

INTERDISCIPLINARY HEALTH PROFESSIONS FACULTY'S LIVED EXPERIENCES  
WITH ORAL HEALTH CURRICULAR INTEGRATION:  
AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS

A thesis presented

by

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To

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## Abstract

The integration of oral health into health professions education and practice, or oral health integration, is one of the most pressing issues facing the United States health care system. Health professions faculty must be ready to engage in curriculum change to incorporate oral health clinical competencies in the education and training of future health professionals. The purpose of this study was to explore the lived experience of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States. An interpretative phenomenological analysis approach was utilized. Data were collected through individualized, semistructured interviews. Data analysis yielded three superordinate themes: *Support of curriculum change to reflect progress in the profession*, *Appreciation for support*, and *Sense of security when resources were available for oral health integration*.

Findings revealed that participants experienced a range of positive and negative reactions to oral health curricular integration. Participants described barriers and challenges associated with integrating oral health into their curriculum, through which they persevered. Several factors were identified as influencing the participants' experiences, including support from peers and college leaders, positive feedback from students, and the availability of financial resources and ready-to-use tools. Findings are relevant to health professions faculty and college administrators who aim to develop an integrated curriculum that addresses oral health and overall health. Additional research is needed to explore faculty experiences at various stages of the curriculum change process and at educational institutions that have difficulty with oral health curricular integration.

*Keywords:* oral health integration, interprofessional education, collaborative practice, health education reform, interpretative phenomenological analysis, change response, curriculum change

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## Chapter 1: Introduction

The integration of oral health into health professions education and practice, or oral health integration, is one of the most pressing issues facing the United States health care system. Oral health integration has received growing attention since the release of the U.S. Surgeon General's report, *Oral Health in America* (National Institute of Dental and Craniofacial Research [NIDCR], 2000). This report increased awareness about the link between oral health and overall health and highlighted the insufficient inclusion of oral health content in health professions education (Dolce, Holloman, & Fauteux, 2016). A decade later, the Institute of Medicine (IOM) released two landmark reports, each stressing the need for an expanded health care workforce equipped with the competencies needed to address oral health promotion and prevention across the lifespan (IOM, 2011a, 2011b). This emphasis necessitates major changes for both health professions students and faculty. Health professions students must learn new oral health-related skills that are informed by the growing body of research on oral-systemic health. In turn, health professions faculty must have the requisite oral health knowledge and skills to implement new curriculum content (Dolce, Holloman, & Goodkind, 2016).

### **Statement of the Problem**

Changes in health professions education is often precipitated by changes in the practice environment (IOM, 2003). The implementation of the Patient Protection and Affordable Care Act of 2010 spurred major reforms in the United States health care system, including in how health professionals are educated (Rosenbaum, 2011). Preparing future health care providers to practice in an increasingly complex, global health care system requires new curricular methods that emphasize team-based, integrated health care delivery (Brandt, 2015). This approach

challenges the traditional siloed health care system, in which oral health and overall health are treated separately. Curricula in health professions programs must reflect these changes.

Educational institutions that seek to implement curriculum changes must consider how the changes will be supported and implemented, including professional development for faculty (Chowthi-Williams, Curzio, & Lerman, 2016). Earlier studies on curriculum changes in higher education have found that faculty may experience anxiety and distress about losing control of their curriculum, ultimately leading to change resistance (Brady et al., 2008; Chowthi-Williams et al., 2016). Research on curriculum change in nursing (Beischel & Davis, 2014), dental (Kadagad, Tekian, Pinto, & Jirge, 2012), and medical (Steinert, Cruess, Cruess, Boudreau, & Fuks, 2007) programs has examined the perspectives of leaders and highlighted the critical role of leadership support. However, few studies have examined the experiences of the front line faculty who must ultimately create and implement curriculum changes (Venance, LaDonna, & Watling, 2014).

Studies on faculty readiness for oral health curricular integration have cited a number of barriers and challenges to successful integration, including inadequate oral health knowledge and skills (Dolce, Holloman, & Goodkind, 2016) and administrative and leadership support (Dounis et al., 2014). However, these studies did not address faculty experiences with oral health curricular integration in the context of curriculum change. Thus, in order to create conditions that will facilitate curriculum change, leaders need to understand health professions faculty's experiences with integrating oral health competencies into their curriculum. Therefore, the purpose of this study was to explore the lived experience of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States.



### **Research Question**

The primary research question guiding this doctoral thesis was: What were the lived experiences of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States?

### **Significance**

A growing body of evidence connecting oral health to overall health further underscores the urgency of making preventive oral health care an essential component of comprehensive health care (IOM, 2011a, 2011b). At a local level, oral health integration prepares students to address the diverse health care needs of their local community. The national population as a whole will benefit from reduced rates of tooth decay, periodontal disease, and improved chronic disease management.

Prior research on oral health curricular integration indicates that faculty attitudes, as well as their level of oral health knowledge and skills, need to be addressed before implementing an oral health curriculum (Dolce, Holloman, & Goodkind, 2016; Mouradian et al., 2005; Wilder et al., 2009). Exploring interdisciplinary health professions faculty's experiences with integrating oral health competencies into their curriculum may offer evidence about which factors influence successful oral health curricular integration and help foster sustained change.

The separation of oral health from overall health in the United States can be traced back to the founding of the nation's first dental schools. Although the practice of dentistry was transformed with the help of the medical profession, dental education was distinct from medical education (Simon, 2016). Separate payer systems (i.e., medical and dental insurance) have sustained this separation and led to significant health inequalities. Uniting dentistry and medicine will require modifying how oral health and overall health are taught, practiced, and insured.

However, integrated health systems show promise as a viable path for improving access, quality, and continuity of services, especially for individuals with complex health needs (Simon, 2016).

A review of the literature reveals barriers to oral health curricular integration, including inadequate oral health education and training for non-dental health professions faculty (Dolce, Holloman, & Goodkind, 2016; Mouradian et al., 2005; Wilder et al., 2009). This is not surprising given the historical separation of oral health and overall health in health professions education and practice. Knowing this, it is not reasonable to expect faculty to integrate oral health competencies into their curriculum without first ensuring that they have the requisite oral health knowledge and skills. Exploring faculty's experiences with oral health integration may uncover meaningful information that can be used to develop targeted oral health-related faculty training programs, thereby facilitating their ability to teach new oral health content.

### **The Impact of Oral Disease**

Oral health, as defined by the American Dental Association (2014), is "A functional, structural, aesthetic, physiologic, and psychosocial state of well-being and is essential to an individual's general health and quality of life" (para. 1). Oral health is critical for an individual's general health, social development, mental health, and healthy aging. Yet millions of children and adults suffer from oral diseases. Globally,

- 60-90 percent of school children and close to 100 percent of adults have tooth decay;
- approximately 20 percent of adults aged 35-44 have severe gum disease;
- 30 percent of older adults (ages 65-74) have lost all of their teeth; and
- the incidence of oral cancer ranges from 1 to 10 cases per 100,000 people in most countries (WHO, 2012).

In the United States,

- 25 percent of children aged 2-5 and 50 percent of children ages 12-15 experience tooth decay;
- close to 25 percent of adults (ages 20-64) have untreated tooth decay;
- 25 percent of older adults (ages 65 and older) have lost all of their teeth; and
- an estimated 48,000 cases of oral and pharyngeal cancer will be diagnosed this year (Centers for Disease Control and Prevention [CDC], 2011; IOM, 2011b).

The costs associated with oral disease in the United States are high. From 2000-2008, close to \$859 million were spent on hospitalizations due to complications associated with infected teeth (Shah, Leong, Lee, & Allareddy, 2013). In 2010 there were 2.1 million emergency department visits for non-urgent dental conditions – costing an estimated \$867 million (National Center for Health Statistics, 2013 Wall & Nasseh, 2013). In 2013, \$111 billion were spent on dental care services (National Health Expenditure Accounts, 2013).

These statistics must be considered in context with the fact that oral disease is largely preventable. Tooth decay, or destruction of the outermost layer of the tooth, can be prevented with daily flossing and brushing, along with a healthy diet. These same measures, along with mouth rinses and regular visits to a dental provider, can also be employed to prevent periodontal disease (gum disease). Limiting exposure to tobacco and alcohol are simple steps anyone can take to prevent oral cancer. Persons who do not practice these preventive measures continue to experience oral disease, along with millions of others who lack access to a dental provider or cannot afford the costs associated with dental care.

### **Oral-systemic Health**

The progression of oral disease, if uncontrolled, may lead to adverse health outcomes (Griffin, Jones, Brunson, Griffin, & Bailey, 2012), particularly for patients with chronic health

conditions (Jeffcoat et al. 2014). Poor oral health has been linked to a number of systemic conditions, including heart disease, diabetes, and adverse pregnancy outcomes (IOM, 2011a; NIDCR, 2000). Periodontal disease, a chronic inflammatory disease that can lead to alveolar bone resorption, infection, and tooth loss, has been linked to stroke, heart disease, and diabetes (Mininom, Heron, Murphy, & Kochanek, 2007). Because of these findings, a number of national recommendations have been made for the integration of oral health and overall health in education and practice.

### **Theoretical Framework**

Piderit's (2000) response to change theory provides a lens for viewing health professions faculty's experiences with oral health curricular integration in the context of curriculum change. Piderit's (2000) framework presents a multidimensional view of change response, in which individual attitudes toward an organizational change form along three dimensions: cognition, emotion, and intention. Assessing faculty's attitudes across these dimensions will illuminate the complexity and variation of their change response to a college-wide oral health curricular integration initiative.

Piderit's (2000) response to change theory is derived from social psychology and draws upon a body of research on change resistance. According to Piderit (2000), resistance to change was conceptualized based its definition in physics, where resistance is defined as a restraining force moving in the direction of maintaining the status quo. This conceptualization has led to a binary view of change response, as either negative or positive, and fails to recognize the potentially valid and positive responses that individuals experience in response to change (Piderit, 2000). This view also places the blame of failed change initiatives on employees and fails to account for their perspectives.

### **Cognitive Dimension**

The cognitive dimension involves individual beliefs and attitudes toward change. What individuals believe and think influences the emotions they experience during a change process (Avey, Wernsing, & Luthans, 2008; Liu & Perrewe, 2005; Sanchez-Burks & Huy, 2009).

Research on the cognitive perspective examines changes in employee thinking as individuals come to a new understanding of the organization and their role within it (Gioia, Thomas, Clark, & Chittipeddi, 1994). Such change may lead to uncertainty and doubt among employees and have unintended consequences on change implementation (Bordia, Hobman, Jones, Gallois, & Callan, 2004; Kim, Song, & Lee, 2013).

### **Emotional Dimension**

The emotional dimension involves the feelings, moods, and emotions expressed by an employee in response to a change initiative. Emotions play a powerful role in the workplace and can positively or negatively influence an individual's response to organizational change (Barsade & Gibson, 2007; Cheng, Yen, & Chen, 2012; Huy, 1999). An individual's emotions interact with reactions within the cognitive dimension, thus affecting the overall change response. Thus, the interaction between the cognitive and emotional dimensions will affect behavior and whether or not individuals commit to change (Liu & Perrewe, 2005; Sanchez-Burks & Huy, 2009).

### **Intentional Dimension**

The intentional dimension entails an individual's intentions to act, either in opposition to or in support of the change initiative. The interaction between the cognitive and emotional dimensions can be studied to discern whether future behaviors will be supportive of change (Liu & Perrewe, 2005; Sanchez-Burks & Huy, 2009). Piderit (2000) distinguished between behavior and intention because plans to act do not always lead to the corresponding behavior. Much of the

literature on change response focuses on behavior, assuming that behavior is directly linked to beliefs and emotions (Piderit, 2000). However, behavior cannot always be predicted by understanding the cognitive and emotional perspectives. Bagozzi (1992) asserted that there are three types of intention: present, future, and goal-oriented. According to Bagozzi (1992), individuals faced with organizational change must be both motivated and confident in their capacity to successfully act out planned behaviors. Piderit (2000) focused on how behavior is connected to an individual's present and future intentions in order to better understand change response.

### **Dimension Interaction**

A complete understanding of change response involves the study of the three dimensions and their interactions as a whole. Figure 1 illustrates how the dimensions act interdependently to form a reciprocal relationship, where response within one dimension influences the others. Piderit's (2000) tripartite view of attitudes borrowed the concept of *attitude* from social psychology theories, assuming that individuals may experience conflicting reactions between dimensions. Study of the interaction among the dimensions is necessary to understand how individuals transition from ambivalence to a positive change response. Identifying factors within each dimension and the interactions among the dimensions illuminates how change types (i.e., cognitive, emotional, intentional) influence change response.

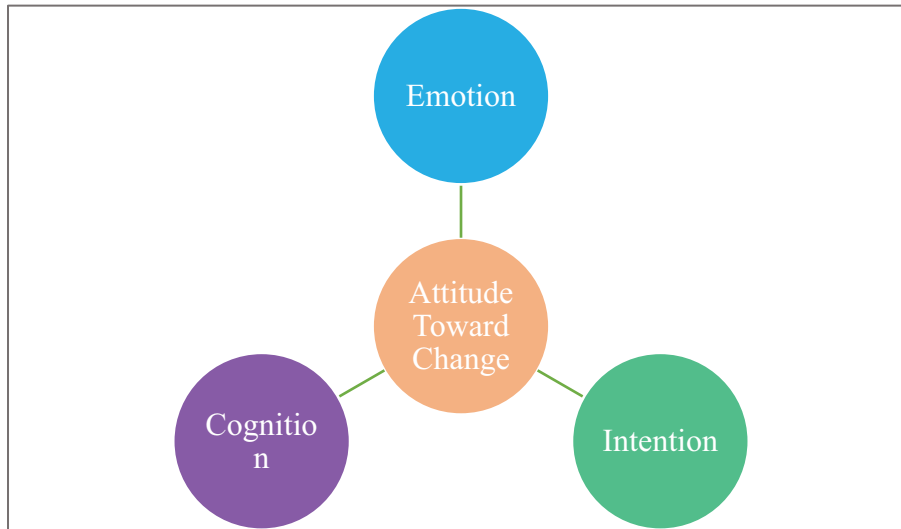


Figure 1. Piderit's response to change (Piderit, 2000).

### **Ambivalence**

Piderit (2000) asserted that response to change may not be solely positive or negative; rather, individuals may experience conflicting but coinciding responses (i.e., ambivalence) when faced with change. Ambivalence can occur within one dimension or multiple dimensions simultaneously. For example, an individual may feel enthusiastic about a change initiative and also anxious about new responsibilities, creating ambivalence within the emotional dimension. Ambivalence to change is considered a hindrance to change by Piderit (2000) and must be appreciated when studying change response within an organization. However, ambivalence presents the possibility of shifting an individual's change response from negative to positive. Recognizing that attitudes and reactions are formed along the spectrum of and through the interaction of the dimensions allows for a more holistic view of change response. This approach recognizes the potentially complex and multidimensional factors that shape employee attitudes toward change. Therefore, it is important to reframe resistance by integrating the multiple dimensions of reactions to change in order to appropriately gauge change response and future intentions (Piderit, 2000).

