you worked with that person/people?

    e. Can you describe what could have been improved in the training curriculum, implementation processes and outcomes?

    f. What resources did you have to do your work? What kind of different, unexpected or unique resources were needed for this work?

    g. What other resources would have been helpful to have or would have improved the processes or work?

    h. Can you describe what your perfect practice day would look like?

    i. Can you describe how you would change curriculum for people working in this model in the future – either with students in a professional education program or in a continuing education program?

Post Interview Comments and/or Observations:
_____