## **Rationale for Using Change Response Theory**

Piderit's (2000) response to change theory has been applied across a variety of settings and fields, including the defense industry (Oreg, 2006), government and healthcare organizations (Narine & Persaud, 2003; Parkin, 2009; van den Heuvel & Schalk, 2009), and educational institutions (Benns-Owens, 2015). In the study of managing change in healthcare settings, response to change theory (Piderit, 2000) was found to be useful in promoting a broader, more universal view of change resistance (Parkin, 2009). This approach captured the complexity of change response and promoted a more neutral stance on 'resistance' to change (Parkin, 2009).

Prior research on change response has mostly focused on reactions to change within the cognitive and emotional domains as key influences on subsequent behaviors (Piderit, 2000; Lines, 2005; Liu & Perrew, 2005). Response to change theory (Piderit, 2000) provides a lens through which to view health professions faculty's individual attitudes and reactions in response to a college-wide oral health curricular integration initiative. The interaction among the three dimensions captures the conflicting reactions that faculty may experience in response to change and the various factors that influence their shift from ambivalence to a positive change response. This framework provides a more holistic view of the change process and what the experience of implementing an oral health curriculum is like.

## **Conclusion**

Piderit's (2000) response to change theory provides a lens through which multidimensional and complex faculty responses to an oral health integration initiative can be viewed. People's responses to change are molded by their beliefs, expressed feelings, and intentions, which influence their ability to implement and sustain successful change efforts.



Response to change theory highlights the interaction among these factors and how they shape change response. Understanding faculty's change response in the context of oral health curricular integration may provide leaders with a framework in which to structure and implement curriculum change successfully.

### Key Terms and Concepts

**Change ambivalence:** Change ambivalence is defined as conflicting reactions to change, where alternative perspectives of cognitive, emotional, and intentional responses are experienced (Piderit, 2000).

**Change initiative:** Change initiative refers to a specific organizational change within an institution. The initiative examined in this study is an oral health curricular integration program.

**Change response:** Change response encompasses individual reactions to change along the three dimensions of cognition, emotion, and intention. Change response can include positive, negative, and ambivalent responses within each dimension (Piderit, 2000).

**Cognitive response:** Cognitive responses are defined as the positive and/or negative beliefs that an individual holds about a change initiative (Piderit, 2000).

**Emotional response:** Emotional response is defined as the positive and/or negative feelings expressed by an individual in response to a change initiative (Piderit, 2000).

**Intentional response:** Intentional response entails the planned behaviors that individuals exhibit in support of or in opposition to a change initiative (Piderit, 2000).

**Interprofessional education:** Interprofessional education “occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes” (WHO, 2010, p. 7).

**Interprofessional collaborative practice:** Interprofessional collaborative practice

“happens when multiple health workers from different professional backgrounds work together with patients, families, and communities to deliver the highest quality of care” (WHO, 2010, p. 7).

**Oral health:** Oral health is defined as “A functional, structural, aesthetic, physiologic, and psychosocial state of well-being and is essential to an individual’s general health and quality of life” (ADA, 2014, para. 1).

**Oral health competencies:** Oral health competencies are a set of oral health-related knowledge, abilities, and actions to be used with all populations (U.S. Department of Health and Human Services, 2014, p. 8)

**Oral health curricular integration:** Oral health curricular integration is the inclusion of oral health competencies and related oral health learning activities in health professions curricula (Dolce, Holloman, & Fauteux, 2016).

**Resistance to change:** Resistance to change is any negative cognitive, emotional, and/or intentional reaction to change (Piderit, 2000).

**Support for change:** Support for change is any positive cognitive, emotional, and/or intentional reaction to change (Piderit, 2000).

## Chapter 2: Literature Review

This chapter describes and analyzes the extant literature relevant to oral health curricular integration. This literature review begins by briefly describing the shift of health professions education from a siloed, science-based curriculum to a collaborative, team-based curriculum. The impetus for oral health curricular integration will be supported with evidence from the literature related to the advancement of interprofessional education. Institutional efforts to integrate oral health into education and practice will also be presented in order to highlight the barriers and challenges associated with oral health curricular integration.

This literature review is organized into three major themes: the transformation of health professions education, the integration of oral health into practice and education, and influential factors related to oral health curricular integration. First, this study will provide an overview of recent change efforts in health professions education, underscored by national and local efforts to better align education and practice through interprofessional education and training (Frenk et al., 2010). This information will highlight a major shift in health professions education, from a siloed to a team-based, interprofessional approach to health care delivery (Interprofessional Education Collaborative [IPEC], 2016; WHO, 2010). In addition, various internal and external factors related to the development of oral health education experiences for health professions students will be discussed (U.S. Department of Health and Human Services, 2014). The next section will focus on the national call to action for oral health integration by public and private institutions, including an overview of the current state of and trends in oral health curricular integration. The final section will provide evidence of barriers to oral health integration, including faculty development needs (Dolce, Holloman, & Fauteux, 2016). This evidence will support the need to

further explore the experiences of interdisciplinary health sciences faculty as they have integrated oral health competencies into their curriculum.

### **The Transformation of Health Professions Education**

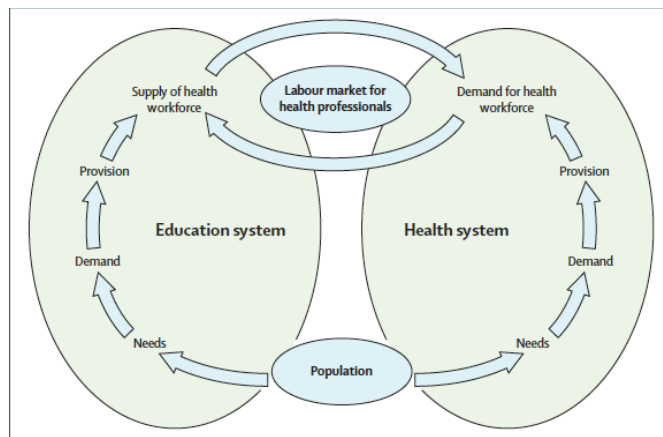
Health systems are struggling to keep up with advances in medicine and science, which have resulted in longer life expectancies and an aging population with complex health needs (Frenk et al., 2010). The fragmented health care system, coupled with outdated health professions education curricula, only exacerbates these issues (Frenk et al., 2010). Efforts to reform health professions education focus on the consensus that patients benefit when interprofessional teams deliver their care (IPEC, 2016; WHO, 2010). Academic institutions have responded by embedding interprofessional education experiences within health professions curricula (IPEC, 2016; WHO, 2010).

Health professions educational reform has experienced three major shifts (Frenk et al., 2010). The first was an emphasis on a science-based curriculum. This was inspired by the 1910 Flexner Report, which pushed for evidence-based reform in health professions education (Frenk et al., 2010). Flexner's advocacy for a linkage between research and education (Stahnisch & Verhoef, 2012) inspired a paradigm shift in health professions education over the last century (Frenk et al., 2010). The second shift, in the mid-20<sup>th</sup> century, was characterized by the use of problem-based learning methods (Frenk et al., 2010). The third major shift in health professions education was the implementation of a team-based approach to health care delivery. This was characterized by the inclusion of interprofessional education competencies (Frenk et al., 2010).

In 2010, the Lancet Commission convened key stakeholders across the globe to develop a framework for the redesign of health professions education (Frenk et al., 2010). To advance this most recent shift in health professions reform, it envisioned that:

All health professionals in all countries be educated to mobilize knowledge and to engage in critical reasoning and ethical conduct so that they are competent to participate in patient and population-centered health systems as members of a locally and globally connected team. The ultimate purpose is to assure universal coverage of the high quality comprehensive services that are essential to advance opportunity for health equity within and between countries. (Frenk et al., 2010, p. 1924)

This vision requires innovations in education and practice (IPEC, 2011). At the institutional level, silos should be broken through competency-driven approaches that utilize an interprofessional approach (IPEC, 2011). For health care providers, this involves new approaches to care delivery and clinical decision-making (IPEC, 2011). For faculty, these changes represent a new integration of health professions education (IOM, 2002; WHO, 2006) and offer fresh opportunities for curriculum redesign (Frenk et al., 2010). Figure 2 illustrates the complex dynamics between the health care practice and education systems.



*Figure 2.* Health care practice and education systems framework. Copyright 2012, The Lancet Commission (Frenk et al., 2010).

The transformation of health professions education has renewed interest in the field of interprofessional education. In 1972, interprofessional education was a central point of

discussion at the first Institute of Medicine conference (IOM, 1972). However, interprofessional education has only recently become the cornerstone of health professions education.

### **Interprofessional Education**

Interprofessional education occurs when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes (WHO, 2010). The goal of interprofessional education is to prepare health professions students for collaborative practice upon graduation so they can improve population health by ensuring the delivery of “safe, quality, accessible, patient-centered care” (IPEC, 2016, p.6). Redesigning health care delivery to include a team-based approach can lead to more effective, more efficient, and safer care, as well as lower health care costs (IOM, 2001).

The benefits of interprofessional education for health professions students include wider knowledge of other health professions and their own professional roles, stronger professional identity, and improved team performance (Bultas, Ruebling, Breitbach, & Carlson, 2016). Furthermore, students enjoy co-learning with students from other health professions (Lipton, Lai, Cutler, Smith, & Stebbins, 2010). Interprofessional education requires health professions faculty to embrace a “multiprofessional perspective” that connects education and health systems (Frenk et al., 2010, p. 1923).

This idea of integrated care and its relationship to the broader context of health care education further underscores the need for cross-cutting competencies in health professions education, a need first highlighted in the 2003 Institute of Medicine’s landmark report *Health Professions Education: A Bridge to Quality*. This report stressed the need to reform accreditation and credentialing processes so they would better prepare health care providers to meet the complex needs of patients and populations. The first set of core competencies for

interprofessional collaborative practice was released in 2011 by the Interprofessional Education Collaborative (IPEC). These competencies were organized under four general domains: (a) values/ethics for interprofessional practice, (b) roles/responsibilities, (c) interprofessional communication, and (d) teams and teamwork (p. 16). Since the release of the IPEC competencies, more than 500 publications have referenced the report and interprofessional education standards have been adopted into the required curriculum for most medical and dental students in the United States (IPEC, 2016). The Interprofessional Education Collaborative now includes 14 professional associations: nursing, osteopathic medicine, pharmacy, medicine, public health, dentistry, psychology, podiatry, physical therapy, veterinary medicine, optometry, allied health professions, social work, and physician assistant studies. The accrediting bodies of six of these associations (pharmacy, nursing, dentistry, osteopathic medicine, public health, and medicine) now include interprofessional education as part of their accreditation criteria (IPEC, 2016, p. 6). These reports established the foundation for the later inclusion of oral health competencies in health professions education.

Two years after the release of the first IPEC report, a review of competency frameworks for nine health professions and medicine specialties or subspecialties revealed substantial overlap in competency domains pertaining to interprofessional education and collaboration (Englander et al., 2013). Medicine and dentistry, in particular, have reported a substantial increase in the number and quality of interprofessional education experiences for students (IPEC, 2016). Two separate surveys of U.S. medical and dental education programs reported that 69% of dental schools (Palatta, Cook, Anderson, & Valachovic, 2015) and 92% of medical schools (Barzansky & Etzel, 2015) now require interprofessional education experiences for students. In addition, a large number of faculty development initiatives that utilize the IPEC core competencies

framework have been described in the literature (IPEC, 2016). These findings illustrate the widespread acceptance of interprofessional education as a novel approach for preparing health professions students to enter a dynamic and rapidly changing health care system.

### **Integration of Oral Health into Practice and Education**

Dental providers (i.e., dentists and dental hygienists) learn about the link between oral health and general health during their professional training (Wilder et al., 2009; Wilder, Thomas, & Jared, 2008;). This training has prepared dental providers to expand their role as health providers and address their patients' systemic health conditions, such as diabetes (Genco et al., 2014) and hypertension, in the dental office (Herman, Konzelman, & Prisant, 2004). To reduce the burden of oral disease, non-dental health care providers also need to integrate oral health promotion and prevention into comprehensive general health assessments (U.S. Department of Health and Human Services, 2014).

Oral health curricular integration aligns with major reforms taking place in health professions education and holds promise for advancing interprofessional education initiatives (Dolce, Holloman, & Fauteux, 2016). Oral health curricular integration also has several benefits. First, it provides interprofessional education opportunities for students across health professions, potentially improving both oral and general health (Dolce, Holloman, & Fauteux, 2016). The first step in the oral health curricular integration movement was when the Association of American Medical Colleges partnered with the American Dental Education Association to develop a joint curriculum that outlined overlapping learning objectives for medical and dental students (Association of American Medical Colleges, 2008). Due to the overlap of existing standards in medicine and dentistry, the integration of oral-systemic health education supported the development of cross-cutting competencies for the two professions. Several years later, the



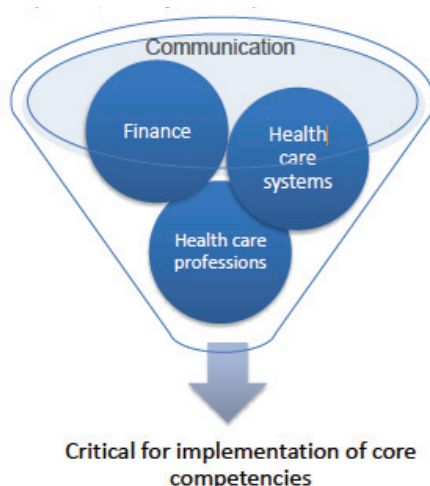
American Association of American Colleges (2011) released a set of oral health competencies specifically for predoctoral medical students' education and training. In response, academic institutions began developing oral health training programs for health professions students and faculty.

The earliest known research on the inclusion of oral health in health professions education found that oral health topics, including oral cancer, were not adequately covered in American and Canadian medical schools (Ahluwalia, Yellowitz, Goodman, & Horowitz, 1998; Curtis, Garrison, & Camp, 1985). Decades later, not much had changed. A 2011 study of U.S. medical schools reported that approximately 70 percent of the medical schools surveyed included no more than four instructional hours oral health in their curriculum; 10 percent had no oral health content at all (Ferullo, Silk, & Savageau). This was not surprising, given that two earlier studies reported that many physicians did not examine the oral cavity (Herring & Shah, 2006; Parks, 2003). Pediatricians, now considered an essential member of the oral health team due to their frequent exposure to children who may not have access to professional dental care, have also reported receiving little to oral health education and training while in medical school (Lewis et al., 2009; Lewis, Grossman, Domoto, & Deyo, 2000). Similarly, Owens et al. (2011) reported that only 24% of North Carolina endocrinologists and internists surveyed reported receiving oral health education as part of their medical school training. These findings highlight the historical lack of oral health education and training among non-dental health care providers. This is one of the greatest challenges faced by health professions faculty.

### **Oral Health Competencies.**

In 2014, the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services released a set of core clinical competencies related to

oral health for primary care providers. These competencies addressed oral health risk assessment and evaluation, preventive interventions, communication and education, and interprofessional collaborative practice (U.S. Department of Health and Human Services, 2014). Recognizing the barriers associated with the integration of oral health into education and practice, the HRSA identified the need for collaboration among “three critical systems” (p. 12): health care systems, health care professions, and health care finance. These are shown in Figure 3.



*Figure 3.* Three critical systems for the implementation of oral health into education and practice. Copyright 2014, U.S. Department of Health and Human Services (source).

The report specifically recommended that “the inclusion of the clinical competencies would be within the existing scopes of practice for the health professionals, while explicitly using collaborative practice” (U.S. Department of Health and Human Services, 2014, p. 13). For educators and providers, these competencies provide a framework for integrating oral health into health professionals’ practice and education (Dolce, Holloman, & Fauteux, 2016).

## Oral Health Integration Trends

A number of published initiatives and resources to facilitate oral health curricular integration have been reported in the literature. The most widely used oral health curriculum, *Smiles for Life: A National Oral Health Care Curriculum* (see [www.smilesforlifeoralhealth.org](http://www.smilesforlifeoralhealth.org)), is a free online resource for educators and primary care providers. Several academic institutions, including New York University and Northeastern University, have reported successfully using this curriculum to develop oral-systemic health programs for students, faculty, and clinicians (Dolce Holloman, & Goodkind, 2016; Haber et al., 2015). *The Oral Health Delivery Framework* (Hummel, Phillips, Holt, & Hayes, 2015), a step-by-step guide for primary care providers on integrating basic oral health promotion and prevention strategies into practice, was tested by more than a dozen private practices and community health centers and is endorsed by 19 professional associations. The “Head, Ears, Nose, and Throat” (HEENT) exam was revised by educators at New York University’s Schools of Nursing and Dentistry to include the oral cavity as part of a comprehensive physical assessment (Haber et al., 2015). The new HEENOT has gained significant traction in nursing schools across the United States.

A variety of oral health curricular integration methods have been reported in the literature, including simulation (Djukic, Fulmer, Adams, Lee, & Triola, 2012; Dolce, Aghazadeh-Sanai, Mohammed, & Fulmer, 2014; Haber et al., 2015), service learning (Glick, 2014; Jacoby, 2014), and case-based learning, (Dolce, 2012; Hendricson et al., 2007). Most of these methods were used with undergraduate or graduate health professions students and often included participation by dental or dental hygiene faculty members. The Institute of Medicine and the Association of American Medical Colleges recommended using simulation to facilitate interprofessional learning experiences for students (IPEC, 2011). Simulation learning is an active

learning approach that uses simulated experiences to replicate real-life clinical scenarios, followed by a debrief. Simulation is considered an important component of student practical education (Clemmens, Rodriguez, & Leef, 2012). Several academic institutions have reported using simulation to teach students about oral-systemic health, including New York University (Djukic et al., 2012; Haber et al., 2015). For instance, the HEENOT exam was taught through a combination of didactic presentations and clinical simulations (Haber et al., 2015). In the first published article on the HEENOT exam, Haber et al. (2015) mentioned faculty and preceptor development as a critical aspect of teaching it to students but did not provide specific details. An interprofessional oral health integration program at Northeastern University reported using team-based simulations to replicate a range of primary care settings, such as community health centers and pharmacies, with students across a range of health professions programs (Dolce et al., 2014).

A limited number of faculty development initiatives that use simulation have been reported in the literature. High-fidelity simulation manikins and standardized patients were employed for a geriatric oral health faculty development initiative in Las Vegas, Nevada (Dounis et al., 2014). This initiative emphasized team building through reflection exercises, self and peer assessments, and small group debriefing discussions. Overall, the program improved faculty's knowledge, attitudes, and perceptions about team building and promoting communication across health professions (Dounis et al., 2014). However, faculty attitudes and perceptions regarding the simulation were not assessed.

Service learning is another strategy that has been widely reported in the health professions literature. Service learning is defined as "A form of experiential education in which students engage in activities together with structured opportunities for reflection designed to achieve desired learning outcomes" (Jacoby, 2014, pp. 1-2). Service learning holds promise as a

tool that can complement traditional didactic courses and strengthen partnerships between educational systems and local communities (Ward & Wolf-Wendel, 2000). Thousands of publications have reported using service learning as a teaching method to facilitate competency development by health professions students. The Surgeon General's *Healthy People 2020* report recommended that oral health be included in community service programs (U.S. Department of Health and Human Services, 2012) as a way to address the nation's oral health disparities. In dental education, benefits of service learning include increased awareness and understanding of ethical health care, underserved populations, and cultural diversity (Flick, Barrett, & Carter-Hanson, 2016; Formicola, Bailit, Beazoglou, & Tedesco, 2008; Hood, 2009; Yoder, 2006). Similar findings were noted for non-dental health professions students.

In regard to faculty development, service learning was found to be an effective strategy when implemented as part of an oral health faculty development program for physician assistant faculty members (Glicken, 2014). Participants were surveyed about a year after a hands-on workshop and community service experience. Survey data revealed that more than a third of participants had "completely" or "somewhat" integrated oral health into their curriculum. Participants were also asked what methods were used to integrate oral health content. Almost half of the participants reported that their students participated in community service learning experiences focused on improving oral health (Glicken, 2014). These findings hold promise for using service learning to facilitate oral health integration. However, additional research is needed to explore faculty experiences with service learning in the context of oral health integration.

Case examples reported in the literature addressed the complexities of oral and systemic diseases across the lifespan. Case presentations are a simple way to illustrate the clinical manifestations of oral disease and oral-systemic interactions (Dolce, 2012). Most of the literature

regarding oral health curricular integration reported the use of case-based learning alone or in combination with another method to facilitate competency development. Hendricson et al. (2007) noted the integral role of case-based learning in faculty development. Based on Ullian and Stritter's (1997) seven-tier hierarchy of faculty development strategies, Hendricson et al. (2007) proposed that dental schools implement faculty training before implementing new curricular models. This same reasoning can be applied to oral health curricular integration, meaning that non-dental health professions faculty should be trained appropriately before integrating oral health into their curricula. Faculty experiences with case-based learning, alone or in combination with any of these teaching and learning strategies, should be further investigated to ensure successful oral health curricular integration.

### **Oral Health Curricular Integration: Influencing Factors**

Various internal and external factors influence the feasibility and success of change initiatives (Dopson, Fitzgerald, & Ferlie, 2008). In higher education, curriculum changes are often influenced by administrative-level policy decisions (Brinthaupt, Clayton, Draude, & Calahan, 2014). However, responsibility for the development and implementation of teaching and learning strategies to reflect curricular change often rests with faculty (Osika, Johnson, & Buteau, 2009).

### **Barriers**

A number of studies have investigated and reported barriers to oral health integration. These have been conducted with students (Clemmens et al., 2012; Haber et al., 2015; Kraus, Connick, & Morgan, 2002; Mouradian et al., 2005), faculty (Dolce, Holloman, & Goodkind, 2016; Jacques et al., 2010) and clinicians (Fellona & DeVore, 1999; Lewis et al., 2000). The

most commonly cited barrier to oral health integration is lack of proper education and training. The following sections outline this research.

A number of studies investigating oral health integration across a range of disciplines have been reported in the literature. Most studies were discipline specific and focused on the role of providers. No literature was found that specifically addressed faculty experiences using qualitative methods. The nursing profession was the most commonly reported health care discipline in the literature, followed by medicine. A majority of the studies reported that nursing education and training did not adequately address oral-systemic health (Hein, Schönwetter, & Iacopino, 2011; IOM, 2011a; Wooten, Lee, Jared, Boggess, & Wilder, 2011). Studies that surveyed physician assistant faculty and program directors reported that respondents supported the inclusion of oral health within the physician assistant curriculum (Jacques et al., 2010), but less than half of those surveyed were in programs that offered comprehensive oral health education (Jacques et al., 2010). These findings supported previous reports that physicians (Lewis et al., 2000), nursing faculty, and students (Kraus et al., 2002) did not have the knowledge and skills needed to perform certain oral exams or address oral health prevention and promotion with their patients. More recent research has supported these reports of substantial gaps in non-dental health care faculty's oral health knowledge and skills (Dolce, Holloman, & Goodkind, 2016).

The only known research assessing interdisciplinary health care faculty's oral health knowledge, skills, and attitudes towards oral health curricular integration is Dolce, Holloman, & Goodkind (2016). This study surveyed health professions faculty across nine academic disciplines (nursing, public health, health science, physical therapy, pharmacy, communication sciences and disorders, physician assistant, health informatics, and applied psychology). It found

positive faculty attitudes towards oral health curricular integration but substantial gaps in oral health knowledge and skills. Most notably, a majority of respondents reported being unprepared perform more than half of the oral health practices listed in the survey (Dolce, Holloman, & Goodkind, 2016). These findings supported the need for additional oral health education and training for non-dental health care faculty as well as an in-depth assessment of faculty experiences with oral health curricular integration.

Gonsalves et al. (2005) examined 208 family medicine residency directors' oral health knowledge, attitudes about pediatric oral health education, and presence of oral health training within their curriculum. It found that directors agreed that pediatric oral health education should be included in medical residency training, but that further education and training was needed before they could implement such changes. This study highlighted the need for further education and training for physician assistants – faculty and providers alike – but did not explicitly explore oral health knowledge and skills. It recommended additional research to assess physician assistant faculty and student oral health knowledge and skills.

Kraus et al., (2002) found that nursing students and faculty were not prepared to perform a basic oral exam and risk assessment as part of delivering health services to children in a school system. Through a partnership with dental hygiene faculty and students, oral health training sessions were conducted to equip nursing students and faculty with the basic competencies to perform an oral exam and assessment. The overall success of the project was attributed to the interdisciplinary partnerships formed among nursing and dental hygiene students and faculty.

Dounis et al. (2014) assessed health care faculty's attitudes, knowledge, and perceptions of team management following a training program that addressed the oral-systemic complications associated with Type 2 diabetes. Participants included health professions faculty



across six disciplines (nursing, physical therapy, occupational therapy, pharmacy, dentistry, and medicine). The purpose of the study was to educate faculty about the connection between oral health and Type 2 diabetes. Survey findings indicated an improvement in participants' knowledge, attitudes, and perceptions following the training program. While this was beneficial for the development of training activities, it did not provide evidence regarding participants' oral health knowledge and skills. Furthermore, these studies did not address faculty experiences or provide in-depth analysis of the barriers associated with oral health curricular integration.

### **Internal Influencing Factors**

Internal factors that may influence faculty's adoption of oral health integration strategies may include professional identity, confidence, and perspectives, such as attitudes, beliefs, and values (Barr, 2013; Frenk et al., 2010). Professional identity, or how an individual identifies with and relates to members of a group through social experience, has been reported as contributing to silos within the health care system (Frenk et al., 2010). Because oral health integration requires health care professionals to break silos, professional identity can inhibit interprofessional education (Barr, 2013) and thus impede the integration of oral health into education and practice.

Faculty confidence about teaching oral health competencies may affect their intention to integrate oral health into their curriculum (Dounis et al., 2014). Dounis et al. (2014) found that multidisciplinary health care faculty were confident in their ability to recognize the oral-systemic needs of their patient; however, their ability to teach oral-systemic health was not addressed. A 2009 survey of U.S. dental schools found that academic deans did not feel confident that nursing and medical faculty could teach their students about oral-systemic health (Wilder et al., 2008). Previous studies that have examined faculty confidence about curricular innovations, such as technology, reported similar findings (as cited in Donlan, 2016).

A limited number of published studies have investigated the influence of faculty perspectives on oral health curricular integration. Quantitative methods were most often used to examine faculty perspectives regarding oral health curricular integration. Findings in the literature vary, with some conflicting evidence. Faculty attitudes, such as the acceptance of the value of interprofessional education and biases regarding the importance of other health professions to comprehensive care, have been cited as a barrier to oral health integration in health professions education (Dounis et al., 2014; Hein et al., 2011). In contrast, a recent study of interdisciplinary health care faculty (Dolce, Holloman, & Goodkind, 2016) reported that faculty held positive attitudes about oral health integration and supported the integration of oral health competencies into primary care practitioner standards by accreditation and certification bodies. This study also assessed faculty's oral health professional development preferences, finding that most faculty preferred hands-on workshops, online CE courses, and simulation learning (Dolce, Holloman, & Goodkind, 2016).

To address these internal factors, the World Health Organization (2010) and other organizations (Anderson, Cox, & Thorpe, 2009; Gordon, Lasater, Brunett, & Dieckmann, 2015; Kahaleh, Danielson, Franson, Nuffer, & Umland, 2015; Steinert, 2005) have advocated for faculty development programs that specifically focus on teaching interprofessional education and preparing students for collaborative practice.

### **External Influencing Factors**

Organizational and administrative support, time, financial limitations, space, and faculty workforce shortages are all external variables that can affect the success of oral health curricular integration initiatives (Dounis et al., 2014; Rowell, 2015). Administrative support, time, and financial barriers have been frequently cited as barriers to interprofessional education (Rowell,

2015). Additional barriers were reported by Dounis et al. (2014), in a study of multidisciplinary health care faculty as part of a statewide effort to promote interprofessional education and the inclusion of oral-systemic health in the treatment of older adults with chronic diseases. The authors addressed barriers to such initiatives, stating that:

Executive administrators often cite health care faculty workforce shortages, inadequate collaborative practice space, and perceived lack of curriculum/clinic time, as demonstrated by misaligned academic calendars, as barriers to interprofessional implementation, whereas faculty personnel feel that to plan and develop interprofessional course work requires rigorous planning, clear educational goals, and clearly defined measures of outcomes with little direct benefit and lack of administrative support or recognition. (Dounis et al., 2014, p. 2)

In 2005, the University of Washington developed an oral health curriculum for undergraduate medical students. It suggested the “implementation of a spiral curriculum into existing courses by targeting key courses in a stepwise fashion” (Mouradian et al., 2005, p. 439). Another potential solution is “uncovering” oral health content already embedded within the curriculum (Dolce, 2012, p. 67). This approach is illustrated in the HEENOT (head, ears, eyes, nose, oral cavity and throat) assessment, previously the HEENT, which integrates the oral exam into the physical assessment (Haber et al., 2015).

Academic centers that are co-located with a dental school have the added benefit of proximity to dental faculty. A majority of published oral health integration initiatives partnered with dental faculty (Berkowitz, Kaufman, & Russell, 2015; Dounis et al., 2014; Glicker, 2014; Mouradian et al., 2005) to facilitate teaching and learning with students and providers. This approach poses challenges for institutions are not co-located with dental schools (Dolce,

Holloman, & Goodkind, 2016). The Association of American Medical Colleges (2008) acknowledged the need for collaboration among medical and dental faculty, but also provided recommendations for faculty development. Their recommendation supports the need for an in-depth exploration of faculty experiences integrating oral health into their curriculum.

### **Summary of Literature Review**

A number of studies have investigated the integration of oral health into education and practice, revealing various barriers and challenges for health professions faculty. Evidence reported in the literature highlights various internal and external factors that may influence oral health curricular integration, such as faculty perceptions (Dolce, Holloman, & Goodkind, 2016) and administrative support (Rowell, 2015). These findings support the need for targeted oral health training for health professions faculty.

Qualitative data on this topic is limited because the majority of research used quantitative research methods. Data captured through quantitative methods are useful, but lack in-depth exploration of faculty experience. Qualitative insights into oral health curricular integration as it applies to faculty development make a valuable contribution to the literature.

The factors that affect oral health curricular integration and interprofessional education are interrelated. However, given the limited and conflicting evidence reported on oral health integration, there is a need to collect qualitative data to help reveal the extent to which these two topics align. Studying faculty experiences conveys meaning to the processes and factors that influence oral health curricular integration. This information may uncover how faculty perspectives have evolved, revealing opportunities for further growth.

### Chapter 3: Methodology

This study answered this question: What were the lived experiences of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States? The interpretative phenomenological analysis (IPA) method (Smith, Flowers, & Larkin, 2009) was utilized to explore faculty experiences with oral health curricular integration. This chapter provides the rationale for using a qualitative methodology, data collection methods, participant sampling procedures, and ethical concerns and limitations. This chapter also describes the data analysis process and measures to assure trustworthiness and validity.

#### **Research Approach**

This study employed a qualitative research approach in order to capture and understand the lived experiences of oral health curricular integration among interdisciplinary health professions faculty. This approach helped the researcher make sense of and ascribe meaning to the lived experiences of a group of faculty from distinct health professions. Qualitative methodology was appropriate for the researcher's goal: to explore and understand, rather than confirm and explain, a problem (Creswell, 2013). By exploring the phenomenon, the researcher was better able to understand relationships, variations in observations, and individual experiences. Furthermore, qualitative methodology follows a flexible, emergent design that allowed the researcher to build a rich description of the phenomenon (Creswell, 2013). The researcher used in-depth semistructured interviews to collect rich descriptions of faculty's varied experiences with oral health curricular integration that are not often captured using quantitative methods.

## **Research Paradigm**

A *paradigm* is “a set of interrelated assumptions about the social world which provides a philosophical and conceptual framework for the organized study of that world” (Filstead, 1979, p. 34). This study followed the constructivist-interpretivist paradigm. Interpretivism comprises several distinct paradigms and is primarily concerned with how individuals ascribe meaning to experiences in a constantly changing world (Williamson, 2006). Constructivism, encompassed by the interpretivist framework, asserts that individuals develop variable and multiple subjective meanings of their experiences (Ponterotto, 2005). Those who follow the constructivist-interpretivist paradigm believe that reality is created and subjective according to each individual, as opposed to there being a single objective reality (Ponterotto, 2005).

This perspective embraces a hermeneutical approach, which is the interpretative and reciprocal process of understanding an individual’s experience. This characteristic of constructivism necessitates an interaction between researcher and participant, as they “co-construct findings from their interactive dialogue and interpretation” (Ponterotto, 2005, p. 129). In alignment with this approach, the researcher engaged with participants to interpret and explore each individual’s experience through interactive dialogue and reflection. The researcher intended to elicit deep descriptions about personal experiences and highlight patterns across individual cases. In other words, the researcher selected a research tradition that followed these assumptions and acknowledged her interpretative role in understanding participants’ lived experiences.

## **Research Tradition**

Interpretative phenomenological analysis (IPA) is a qualitative research approach that is primarily concerned with exploring how individuals make sense of life experiences, where *sense-making* is how individuals derive meaning from those experiences (Larkin, Eatough, &

Osborn, 2011; Smith et al., 2009). IPA was introduced by Jonathan Smith (1996), a psychology professor, who called for a qualitative approach that would capture the experiential and qualitative domains of a phenomenon (Smith et al., 2009). According to Smith (1996), a new research approach for the field of health psychology was needed in order to bridge the conflicting perspectives of social psychology's core methods of inquiry: discourse analysis and social cognition. *Discourse analysis*, or the study of social behavior through the analysis of language, is inherently a qualitative research approach because it investigates meaning, whether in dialogues or in culture, within the participant's situated context. Conversely, *social cognition*, predominantly a quantitative approach, is concerned with evaluating how participants' cognitive processes (internal mental states) are expressed through external behaviors in social interactions. IPA unifies these approaches and provides a researcher with the means to explore and interpret human experiences at a much deeper level (Smith, 1996). Exploring faculty's experiences with oral health curricular integration enabled insight into participants' beliefs, feelings, and responses from the broader perspective of interprofessional education.

### **Theoretical Underpinnings of IPA**

IPA has theoretical roots in phenomenology, hermeneutics, and idiography (Smith, 2011). The intersection of these major influences ultimately informs IPA's approach to the study of the human experience. This section details the history of phenomenology as a line of inquiry, the role of hermeneutics in IPA, and IPA's pursuit of the idiographic commitment.

#### **Phenomenology**

Phenomenology, the theoretical underpinning of IPA, is both a philosophy and a research method (Dowling, 2005). It is concerned with conducting an in-depth examination of particular human experiences (Smith, 2011). An underlying assumption of phenomenology is that reality is

not objective and rational; rather, it is based on individual and subjective realities. This approach directly aligns with the constructivist-interpretivist paradigm, as it supports the belief that individuals develop variable and multiple subjective meanings of their experiences (Ponterotto, 2005). The methods used to explore and understand the individual human experience have evolved through the contributions of four phenomenological philosophers: Husserl, Heidegger, Merleau-Ponty, and Sartre.

Edmund Husserl (1962) pioneered phenomenology as both a philosophy and research method in his pursuit of understanding the human consciousness and experience. Husserl borrowed the term *phenomenology* from Franz Brentano, who originally used the term to describe the concept *intentionality*, the internal experience of being conscious of something (Moustakas, 1994). Brentano inspired Husserl (1962) to study the particular, or things as they appear, in order to understand the core of human consciousness and experience. The study of the particular requires that we “go back to the things themselves” by reflecting on our perceptions, instead of directing our focus outward, on the material world (Smith et al., 2009). The process of reflection allows us to become fully engaged in conscious activity, thus grasping the true meaning of experiences. To accomplish this, Husserl developed the method of phenomenological reduction (Smith et al., 2009).

*Phenomenological reduction* is the endeavor of exploring and understanding the thing itself, or the phenomenon under study, without imposing judgment or interpretation (Smith et al., 2009). Husserl proposed phenomenological reduction as a method for facilitating the identification of essential features and elements of the human experience by setting aside our own assumptions and preconceptions about the world. This process of *bracketing* allows a researcher to remain objective and unbiased while examining a phenomenon. The result is a pure



description of the essence of the phenomenon itself. However, the goal of reduction is not to eliminate all assumptions and preconceptions; rather, the goal is to critically evaluate the role of these perspectives in the phenomenological process (Smith et al., 2009).

Martin Heidegger, a German philosopher and pupil of Husserl, proposed an alternative view of phenomenology, one that emphasized the critical role of interpretation in understanding the human experience (Smith et al., 2009). Heidegger agreed with Husserl's commitment "to the things themselves," but disagreed with Husserl's emphasis on describing the human experience rather than understanding it (van Manen, 1997 p. 184). In other words, Heidegger believed that interpretation was essential to phenomenological inquiry and that the human experience could not be understood without consideration of the context surrounding the person describing the experience. Heidegger used the phrase "being-in-the-world" to signify that humans are always situated and engaged in the lived world and therefore experiences can only be understood in relation to one's position in the world. Heidegger considered the process of understanding the human experience a reciprocal activity and proposed the concept of the *hermeneutic circle* to illustrate this exchange (Smith et al., 2009). Correspondingly, the act of making sense of the participant's experiences through the lens of the researcher's own perceptions engages a *double hermeneutic* (Smith & Osborn, 2007).

Maurice Merleau-Ponty's perspective on phenomenology expanded upon those of Husserl and Heidegger but is distinct regarding the role of the human body in the development of a worldview (Smith et al., 2009). Like Husserl, Merleau-Ponty promoted phenomenological reduction as a way to describe experience, but he did not agree that the human experience can be understood without interpretation. Merleau Ponty primarily focused on the central role of the physical self (i.e., the body) as a way to communicate with the world and on how perceptions are

shaped by that embodied perspective (Dowling, 2007). In other words, it is not possible for a person to fully understand another's experience because experiences are unique to each person's embodied position in the world (Smith et al., 2009).

Jean Paul Sartre's perspective on phenomenology further diverged from Husserl and extended Heidegger's approach through his focus on the existential foundations of phenomenology. Sartre adopted an ontological approach to understanding human existence and believed that humans are constantly in the "process of becoming" (Smith et al., 2009, p. 19). Therefore, human existence must be studied from two perspectives, both the presence and absence of our relationships with other people. A researcher can only make sense of a phenomenon when appreciating it within its interpersonal context (Smith et al., 2009).

### **Hermeneutics**

According to Heidegger, phenomenological inquiry is an interpretative process. The act of interpretation by the researcher is informed by *hermeneutics*, the theory of interpretation (Dowling, 2007). Hermeneutic phenomenology was founded by Heidegger as an alternative to Husserl's philosophy of phenomenology (Dowling, 2007). According to Husserl, a phenomenon can only be understood through an individual's description of the experience. This requires a researcher to bracket, or suspend, judgment about the experience under study. Husserl considered the act of bracketing to be an essential element of phenomenology because it ensured that the researcher's prior assumptions about the world were not imposed on the participant's experience. Heidegger's perspective on phenomenology asserted that understanding another individual's lived experience is fundamentally an interpretive and reciprocal process (Dowling, 2007; Racher & Robinson, 2003). Thus, a researcher is able to understand the first-person perspective from the third-person position (Larkin et al., 2011).

The process of interpretation is a key aspect of IPA, as is the iterative analysis process involved in IPA research (Smith et al., 2009). Because IPA's goal is to understand participants' experiences in their own terms (Smith, 2011), it is critical that a researcher repeatedly engage with and interpret participant accounts and reflect on the meaning of the data. The iterative process is crucial to hermeneutics because it facilitates a researcher's ability to analyze the parts and the whole of the phenomenon (Smith et al., 2009). Thus, the double hermeneutic approach allows a researcher to simultaneously facilitate a participant's uncovering of experience while making sense of the participant's accounts through the researcher's own perspective.

The double hermeneutic was an appropriate strategy for the proposed study because it allowed the researcher to see the experience of oral health curricular integration through the lens of health professions faculty and interpret their experience through the researcher's own experientially formed lens (Smith et al., 2009). In this way, the meaning of the experience was drawn out and understood by the researcher.

### **Idiography**

IPA aims to situate participants within their particular contexts and explore their individual perspectives in detail. *Idiographic* denotes an approach to knowledge that is concerned with the specific processes that are unique to individuals (Smith et al., 2009). Idiography is distinct from *nomothetics*, which is concerned with establishing generalizations about groups or populations (Smith et al., 2009). IPA's commitment to the particular requires a purposeful approach to participant sampling, in that participants are selected to participate only if they are known to have experience with the phenomenon under study (Smith, 2011). This approach requires small samples, as a researcher conducts in-depth analysis of each case before moving on to the next one. This allows a researcher to become immersed in the participants'

experiences before attempting to establish general statements about the cases under study (Smith et al., 2009).

### **Research Site**

The research site for this study was an urban university, hereafter referred to as the College, located in the northeastern United States. The College is a top tier, R-1 status university with seven campuses across the nation. Its nine colleges and schools offer bachelor's, master's, and doctoral degrees and enrolls approximately 20,000 undergraduate students and 8,000 graduate students each year. The College is known for its longstanding cooperative education program and has a strong tradition of serving the local community. In early 2018, the College released a seven year plan that addressed a number of priorities, including interdisciplinary research and experiential learning.

In 2014, the College received funding to create and test an interprofessional education research initiative aimed at integrating oral health across twenty-two of its health sciences programs. This research initiative necessitated oral health training for health professions faculty to prepare for curriculum change and was implemented over a three-year period. The initiative was successful, in that it achieved integration of oral health across the twenty-two targeted health sciences programs. Approximately forty faculty participated in the research initiative and most faculty have sustained the changes made to their curriculum.

### **Participants**

Participants included faculty from different health professions (e.g., pharmacy, physical therapy, nursing, physician assistant) at a large urban university in the northeastern United States. In IPA studies, participants are selected based on their experience of the phenomenon under study (Smith et al., 2009). Therefore, only health professions faculty who were employed

during the college-wide curriculum change initiative and had experience with oral health curricular integration were selected to participate. Six health professions faculty participated in the study, an ideal sample size due to IPA's concern with obtaining detailed accounts of each individual experience (Smith et al., 2009).

In IPA studies, the researcher should aim to select a homogeneous sample that is representative of the population being studied and for whom the research question is meaningful (Smith et al., 2009). In this case, the population under study was interdisciplinary health professions faculty who had experience with oral health curricular integration. The extent of homogeneity varies for IPA studies based on the particulars of the study. For this study, the primary selection criteria were whether the faculty member had experience with oral health curricular integration.

Purposeful, rather than random, sampling is the most appropriate sampling method for IPA studies because of the requirement to enroll participants who have experience with the specific phenomenon under study (Smith et al., 2009). Purposeful sampling aims to identify cases that possess a great depth of information. A mixture of snowball and criterion-based sampling methods, types of purposeful sampling, were employed to identify and recruit participants. *Snowball sampling* recruits new participants based on referral by enrolled participants (Smith et al., 2009). *Criterion-based sampling* identifies participants based on specific criteria. The following criteria were used to identify potential study participants:

- employed as part-time or full-time health professions faculty during the period of time that the oral health integration initiative under study was conducted;
- previous experience with oral health curricular integration;

- willing to participate in a minimum of one, with the possibility of a second, video or in-person interview;
- agree to the use of audio recording of the interview(s); and
- agree to the publication of the data collected and analyzed from this study.

### **Recruitment and Access**

A recruitment email was distributed to health professions faculty at a large urban university in the northeastern United States (Appendix A). The recruitment email provided a brief explanation of the study's purpose, participant criteria, participant responsibilities, and researcher contract information. Individuals were screened during a 5-10 minute intake phone interview (Appendix B). During the call, the researcher described the study and asked criteria-based questions derived from the predetermined participant selection criteria. Based on responses, individuals were informed whether they qualified to participate in the study. The researcher told those who qualified about their responsibilities if they confirmed participation. Participants were then asked to schedule a 60-minute face-to-face interview at a time and place of their choosing on the university's campus or via Skype videoconference. In line with the snowballing sampling method, participants were also asked to refer additional faculty with oral health curricular integration experience. Participants were required to review and sign an informed consent form (Appendix C) prior to participating in the first interview.

### **Data Collection**

Six participants were interviewed for this IPA study. Data collection followed Seidman's (2006) three-interview series, with modifications. Each participant completed one in-depth, semi-structured, one-to-one 60-90 minute interview (Appendix D). The first interview was

structured to build a participant profile and to elicit details about the experience under study, with questions designed to put the participant's experience in context (Seidman, 2006).

The primary method of data collection for this IPA study was in-depth interviews. According to Smith et al. (2009), in-depth interviews are recommended as the primary method of data collection for IPA studies because they allow participants to provide a "rich, detailed, first-person account of their experiences" (p. 56). An in-depth interview is characterized by open dialogue between researcher and participant, during which the researcher mostly listens and the participant speaks freely. A semistructured interview format is also recommended so that participants are free to express themselves, as opposed to having their responses limited by a highly structured interview (Smith et al., 2009; Smith & Osborn, 2007). Semistructured interviews entail a predetermined set of open-ended interview questions designed to draw out participants' description of experiences about the phenomenon under study in their own words. However, the interview should not be solely guided by the interview questions. Instead, the interview should be led by the participant's accounts and the researcher should ask follow-up questions when necessary (Smith et al., 2009). A one-to-one interview, as opposed to a group interview or focus group, is also ideal because it facilitates a personal rapport between researcher and participant, while also allowing the researcher to modify interview questions and probe for further information based on the participant's responses.

Interview questions in IPA studies should be open-ended in order to elicit detailed accounts of the experience under investigation (Smith et al., 2009). The first question asked in an interview should be designed to make the participant comfortable, while more analytical and probing questions can be asked as the interview progresses. The number of interview questions will vary but should generally consist of six to 10 open-ended questions with appropriate

prompts (Smith et al., 2009). For this study, interviews were conducted in a quiet, private location of the participant's choosing. All interviews were audio-recorded by a digital recorder. Recordings were downloaded and saved to a password-protected computer.

### **Data Storage**

A copy of each interview recording was saved to an online storage account. To ensure confidentiality and security, all files were encrypted and password protected. Recordings were de-identified and pseudonyms were used in place of participant names. Each interview recording was transcribed verbatim by a Rev.com, a professional transcription company, to a Word document. According to Smith et al. (2009), transcription in IPA studies does not require all nonverbal aspects of an interview to be transcribed, such as the exact lengths of pauses. Instead, only the information to be analyzed should be noted. Transcripts were saved and de-identified in the same manner as recordings and were accessible by the researcher only. Hard copies of consent forms were stored in a locked file cabinet in a locked office only accessible to the researcher. Upon completion of the doctoral thesis project, all data will be transferred to an external hard drive and stored in a locked file cabinet for five years. All data and associated documents will be permanently destroyed or deleted five years after completion of the study.

### **Data Analysis**

Smith et al.'s (2009) six-step process, as described in this section, was used to analyze data. To prepare for data processing, raw field notes taken during the interview were converted into expanded reports and reviewed for accuracy. These reports were frequently referenced during the coding process to facilitate data interpretation. Smith et al.'s (2009) six-step process emphasizes an iterative and inductive cycle, where a researcher moves from the particular to the shared and remains committed to understanding the participant's point of view.



### **Step 1: Reading and Re-reading**

Data analysis begins with a researcher's immersion in the original recordings and transcripts to bring each participant into the main focus of analysis. This entails a slow and purposeful read-through of a participant's transcript and moving towards an "active engagement with the data" (Smith et al., 2009, p. 82). Repeatedly reading through the transcripts helps a researcher discover a rhythm to the interview and highlight richer sections of data.

### **Step 2: Initial Noting**

This step of data analysis involves the detailed examination of a participant's words while making notes in the margin of each transcript, with a goal of making sense of patterns of meaning in his or her description of experiences. This process involves a series of descriptive, linguistic, and conceptual commenting before establishing emerging themes. *Descriptive commenting* is the process of reading the transcript and creating notes about the context of what the participant has said along the margins. Next, a researcher should read through the transcript again and make *linguistic comments* about the specific words used by the participant in order to better understand how she or he uses language to describe the experience. The final step in this process is *conceptual commenting*, or linking abstract concepts noted throughout the transcript to each other and to earlier notes to help uncover patterns and meaning. Other ways to approach initial noting include a line-by-line analysis of the transcript, as a researcher underlines text that seems important and makes marginal notes about why that text is important, as well as liberally note anything in the margin that comes to mind while reading the transcript.

### **Step 3: Developing Emergent Themes**

A large data set will emerge from the completion of the first two steps in analysis. A researcher must now simultaneously manage the notes taken and the data from the original

transcript in order to develop emergent themes. This process requires an initial focus on researcher notes to identify patterns and themes. In doing so, a researcher determines what data is meaningful and what is not, thereby reducing the volume of data from the exploratory commenting phase. This should be done by focusing on small sections of the transcript before moving on to another section, all while remembering what was gleaned during the entire process of initial noting. According to Smith et al. (2009), the process of the hermeneutic circle begins in this step, because the “original whole of the interview becomes a set of parts as you conduct your analysis, but these then come together in another new whole at the end of the analysis in the write-up” (p. 91). Converting notes into themes involves identifying the essence of each comment and producing a theme that is representative of both the text and the interview as a whole. The act of producing themes inherently involves interpretation because each theme is representative of both the participant’s words and thoughts and the researcher’s interpretation of those words and thoughts. The end result is a chronological labeling of ideas that reflects an understanding of the participant’s experience (Smith et al., 2009).

#### **Step 4: Searching for Connections across Emergent Themes**

The next phase of data analysis involves connecting themes with a chart or map. This can be accomplished in different ways. One may organize themes in order of when they appear in the original transcript and then visually assess ways that the themes can be reorganized into groups of related themes. Abstraction involves creating a new superordinate theme that encompasses patterns across emergent themes. Polarization focuses on differences among themes and organizes them accordingly.

### **Step 5: Moving to the Next Case**

Repeating Steps 1 through 4 on another case is necessary before looking for patterns across cases. Smith et al. (2009) stresses the importance of analyzing each case individually by bracketing thoughts and ideas before analyzing subsequent cases.

### **Step 6: Looking for Patterns across Cases**

Once each case been analyzed individually, one can look for patterns across them. Matching themes from one case with those from others may highlight a number of similarities of experiences. This process may also involve a grouping or relabeling of themes. Similar to Step 4, this stage can be facilitated by creating maps or charts that illustrate connections across cases. Creating a master list or table of themes is also useful for demonstrating how themes are embedded within superordinate themes. Themes can also be counted to determine prevalence and variation among cases.

The researcher employed each of these steps to analyze participant interviews and identify superordinate themes focusing on the experience of participants in relation to oral health curricular integration. As emphasized by Smith et al. (2009), this process entailed an in-depth step-by-step analysis of the particular while moving toward the whole. Study findings, as presented in Chapter 4, were organized into a description of participant profiles and a presentation and discussion of superordinate and subordinate themes. Themes presented in Chapter 4 represent the results of the cross-case analyses, as the individual case analyses were conducted behind the scenes. An overview of participant profiles is displayed in a table, followed by a brief description of each participant. Next, a cross-case analysis with corresponding superordinate and subordinate themes is presented in a table, followed by a discussion. Participant quotes are used throughout this section to support the findings.

## Positionality

Exploring the lived experiences of interdisciplinary health professions faculty with the integration of oral health competencies into their curriculum required me to work with people across a range of disciplines. As a scholar-practitioner, I must be aware of my own biases and positionality during the research process. Interpretative phenomenological analysis (IPA) is a qualitative research approach that examines how individuals make sense of life experiences (such as events, relationships, and processes) and how they derive meaning from them (Larkin et al., 2011). While using this approach, I needed to set aside assumptions related to my research topic and maintain an open mind in order to elicit deep descriptions about personal experiences.

Positionality may encompass a range of personal and professional experiences, in addition to components of identity such as age, gender, race, and socioeconomic status (Hopkins, 2007). Therefore, I frequently engaged in self-reflection to continually examine my own positionality so I could fully appreciate the intricacies of the subjects' experiences and limit bias during the interview process. In this section, I provide details about my background as it relates to the topic of interest, as well as key insights into my prior experiences as a clinician, educator, and researcher. Understanding how my preconceived notions and biases may influence the design of interview questions, participant responses, and data analysis helped lessen their potentially negative effect on the reliability and validity of this study.

I am a middle-aged White female who was raised in a rural farming community in the southeastern United States. My early career experiences as a dental hygienist significantly shaped my views about the importance of oral health prevention and promotion. I was motivated to volunteer with interdisciplinary health care providers in medical and dental clinics across the globe after learning about national efforts to prepare all health care providers to integrate oral

health into practice. I am aware that these unique experiences directly influence my passion and commitment to the integration of oral health into education and practice. Although I no longer practice dental hygiene, my professional identity was largely shaped by my values and beliefs about improving oral health for all patients and populations. Therefore, separating my personal attachments and viewing this topic objectively was important as I conducted this research with individuals who may not share the same values or have had little to no oral health education and training. As an educator and peer, I was faced with the difficulty of being a member of the group that I attempt to study. As I conducted this study, it was important to refrain from sharing my own opinions and personal experiences during my daily interactions with faculty in the workplace, as this could sway participation and interview responses.

My interest in this topic stems from my research on oral health integration, personal experiences providing oral health care to vulnerable populations, and teaching other health care providers how to integrate oral health into practice. Because of these experiences, I risked unknowingly guiding observations and data analysis during the research process in a way that supported my own beliefs and values. For instance, my prior research on this topic indicates that many if not most interdisciplinary health care faculty have a low level of oral health knowledge and skills. For the integrity of this research, I needed to be aware of how those findings could influence this study and limit their influence on data analysis.

### **Trustworthiness and Verification**

The following steps were taken to maintain the trustworthiness and validity of the study.

#### **Member Checking**

Member checking is a strategy used in qualitative research designs to enhance credibility (Creswell, 2013). It involves sharing transcript data with participants to be assessed for accuracy.

Its goal is to identify and correct any inaccurate accounts or interpretations of the participant's experience by the researcher. This study used member checking by allowing participants to review transcripts once their interview was transcribed. Participants were not asked to review the transcripts of other participants' interviews. This gave each participant the chance to provide feedback and request revisions, thereby ensuring validity of data (Creswell, 2013).

### **Rich, Thick Description**

Rich, thick description facilitates the transferability of research findings in qualitative studies (Creswell, 2013). This strategy involves describing study participants, setting, context, and themes in abundant detail so that readers can transfer findings to other settings (Creswell, 2013). This study used rich, thick description to report themes and associated results in order to improve the transferability of study findings.

### **Fieldnotes**

Recording observations during data collection is another way to enhance the trustworthiness of study findings in qualitative studies (Creswell, 2013). The researcher documented observations during the data collection phase to highlight any assumptions about interview data. This helped the researcher ensure that preconceptions and assumptions about oral health curricular integration did not inappropriately influence study findings.

### **Clarifying Researcher Bias**

Clarifying researcher bias is a strategy used by qualitative researchers to describe any perspectives or biases regarding the study topic (Creswell, 2013). It is important that researchers address their positionality and biases at the start of a study, before developing interview questions. The researcher's background as an oral health care provider, educator, and researcher

was stated at the start of this study in an attempt to suspend preconceptions while conducting interviews (Smith et al., 2009).

### **Protection of Human Subjects**

Informed consent was obtained from all study participants. According to Smith et al. (2009), participants in IPA studies need to be informed what to expect from the interview process and the potential uses of the data presented in the final research report. The informed consent process is an opportunity for a researcher to describe the research topics being addressed, how data will be handled and stored, as well as the confidentiality of data and study findings. In addition, due to the potentially sensitive nature of qualitative studies, it is important for the researcher to provide an opportunity for participants to withdraw at any time (Smith et al., 2009). However, any information that had already been used or shared with others would not be withdrawn. This includes information used or shared to carry out the research study or to be sure the research is safe and of high quality.

Prior to data collection, an application was submitted to Northeastern University's IRB to ensure that the researcher was conducting all research procedures in accordance with ethical principles of research. The IRB approval process involves an assessment of the potential risk posed to human research subjects, including assurance that the rights and welfare of all participants would be protected according to the procedures approved by the IRB.

### **Limitations**

This qualitative study has several limitations. The first limitation of this study is the limited sample size. A sample size of six individuals limits the generalizability of the findings. A larger sample size may have generated data that was not uncovered in this study. However, a sample size of six to eight participants is in alignment with the recommendations of Smith et al.

(2009) for conducting an IPA study. A second limitation is the single site under study. Because this study was conducted at a single university located in the northeastern United States, the results may not be transferable to institutions of higher education located outside the region under study.



## Chapter 4: Findings and Analysis

This study explored the experience of interdisciplinary health professions faculty as they integrated oral health competencies into their curriculum as part of a college-wide curriculum change initiative at a large urban university in the northeastern United States. The purpose of this interpretative phenomenological analysis was to gain insight that might inform the development of sustainable curriculum change efforts related to oral health integration. Eight faculty members were identified through a purposeful sampling procedure, of whom six agreed to participate. Participants represented four health professional disciplines: nursing, physical therapy, physician assistant studies, and speech language pathology and audiology. Each participant was interviewed via video conference. Response to change theory (Piderit, 2000) provided the theoretical framework for the study. Interview questions were open ended to allow each faculty member to explore his or her experiences with oral health curricular integration in the context of curriculum change. Interviews were audio recorded and professionally transcribed.

This chapter is organized into three sections: participant profiles, thematic overview and analysis of superordinate and nested subthemes, and a conclusion. Research findings are presented from each participant's perspective and supported by quotations.

### **Participant Profiles**

For this study, six faculty members were purposefully chosen. This sample consisted of five women and one man, representing four health professions. Participants were given pseudonyms to protect their privacy. Participant characteristics are presented in Table 1.

Table 1

*Participant Characteristics*

Participant ID	Male or female	Discipline	Years of teaching experience	Years of clinical practice experience	Highest degree obtained
Karen	F	Physical therapy	14	23	Doctorate
Julie	F	Nursing	9	30	Doctorate
Courtney	F	Nursing	18	8	Doctorate
Sarah	F	Physical therapy	7	20	Doctorate
John	M	Physician assistant studies	5	10	Doctorate
Anne	F	Speech language pathology & audiology	5	4	Doctorate

**Karen**

Karen was an associate professor at the college under study. She had a doctorate in physical therapy, with 23 years of clinical practice experience and 14 years of teaching experience in higher education. She became motivated to become a physical therapist when she received physical therapy in high school; she later developed an interest in anatomy and physiology. Her teaching philosophy focused on providing students with meaningful real-life learning experiences so they could better apply classroom knowledge in the practice setting. Her responsibilities in her current position predominantly focused on teaching (70 percent), with equal efforts dedicated to research and service (about 15 percent each). Karen became involved in oral health curricular integration when she was awarded an internal grant to develop and test an interdisciplinary oral health simulation with physical therapy students.

**Julie**

Julie was an associate professor at a university in the northeastern United States and was previously employed at the college under study. She had nursing and doctor of philosophy degrees. She had more than 30 years of clinical practice experience and 9 years of teaching experience in higher education. She became motivated to pursue a career in nursing as a pre-med student. She began teaching in higher education when she was recruited to become a faculty member by the university where she was completing her doctoral studies. Her teaching philosophy centered around diversity, inclusion, and applying those values in the virtual learning environment. Her responsibilities in her current position predominantly focused on research (80 percent), with equal efforts dedicated to teaching and service (about 10 percent each). Julie became involved in oral health curricular integration when she was recruited by a fellow faculty member to direct an oral health and primary care research grant at the university where she was completing her doctorate. She later received her own grant funding at the college under study to develop an interprofessional oral health education model.

**Courtney**

Courtney was a clinical instructor and program director at the college under study. She had a doctorate in nursing. She had 18 years of teaching experience in higher education and 8 years of clinical practice experience. Her motivation for pursuing a career in nursing stemmed from her early interest in the health sciences. She recalled having a passion for teaching at an early age, which motivated her to advance her degree and begin teaching in higher education. Her teaching philosophy focused on teaching students how to problem solve and apply critical thinking skills in the clinical environment. Her primary responsibilities in her current position included curriculum development and oversight of the graduate nurse practitioner program,

clinical placements, and mentorship of new faculty. Courtney became involved in oral health curricular integration when another faculty member at the college under study was awarded a federal grant to integrate nurse practitioners into a dental practice environment. As a faculty member and director of the nurse practitioner program, she became involved in the changes made to the nurse practitioner curriculum to fulfill the objectives of the grant.

### **Sarah**

Sarah was an associate clinical professor and program chair at the college under study. She had a doctorate physical therapy and another in education. She had 7 years of teaching experience in higher education and 20 years of clinical practice experience. She practiced for 13 years as a physical therapist before teaching. She worked as a clinical preceptor for several years and transitioned into a full-time teaching position after realizing that the students needed additional preparation before entering the field. Her teaching philosophy focused on using simulation learning to better prepare students for practice. In her current position, her primary responsibility was clinical teaching and administration of the physical therapy program. Sarah became involved in oral health curricular integration when she was awarded an internal grant to develop and test an interdisciplinary oral health simulation with physical therapy students.

### **John**

John was an assistant clinical professor and program director at the college under study. He held a doctor of philosophy degree and a master's degree in physician assistant studies. He had 5 years of teaching experience in higher education and 10 years of clinical practice experience. He became a clinical preceptor immediately upon graduation and entering professional practice, which inspired him to pursue a career in higher education. His teaching philosophy focused on breaking down complex concepts and presenting them in ways that are

easier to understand for students. In his current position, he dedicated a majority of his time (about 60 percent) to administration of the physician assistant program and the remainder to teaching (about 40 percent). John became involved in oral health curricular integration when he participated in an oral health faculty development workshop at the college under study.

### **Anne**

Anne was an assistant professor at the college under study. She had a doctor of philosophy degree in speech science, with 4 years of clinical practice experience and 5 years of teaching experience in higher education. Her motivation for becoming an educator stemmed from her passion for research as a graduate student. Her teaching philosophy focused on teaching students how to become self-motivated, life-long learners. Her responsibilities in her current role directed a majority of her effort to research (about 50 percent), followed by teaching (about 40 percent) and service (about 10 percent). Anne became involved in oral health curricular integration when she was awarded an internal grant to develop and test an interdisciplinary oral health simulation with speech language pathology and audiology, mechanical engineering, and dental students.

### **Data Analysis**

Data analysis yielded three superordinate themes and seven nested subthemes that captured the participants' experiences with oral health curricular integration. Themes were developed through careful interpretation of the interview transcripts, analytic memos, and field notes. The first superordinate theme, *Support of curriculum change to reflect changes in the profession*, encompasses two nested subthemes: *Developing awareness of oral health's natural alignment with the curriculum* and *Perseverance despite challenges*. The second superordinate theme, *Appreciation for support*, encompasses three nested subthemes: *Positive student*

*feedback, Peer recognition, and Leadership support.* The third superordinate theme, *Sense of security when resources were available for oral health integration*, encompasses two nested subthemes: *Financial resources* and *Ready-to-use-tools*. Table 2 presents the superordinate themes and their nested subthemes, including the repetition of each subtheme across participants.

Table 2

*Identification of Recurring Themes by Participant*

Superordinate theme	Subtheme	Karen	Julie	Courtney	Sarah	John	Anne
Support of curriculum change to reflect progress in the profession	Developing awareness of oral health's natural alignment with the curriculum	X	X	X	X	X	X
	Perseverance despite challenges	X	X	X	X	X	X
Appreciation for support	Positive student feedback	X	X	X	X		X
	Peer recognition	X	X	X	X	X	X
	Leadership support	X	X	X			
Sense of security when resources were available for oral health integration	Financial resources	X	X		X		X
	Ready-to-use tools			X	X	X	X

Note. "X" indicates that the associated subordinate theme (and related nested sub-theme) was linked to the corresponding participant in the data analysis process.

**Support of Curriculum Change to Reflect Progress in the Profession**

The first superordinate theme that emerged concerned the participants' expressed *Support of curriculum change to reflect progress in the profession*. Exploring participants' broader experiences with curriculum change provided insight into their experiences with oral health

curricular integration. When asked to reflect on their early experiences with curriculum change and their motivation for supporting or resisting curriculum change, the response was overwhelmingly similar. Each participant emphasized adequately preparing students for clinical practice; curriculum change was viewed as a necessary process for accomplishing that goal. Two nested subthemes were identified: *Developing awareness of oral health's natural alignment with the curriculum* and *Perseverance despite challenges*.

### **Developing awareness of oral health's natural alignment with the curriculum.**

Participants' overall support of curriculum change to meet the needs of their profession provided insight into their support for oral health curricular integration. Support for oral health curricular integration undoubtedly stemmed from participants' broader belief in the necessity of curriculum change to support changes in the profession. The developing awareness within each participant stemmed from various sources. For some, it was the growing field of research on oral-systemic health. For others, it was a personal experience related to their own clinical practice. Regardless, this developing awareness influenced the participants' initial reaction to oral health curricular integration and their decision to continue developing and implementing oral health learning activities with students.

Karen described why her department frequently made changes to the physical therapy curriculum: "I think every single time it was to meet the needs of the changing profession or the changing setting that we're in." Karen's developing awareness of oral health's natural alignment with the physical therapy curriculum began when she received an internal grant to pilot test an innovative oral health integration method with physical therapy students. She used the term "aha moment" to describe the first time she realized that the oral health screening would fit perfectly with her lecture on the temporomandibular joint (TMJ). She stated:

When we started talking about oral health screening, it made perfect sense that that should be part of our medical screening since we are working in the mouth for diagnosis of TMJ, we should have that knowledge, so it just was kind of like an aha moment, like, “Of course we need that. Why wouldn’t we put that in there?”

Karen has continued to teach her students how to conduct an oral health screening as part of the TMJ evaluation and it has continued to be a “natural fit” in the physical therapy curriculum.

Sarah also emphasized the role of curriculum change in ensuring that courses adequately prepared physical therapy students for practice:

You’re looking at preparing your students. When they graduate, their license is going to be for the next 50 years, so you have to make sure that you’re instilling this life-long learning in them, that there’s going to be things that come up that they never would have thought they needed to learn about. I think that student engagement piece is really important.

Sarah’s developing awareness of oral health’s natural alignment with the physical curriculum began when she uncovered existing oral health content in the physical therapy curriculum. Sarah stated:

We integrated oral health through a temporomandibular joint evaluation because the connection was so explicit that it would make sense to the students but also would make sense the kind of curriculum and the chair at the time and the entities and all of that, that it was a natural place to be.

Julie described curriculum change as “like an accountability as a faculty member” and as an ongoing process to “to ensure that your graduating students are well prepared to go into the



real world and address the healthcare system needs or social needs, for example, of patients and families and communities.” She added:

It was important to make sure that the classes, the courses, the syllabi were always up to date with the latest in terms of knowledge development and course requirements, different pedagogies or strategies that I would bring into the classroom and on the online teaching.

Julie also described a more personal experience of developing an awareness of the natural alignment between oral health and the nursing curriculum. She learned about the connection between oral and overall health when she was a doctoral student, and later a faculty member, at a university where the schools of nursing and dentistry were co-located. She described the university as a progressive teaching and learning environment that holds a special place in her memory. She stated, “I had a lot of interactions, both as a PhD student, as well as a faculty member working alongside academic dentistry and dental hygiene. It was like this environment of an integrated nursing and dentistry world.” She also recalled earlier patient care experiences as a nurse and noted, “I remember reflecting on experiences at the bedside as a nurse in the ICU and thinking about the oral health and oral care and the deplorable state of my patients’ mouths.” The expanding field of research on the oral-systemic connection has also increased her awareness. She noted, “We know so much about oral care related to possible acquired pneumonia, for example, and patients who are ventilator dependent and how critical oral health care is to those patients’ well-being. I think we know so much more now.”

Courtney described two distinct experiences that contributed to her awareness of oral health’s natural alignment with the nurse practitioner curriculum. When she first began

professional practice as a nurse practitioner, Courtney worked at a clinic that provided both dental and primary care services. She stated:

So that was probably the first time I saw that interaction with oral care and dentistry with primary care. And it was wonderfully powerful then. And to think about some of these kids that were really in an area of rural New Hampshire coming in, that was almost their primary care. They were getting free dental care until they were 12, and that oftentimes, other than immunizations, were the only care they were getting.

She went on to describe a similar experience while working in emergency medicine:

But really for me also in emergency medicine, you see so much... So many people come into the emergency department with oral health concerns. And there's so much overlap with what is happening in their bodies and their health generally because of what's happening with their oral health. So, I think I was powerful early in my career to see that picture of that, you know, that first clinic. And then also to kind of see through my care experience as a clinician in emergency medicine and with other populations.

John's developing awareness stemmed from a professional faculty development experience where he learned about the oral-systemic connection. He stated, "I did the [online oral health] curriculum, which was nice. I learned a good deal about the connection there as well." He also participated in a curricular mapping exercise:

I found that we had education on oral health but not education that necessarily would support competency if that makes sense. So, we had information that was very theoretical. You got a lecture on oral health as opposed to something that was more practical. "How are you actually going to assess somebody's oral health?" That kind of thing... We were able to identify that there was an area in the curriculum where we had

less than ideal representation. We were then able to inform the students as to why this is important to get their buy-in. I think that's a lot of what the Smiles for Life curriculum does is talk about connections to systemic disease.

His increasing knowledge about the oral-systemic connection and realization that the curriculum did not support competency contributed to his development of oral health workshops to teach physician assistant students how to conduct oral examinations and apply fluoride varnish.

Anne's awareness about oral health's natural fit with the speech pathology and audiology curriculum stemmed from her knowledge of the existing oral health content within the curriculum as well as personal experience. She stated the following when discussing her initial thoughts about integrating oral health into her curriculum: "Yeah, I guess I initially thought, I'm already teaching this. But it's not kind of a loved portion of class. And then I also just really think it's extremely important." She added:

I would say, quite broadly, oral health is part of our curriculum because we talk about teeth and dentition. So, I would say I've taught oral health quite broadly every year I've taught anatomy and physiology. Because we teach development of deciduous teeth and we talk it about it quite broadly as early intervention and populations that wear dentures and the importance of teeth being articulators for speech.

Anne also recalled personal experiences that motivated her to enhance the existing oral health learning modules in her courses:

I feel like I'm the type of person like when I go to the dentist I know a lot about the cranial nerves that innervate the teeth and the jaw, I know all these things that I feel like... I guess just pragmatically. Like working clinically but also just like being someone who knows a lot about anatomy and physiology and going to the dentist a lot just being like,

oh, you must be currently working with trigeminal or this, whatever. And I often find that when I speak with dentists they don't fully understand how... the next steps for some of the dental consequences that they see. So, like, I had worked clinically with, for example, a client who had oral malfunctional issues where she wasn't getting her braces because she was a tongue-thruster, so I've kind of seen the connection but very broadly and not consistently. And I thought that this would be an opportunity to kind of make that collaboration and that awareness kind of more solidified.

Anne also drew upon her experiences in clinical practice, where she recognized the connection between oral health and overall health:

When I worked clinically I saw tons of tongues that were tied, where I was the first person to kind of see this and from a dental perspective they're like, eh, the child's eating, or it's not affecting much from a pediatrician's standpoint. It doesn't really affect anything kind of broad health strokes that they're concerned with.

In summary, this subtheme, *Developing awareness of oral health's natural alignment with the curriculum*, captured the participants' shared personal and professional experiences that contributed to their realization that oral health should be appropriately addressed within the curriculum. This realization frequently stemmed from the participants' declared responsibility to engage in curriculum change to reflect progress occurring within the profession, and thus adequately prepare students for practice. Several participants also reported a growing knowledge of the connection between oral health and overall health, which also contributed to their developing awareness of oral health's natural alignment with the curriculum.

**Perseverance despite challenges.** A shared experience among all of the participants was their perseverance despite numerous challenges and barriers to implementing and sustaining an

integrated oral health curriculum. Participants shared multiple accounts of barriers and challenges they experienced, including identifying time in the curriculum, working with limited resources, faculty resistance, and collaboration with dental professionals. To overcome these challenges, participants often made compromises with instruction time and curricular content and even forged new partnerships with dental professionals at nearby dental schools.

Sarah stated the following about the oral health simulation she continues to conduct with physical therapy students: “The most challenging part is the coordination and all of the resources. While it was wonderful to do, and we still continue to do it, it took a whole lot of the students’ time.” Sarah described how she created an oral health simulation with students despite not being able to locate standardized patients who exhibited oral pathology:

I think the drawback or the negative is that we were not able to have patients that had actual oral cancer or actual canker sores or pathologies in our simulations so we had to use a model where the case was true, we were talking about a 23-year-old that was using chewing tobacco and things like that but when they looked in the patient’s mouth, we had to show a picture.

Karen also conducted oral health simulations with her students and persisted despite the time commitment and logistical challenges: “Every year is overwhelming, and I haven’t figured out how to make it any different.” When she was asked about the first time she planned an oral health activity she highlighted the amount of time she needed to dedicate to the planning process. To overcome this challenge, she enlisted the help of faculty, within and outside her department, and dental professionals to assist her with developing the oral health simulation:

It’s time consuming. It’s very time consuming. I think it would have been much more challenging if I didn’t have the right people around me. So, I worked with dental

professionals for the oral health angle in understanding the need and the education piece. I worked with Amy who's an expert in simulation for developing the process of all the components that needed to be developed as far as running the simulation and running a debrief and then I was kind of the expert content area of then providing the instruction in a classroom setting and creating the actual cases for the simulation. So, I think between the team that we had, we had all the strengths that were needed so I never felt that it was particularly difficult, it was time consuming. But any answers or questions I had, I had instant answers with the people that I was working with.

When faced with the challenge of identifying time in the curriculum to conduct hands-on oral health activities, several participants reported using an online oral health curriculum. Julie stated, "We used [an online oral health curriculum] as the predominant vehicle to integrate oral health across all the programs." Anne and John also employed an online oral health curriculum to decrease the amount of classroom time dedicated to oral health content. Anne stated, "There was a little bit of presimulation work" and added "students took the Smiles for Life modules." John stated:

We were able to decrease the amount of time in class by having students do some learning on their own outside and then coming to the class just to integrate. That was able to save us the hours needed to maintain the oral health curriculum in the PA curriculum.

Forging partnerships with dental professionals despite the college's lack of a dental school was another common experience among participants. These partnerships were not always easy to create and maintain. Karen stated, "I haven't had the same person a year in a row. So, I'm constantly using new people and I'd say that making the connection with the dental community is the hardest." Sarah collaborated with a local dentist and Courtney asked a dental

faculty member from a nearby dental school to conduct a guest lecture and demonstration for her students. Anne partnered with dental students and faculty from a nearby dental school the first year she conducted her simulation but found it challenging to continue:

The only thing I do differently is that I just don't pair it with the dental students anymore. Because the time of my class changed, and [the dental students] only had evenings free, and that level of complexity, although nice to add to the simulation, became a little unsustainable.

Several participants described experiences where they faced difficult decisions about how to best integrate oral health into the curriculum and create relevant learning experiences for students. While planning ways to sustain curricular changes, John posed the following question to himself: "In which place does it make sense to remove some instruction or some planned redundancy?" He ultimately decided that the compromise was worth it:

I need to make the decision of what needs to be removed from the students' responsibility plate when I'm adding this on. The workshop is probably the biggest difficulty from a time perspective even though I think it was only three hours or two to three hours in person. It ends up being two or three hours where I'm not presenting on a new form of cardiomyopathy. There's a tradeoff. We make those tradeoffs when we see that the benefit to the student and the patients that they're gonna be treating is greater than the benefit of them learning something else.

Sarah shared the same sentiment, noting: "It's really looking at what's the optimal situation for the learning and knowing that you can't always do everything, and you don't have time for everything so sometimes you roll it back but then you're more intentional about it."

Similarly, Anne described her motivation to continue oral health simulations despite logistical

challenges: “I guess I felt like the time really matched the experience. Like the time I put into it matched how rewarding and confident the students felt.”

Creating a realistic learning environment for students to practice the oral exam also involved compromises. Sarah described her decision to use photographs of oral pathology:

That’s still something today I don’t know that we could change because even if we used clay and different models and methods that are out there for the mouth, it still wouldn’t look fully realistic and it’s not really easy to find. Even if someone you think has a canker sore on Monday, they might not have it on Thursday when you have the simulation.

Other participants made compromises regarding the amount of time they dedicated to oral health instruction in and outside of the classroom. John noted, “For me to ask students to go home and spend eight hours over, or six hours over a two-week period of time, on their own time doing [the online oral health curriculum], means they’re not studying for something else.” For John, the compromise meant “using a flipped classroom environment” to teach students about oral health content that did not require hands-on practice.

In summary, this subtheme, *Perseverance despite challenges*, illustrated participants’ determination to sustain their oral health curricular integration efforts. Despite challenges such as partnering with dental professionals and identifying time in the curriculum, participants persisted. Participants were creative and savvy, often making compromises with content and resources. These accounts further demonstrate participants’ belief in oral health’s alignment with their curriculum and their support of necessary curriculum changes to facilitate oral health curricular integration.



## Appreciation for Support

The second superordinate theme that emerged was how participants acknowledged support from their students, peers, and leadership within the department, school, or college. Each participant described experiencing support from students and peers. Three participants described appreciation for leadership support and its role in sustaining oral health curricular integration. Support was conveyed in various forms, including positive student feedback, recognition from peers, and leadership support for oral health curricular integration. Three nested subthemes were identified within this superordinate theme: *Positive student feedback*, *Peer recognition*, and *Leadership support*.

**Positive student feedback.** Each of the six participants described receiving positive feedback from students and expressed appreciation for such experiences. Positive student feedback also influenced the participants' continued integration of oral health into their curriculum. Effectively preparing students for practice upon graduation and enhancing the student learning experience were central features of this nested subtheme. Participants often used words such as "exciting," "excellent," "great," and "powerful" to describe student responses following an oral health integration activity.

Julie described an example of when an oral health learning activity was particularly rewarding: "Well, I think most rewarding is when we received really exciting, positive feedback, and the excitement of the students." Similarly, Karen stated the following when asked about her motivation to continue conducting a particularly time-consuming and logistically challenging oral health simulation with her students: "Each year I ask the students if they felt [the oral health simulation] was an effective exercise and the biggest piece that I get back from them is that it was an excellent communication exercise."

Anne also described positive student feedback following a survey that she conducted with students after their first oral health simulation:

We sent them a survey, kind of rating the experience, and also did a one-minute reaction paper to how it was. Everyone had a good experience. My students mostly reported really feeling stressed about the scenario before, and then realizing how much they knew after. So, the experience really made them confident in that they do know these things. They can integrate this information even though this is the first time they've had to do so.

Anne said that she continued to receive positive student feedback, despite challenges with identifying standardized patient actors: "The student feedback is still great. They still love it, rather than using standardized actors we do all the same prep work and then I just have the case study by the dental mold at different parts of the room."

Sarah conducted oral health simulations with students and recruited dental professionals to participate. She believed that teaching the students something novel, like how to conduct an oral examination, and having a dental professional present to communicate with students during the simulations, was important. When asked about the feedback she received from students, she stated:

Definitely the value of the dental professional and the value of just oral health in general because we're generalist therapists and our students in general want to know everything. So, providing another piece of information for them to learn about was really helpful for them.

Courtney designed a new clinical rotation for nurse practitioner students in a dental clinic. Student feedback was immediately positive and demonstrated an unexpected outcome –

the novel environment helped the students further develop their professional identities as nurse practitioners. She stated:

It's extremely valuable. The students have loved it. They love seeing [the nurse practitioner preceptor] in the [dental] clinic as an NP, like, "Hey that could be me someday." And seeing how that interaction happens. I think it helps in a lot of ways. It helps them because they're still kind of formulating the role, their role identity as an NP... so, it helps kind of in that role identification.

Positive student feedback motivated Karen to continue collaborating with a dental professional to conduct simulations, despite difficulty locating a dental partner each year. She found that students valued the opportunity to communicate directly with a dental professional during the simulations. She stated:

I think hearing it from somebody else and being able to ask questions about how to communicate that or how they would communicate it comes across so much stronger than if I said, "This is how I heard that they communicate it," even though I've done it enough now with the same cases that there's no new information coming out for me to teach them. But I don't know if the message is as strong coming from me.

Julie described examples of when her students chose to complete their senior capstone projects on oral health. To her surprise, several students pursued quality improvement projects related to oral health in their practice setting after hearing her talk about her own oral health research. She stated, "Not that it was mandatory, but there were some students that gravitated to that and actually did some projects on oral health." Student feedback also informed the type of oral health learning activity that Julie most often implemented with students. When asked about

the type of oral learning activity students enjoyed the most, Julie stated, “simulation learning, students love that in general.”

In summary, this subtheme, *Positive student feedback*, highlighted the important role of student feedback in participants’ decisions to continue conducting oral health learning activities with students. Several participants described positive student feedback as one of the most rewarding aspects of moving forward despite challenges. Other participants elicited student feedback to learn from curriculum change and make improvements to future learning activities. Student feedback played a pivotal role in sustained oral health curricular integration efforts.

**Peer recognition.** All of the participants described experiences of being recognized by peers within or outside of their department, school, or college. Participant accounts of peer recognition revealed underlying feelings of validation, which likely influenced their decision to continue integrating oral health integration into their curriculum. Four participants went on to conduct research studies on their oral health curricular integration initiatives. Recognition from peers took several forms, including acceptance to present their work at national and international conferences, publication of their research in peer-reviewed journals, and direct positive or supportive feedback from a peer.

Karen described the following experience when asked about her motivation to continue her work in oral health curricular integration:

I’ve presented at conferences a couple of times now and I get incredible feedback of people who think, ‘Yes, we should be doing this. Why aren’t we doing this? Why is this not in more curriculums?’ So that’s a pretty motivating piece to continue to put it out there and we do have a paper coming out, so I look forward to any feedback on that as well.

This account demonstrated validation, through peer recognition, that oral health content belonged in the physical therapy curriculum, as well as the anticipation of additional feedback from peers. Similarly, when Sarah spoke about her experiences sharing her successes with oral health curricular integration, she stated that she had “presented nationally a couple different times” and had a “manuscript that’s in press right now.” She added that her work has “given a roadmap for other programs to be able to use.” Julie also described the reward of sharing her work with peers in the nursing profession through publications: “I think that publishing our work and our experiences has been not only rewarding, but it’s important... Unless it’s published, no one’s going to have a chance to really know about it, right?” Similarly, Anne stated the following when asked about rewarding aspects of her oral health curricular integration research:

I would say, publications are the currency that most academic faculty are going to speak in and use to judge success, so I would say if people reviewing my teaching... so first of all, MedEd Portal is peer-reviewed. So, I did get comments and had to edit things and makes things look, you know, explain things and so I think the peer review was helpful.

And I think it’s powerful to say that I’ve published on my teaching.

Anne also expressed appreciation for peer recognition when her publication was shared with leadership and faculty in her department:

I did get an email, or a letter sent from the MedEd Portal to the Dean, as well as to my department chairs, saying this, just that departments should really be reinforcing this type of activity, please be aware that Anne published her work here.

Support from fellow faculty members was another form of peer recognition that was experienced by several participants. Courtney described peer recognition in the form of support by other faculty members within the nursing school. She stated, “I think with the other faculty

that I've co-taught health assessment with, they [have] really enjoyed it and have seen the value of it." John also provided examples of peer recognition while discussing his department's reaction to oral health integration across the physical therapy curriculum. He noted, "I don't have any pushback within the department. I think everybody here's convinced that it's important." He added that faculty within his department felt that oral health integration "is not going to be a fluke... this is going to be something that's more sustained."

In summary, this subtheme, *Peer recognition*, emphasized how much participants valued peer support and recognition of their contributions to the profession. Peer recognition was described by participants as acceptance to present their work at national and international conferences, publication of their research in peer-reviewed journals, and direct positive or supportive feedback from a peer.

**Leadership support.** Several participants shared experiences of direct and perceived leadership support while implementing oral health curricular integration efforts. In several cases, leadership support was directly expressed by an individual or group holding a leadership role in relation to the participant. In other cases, leadership support was perceived based on factors related to the participant's working environment or the expressed goals of the participant's department, school, or college. In each case, leadership support was described as integral to implementing and sustaining oral health curricular integration efforts.

Julie described strong leadership support from the dean and associate dean of the nursing school where she first experienced oral health curricular integration. She stated:

The other thing to understand that I think was a big plus, is that the dean and the associate dean... who really put her fist down... and told everyone in her graduate programs, all the program coordinators and directors, all the faculty that sit around the table and the

curriculum committee that, “You must integrate oral health into every single course in the curriculum...”

Julie added that leadership support was a “critical element” of making oral health integration a priority at the nursing school. She also spoke positively about her work environment and its lasting effect on her buy-in to oral health integration. She observed, “The college of nursing was within the college of dentistry, which is a very unique academic organizational structure.”

Courtney also highlighted the importance of and appreciation for adequate leadership support. When discussing her dean and department chair, she stated, “Leadership has been supportive.” She also mentioned that the “value” placed on “interprofessional care” by the college under study played a role in the support she perceived for integrating oral health into the nurse practitioner curriculum.

Karen also experienced and leadership appreciation and support through recognizing alignment between the oral health simulations she developed and the institutional goals. She stated that simulation learning was “valued at both the department and the college level.” Therefore, the oral health simulations she developed for physical students were mechanisms for achieving both her goals and the goals of the department and college. She stated, “It has hit the outcomes that our department is trying to accomplish... Our department is trying to integrate as much simulation in the curriculum as possible.” She also experienced direct leadership support when funds were needed to cover the costs of oral health supplies. She noted, “When we asked for money to buy more masks and tongue depressors, there was no issue with it whatsoever. They’re small items but that definitely shows support for me.”

In summary, this subtheme, *Leadership support*, captured the shared experience of appreciation for leadership support among participants. Several participants described examples

of receiving direct and perceived leadership support. For some, leadership support was described as a direct statement by an individual in a leadership role. In other cases, leadership support was perceived based on factors related to the participant's working environment or the expressed goals of the participant's department, school, or college. In each case, leadership support was essential to implementing and sustaining oral health curricular integration efforts.

### **Sense of Security When Resources Were Available for Oral Health Integration**

The third superordinate theme that emerged was the shared experience of a sense of security when resources were available for oral health integration. For some participants, a sense of security was derived from the availability of financial resources to pay dental collaborators or purchase oral health care supplies. For others, a sense of security was derived from having ready-to-use tools to teach themselves or their students about oral health. Two nested subthemes were identified within this superordinate theme: *Financial resources* and *Ready-to-use tools*.

**Financial resources.** Four of the six participants described experiences where the availability of financial resources was instrumental to their initial and continued involvement in oral health curricular integration. The availability of financial resources strongly influenced these participants' decisions to become engaged in oral health curricular integration and the types of oral health learning activities they developed for students.

Julie's experience with integrating oral health into the nursing curriculum began when she became aware of a grant funding announcement for interprofessional oral health research:

I was a program director in nursing education, and the associate dean knocked on my door and said that we're putting in a interdisciplinary grant proposal... How would you like to be the program director and get in on the grant? I didn't feel that... I looked at it as an opportunity, and I didn't really know what I was getting myself into.



Later in the interview, when reflecting on that moment, Julie added:

It was an inflection point for me. It took me on this career trajectory that I wouldn't have had if I didn't have those experiences, and if these opportunities didn't somehow come knocking on my door. I think that was it. I would not be... I didn't choose really the oral health route, it landed in my lap and then I went with it.

Anne also became involved in oral health integration research when she became aware of a grant funding announcement to support the creation and testing of innovative oral health learning experiences for health professions students. Her experience was similar to Julie's, in that the funding support motivated her to explore a new opportunity:

Well I think when you receive a call for a grant, that was really interprofessional and you kind of make your plans fit that grant. So, I think the call for the grant made me be even more interprofessional and made me do different steps maybe I wouldn't have otherwise.

Karen and Sarah also received grant funds, which were used to support the oral health simulations that they developed for physical therapy students. Karen received financial support from her department as well, and expressed the importance of access to funds to support the costs associated with conducting oral health simulations:

Part of it is definitely funding and finances. What I mean by that is as a department, we still pay the dentists to come in and do all of those pieces. Anything pro bono for dentists to come into a classroom isn't sustainable forever. If it's important enough, we need resources behind it. I think that's one of the pieces as well as really looking at it under the primary contact health promotion umbrella and prevention. I think those are the really important pieces to keep it going.

In summary, this subtheme, *Financial resources*, captured the shared experience of a sense of security based on the availability of financial resources to support oral health curricular integration efforts. Several participants provided accounts of receiving grant funds to create and test innovative methods for teaching their students about oral health. For others, financial support from their department was pivotal to sustaining curriculum integration efforts.

**Ready-to-use tools.** Four of the six participants described experiences where the availability of ready-to-use tools provided a sense of security when designing and implementing oral health learning activities with students. In these cases, the availability of ready-to-use oral health integration tools improved participants' experiences and their likelihood to continue integration. John cited the use of an online oral health curriculum at multiple times during his interview. He stated, "I did the Smiles for Life curriculum, which was nice. I learned a good deal about the connection [between oral health and overall health] there as well." He later added, "The Smiles for Life modules allowed students to go through a comprehensive curriculum as well as answer kind of study questions and then have a certificate demonstrating acquired knowledge at the end of the curriculum." Anne also utilized the Smiles for Life online curriculum: "So another part of pretraining that wasn't really part of their class... my students took the Smiles for Life Modules 1 and 4, and showed me their certificates." Karen also stated that her students completed online oral health "learning modules" before completing their oral health simulations.

Sarah used an established online oral health resource to support material she taught in class. She stated:

In the lecture where I would talk about "This is how the jaw move's and... linking right into the [online oral health resource] saying, "This is a resource you could use for X, Y,

and Z.” We’re making those things available just like you would for the American Heart Association.

Courtney also used an established online oral health curriculum to enhance the clinical rotation designed for her nurse practitioner students. She stated:

The students are learning how to take a history, they’re learning how to do a physical exam. They have the modules for oral health to complete... They then go and observe [in the dental clinic] ... So, they have to do all the modules and get their certificate to hand in before their four-hour rotation.

In each of these accounts, participants were able to supplement and enhance the oral health content taught in their curriculum with established oral health resources. In addition, the online format of the oral health curriculum utilized by a majority of the participants allowed them to be flexible in their teaching methods.

In summary, this subtheme, *Ready-to-use tools*, encompasses the participants’ shared experience of a sense of security attributed to the availability of established oral health teaching and learning resources. Participants seemed more willing to engage in oral health curricular integration when they were not required to develop their own oral health presentations and handouts. Ready-to-use tools were often used to supplement in-class learning exercises and prepare students for hands-on practice.

### **Conclusion**

The purpose of this study was to explore the lived experience interdisciplinary health professions faculty during oral health curricular integration at a large urban university in the northeastern United States. Analysis of interview data generated insights into participant beliefs, expressed feelings, and intended behaviors related to oral health integration. These insights

provide valuable information that can inform the development of sustainable curriculum change efforts related to oral health integration.

Three superordinate themes and seven nested subthemes emerged from this study. The first superordinate theme was *Support of curriculum change to reflect progress in the profession*. This theme emerged as a result of each participant's expressed belief that curriculum change, such as oral health integration, is imperative in order to reflect changes taking place in the practice setting. The participants' overarching support for curriculum change ultimately led to their openness and flexibility when faced with integrating oral health into the curriculum. The first nested subtheme, *Developing awareness of oral health's natural alignment with the curriculum* resulted from a myriad of personal and professional experiences that influenced each participant's acceptance of oral health curricular integration. The second nested subtheme, *Perseverance despite challenges*, emerged from the determination the participants expressed to overcome challenges and barriers to integration.

The second superordinate theme, *Appreciation for support*, captures participants' appreciation for support from students, peers, and leadership within their setting. Participants placed significant weight on *Positive student feedback* when implementing, evaluating, and sustaining oral health learning activities. Support from peers was expressed in the form of *Peer recognition* through acceptance to present at conferences, publication in peer-reviewed journals, and direct support from fellow faculty. *Leadership support* was described as a form of direct support from leaders within their department or school or perceived support within a progressive and innovative work environment.

The third superordinate theme, *Sense of security when resources were available for oral health integration*, emerged from participant descriptions of using financial resources and ready-

to-use tools to facilitate the development and implementation of oral health learning activities with students. Most participants mentioned using ready-to-use online materials to teach their students and themselves about oral health, while others relied on financial support via grant funds or from within their department.

The following chapter provides context and support for these themes based on the extant literature and theoretical framework. Implications for practice and recommendations for future research are also addressed.

## Chapter 5: Implications and Discussion

This study explored the lived experience of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States. Oral health curricular integration, or the incorporation of oral health competencies into health professions education, has received growing attention in recent years due to the growing body of evidence connecting oral health to overall health (IOM, 2011a, 2011b). The impetus for oral health curricular integration at the college under study was the establishment of a three-year, grant-funded interprofessional oral health education program. Faculty included in this study participated in the oral health curriculum change program at varying stages of its implementation and have sustained their integration efforts.

This study utilized an interpretative phenomenological analysis to understand how six health professions faculty described their experiences with oral health curricular integration. Three superordinate and seven nested subthemes emerged from the data analysis process:

- Support of curriculum change to reflect progress in the profession
  - Developing awareness of oral health's natural alignment with the curriculum
  - Perseverance despite challenges
- Appreciation for support
  - Positive student feedback
  - Peer recognition
  - Leadership support
- Sense of security when resources were available for oral health integration
  - Financial resources
  - Ready-to-use tools

This chapter discusses the study findings and is organized into three sections: implications for practice, implications for theory, and implications for research.

### **Implications for Practice**

Historically, oral health content has not been included in the education of non-dental health care providers. Thus, oral health curricular integration poses unique challenges for health professions faculty who lack proper oral health education and training. Generating research that provides practical solutions for health professions faculty and college administrators is essential for supporting and sustaining an integrated curriculum that addresses oral health and overall health. Exploring faculty experiences with integrating oral health content into their curriculum may provide insight and inform practices concerning curriculum change to support oral health integration in higher education institutions. The implications for educational policy and practice are discussed below. Study findings are presented to support suggestions and implications.

### **Educational Policy**

Educational institutions with health professions programs must constantly adapt to changes in the health care delivery system. Health professions education has recently shifted to a team-based approach to health care delivery, characterized by the inclusion of interprofessional education competencies (Frenk et al., 2010). Oral health curricular integration is in alignment with this reform and has been proposed as a “vehicle” to advance interprofessional education (Dolce, Holloman, & Fauteux, 2016b). Therefore, it may be beneficial for educational institutions to adopt new policies when planning for curriculum change, particularly when collaboration across health professions is necessary.

**Recommendation #1: Implement policies that protect faculty’s time so they can maintain a role in their clinical practice setting.** The first superordinate theme, *Support of*

*curriculum change to reflect progress in the profession*, suggests that health professions faculty are motivated to engage in curriculum changes that are needed to prepare their students for clinical practice. Exploring participants' broader experiences with curriculum change, specifically with oral health curricular integration, demonstrated their perceived accountability for ensuring that their curriculum adequately prepared students for clinical practice. Each participant described a sense of responsibility for teaching students about oral health, which stemmed from a variety of personal and professional experiences. These experiences ultimately led to a developing awareness of oral health's natural alignment with their curriculum and support for integrating oral health into their curriculum. Based on this finding, it is suggested that educational institutions implement policies that protect faculty's time so they can maintain a role in a clinical practice setting. Some educational institutions do not allow health professions faculty to continue working in private practice if they teach full time. The implementation of this policy could help ensure that all health professions faculty are aware of emerging trends in the practice environment and thus be better able to address gaps in the curriculum. Furthermore, faculty might be more likely to support curriculum change if they understood firsthand how the change enhanced their curriculum and better prepared students for clinical practice.

**Recommendation #2: Adopt a standard set of oral health competencies across all health professions.** Another key change in educational policy that might increase the success of oral health integration would be the adoption of a standard set of oral health competencies across all health professions, such as the oral health core clinical competencies for primary care providers (U.S. Department of Health and Human Services, 2014). This recommendation is supported by the findings related to the superordinate theme *Appreciation for support*. Many participants seemed overwhelmed when describing their early experiences with oral health



curricular integration; several described difficulties choosing what oral health content was the most relevant for their students. Working from a set of established oral health competencies may alleviate the pressure to develop their own competencies. In 2014, the Health Resources & Services Administration of the U.S. Department of Health and Human Services released a set of oral health clinical competencies for primary care providers. Although these competencies have been endorsed by a number of professional associations and adopted by accrediting agencies in nursing and medicine, they have not been more widely adopted. Educational institutions can use these competencies to integrate oral health across all health professions and unify the silos that traditionally separated oral health from overall health. This action would communicate leadership support for oral health curricular integration and provide established oral health competencies for faculty to integrate into the curriculum.

**Recommendation #3: Establish interdisciplinary research as a research priority.** A third policy that educational institutions may consider is the inclusion of interdisciplinary research as a research priority, redirecting overhead funds to the researchers' departments to ensure that financial support remains available. This recommendation is supported by the findings associated with the superordinate theme *Sense of security when resources were available for oral health integration*. This policy will communicate the value of interdisciplinary research to current and future faculty, as well as provide additional financial support. Most participants described how they used oral health integration to meet interprofessional education competencies. For those who conducted oral health integration research, the availability of grant funds made it possible to create, implement, and evaluate novel oral health teaching and learning methods. In these cases, faculty were able to protect their time, purchase supplies, and pay for standardized patients or dental partners. Oral health has been promoted as a driver of

interprofessional education (Dolce, Holloman, & Fauteux, 2016; IOM, 2011b) and can be promoted through aligned institutional research priorities and financial support.

### **Educational Practice**

The findings of this study also have implications for my current and future educational practice. Exploring faculty's experiences with oral health curricular integration yielded new educational practices and supported existing practices that have been previously reported in the literature. The following outlines specific recommendations for educational practice that are supported by the findings of this study and the extant literature.

**Recommendation #1: Create professional development opportunities that feature hands-on, experiential learning activities.** Captured within each superordinate theme were participant experiences with a myriad of teaching methods that were utilized to integrate oral health into a curriculum, including simulations, online learning modules, and hands-on workshops. These educational methods have also been commonly reported in the literature on oral health curricular integration (Dolce, Holloman, & Goodkind, 2016; Dounis et al., 2014; Glick, 2014). Participant accounts of hands-on experiences, where the participant observed the negative consequences of poor oral health in a practice setting, seemed to have the most meaningful effect on their support of oral health curricular integration. One participant described her shock at the large number of people who go to the emergency room with oral pain. Another participant, when recalling experiences as a nurse, expressed frustration and sadness about the poor state of oral health among her patients in the intensive care unit. These examples illustrated the powerful influence of a personal connection with oral health in a clinical setting.

Creating professional development opportunities that feature hands-on, experiential learning activities may provide similar meaningful experiences and generate faculty support for

oral health curricular integration. In my practice setting, experiential learning is the cornerstone of undergraduate student education. These findings present an opportunity to leverage my college's support of experiential learning as a teaching method for faculty development in oral health. Moving forward, I plan to develop learning activities for faculty that feature hands-on experiences in a clinical practice setting relevant to their health professional discipline. Further, I will make recommendations to administrators in my college to consider a similar approach to generate faculty buy-in.

**Recommendation #2: Utilize simulation as a teaching strategy to equip students with oral health clinical competencies.** The superordinate theme *Appreciation for Support* highlighted the importance of positive student feedback in sustaining participants' oral health integration efforts. Each participant described experiences where positive student feedback influenced their continued efforts to integrate oral health into their curriculum despite various challenges, such as time constraints and logistical barriers. Positive student feedback was most commonly reported by those participants who employed experiential learning activities to teach students about oral health, especially simulation involving a dental professional. Prior research with medical students has demonstrated that students enjoy interactive learning experiences with standardized patients and receiving feedback from clinicians (Cockbain, Thompson, Salisbury, Mitter, & Martos, 2015). Furthermore, simulation is considered an important component of student practical education (Clemmens et al., 2012) and is a popular method for teaching health professions students about oral-systemic health (Djukic et al., 2012; Dolce et al., 2014; Haber et al., 2015). Therefore, utilizing simulation or other similar experiential learning methods to teach students about oral health may be an effective educational practice that results in positive student feedback and sustained oral health integration efforts. This finding is particularly relevant to my

own practice setting, as a state-of-the-art simulation center was recently built on campus. Therefore, promoting simulation as a best practice teaching strategy for teaching health professions students about oral health will have the added benefit of making use of new space in the college.

**Recommendation #3: Share educational innovations with peers and the broader research community.** The superordinate theme *Appreciation for Support* also identified the positive experience of peer recognition and leadership support as motivating factors that sustain oral health integration efforts. Peer recognition was often characterized by manuscript publication or presentation of research findings, resulting in feelings of validation and pride associated with the participant's oral health curricular integration efforts. Leadership support was often indirect and perceived by the participant based on circumstances within their work environment. Regardless, both were important indicators of participants' decisions to continue integrating oral health into their curriculum. Therefore, sharing educational innovations with fellow faculty, administrators, and the broader research community is an important educational practice that may garner additional recognition among peers and advance the movement to integrate oral health across health professions. Furthermore, this educational practice may garner support from accreditation agencies and professional organizations that have the power to enact change at a national level, such as by adopting a standard set of oral health clinical competencies across health professions.

**Recommendation #4 Utilize ready-to-use oral health resources to facilitate faculty development and supplement student learning.** The third superordinate theme that emerged was the shared experience of a *Sense of security when resources were available for oral health integration*. For a majority of participants, this sense of security resulted from the availability of

ready-to-use tools, such as an online oral health curriculum. There are now a number of ready-to-use online oral health courses and learning modules that faculty can choose from; many have the added benefit of continuing education credit. For example, Smiles for Life, a national oral health curriculum, provides continuing education credit for physicians, nurses, physician assistants, pediatricians, midwives, dental professionals, medical assistants, and pharmacists. This presents a promising way to facilitate faculty development in oral health and to supplement hands-on, interactive learning experiences with students. In addition, implementing an established online oral health curriculum removes the burden of developing and testing new educational materials, thus relieving some of the stress associated with curriculum change.

### **Implications for Theory**

Response to change theory (Piderit, 2000) was used as the theoretical framework for this study. Piderit (2000) asserted that change response is multidimensional, as individual attitudes toward organizational change are formed along three dimensions: cognition, emotion, and intention. Studying the interaction of individuals' beliefs, emotions, and intended behaviors provides a greater understanding of their response to organizational change. Piderit (2000) also proclaimed that an individual's responses to change may not be solely positive or negative; rather, individuals may experience co-existing, mixed reactions among the three dimensions (i.e., ambivalence) when faced with change (Piderit, 2000). For example, individuals may resist change within their organization despite their belief in the need for change. This act of resistance may stem from negative emotions, such as frustration with management's approach to change, but should not be interpreted as solely negative or in opposition of change. Piderit (2000) considered ambivalence to be a neutral state of change response, one that can be shifted toward a positive final response, particularly in the early stages of implementing change. This approach

has been promoted in the study of managing change in healthcare settings due to its more systemic and neutral stance towards change resistance (Parkin, 2000). Knowing this, organizational leaders may be able to influence employee change response in situations where they know ambivalence exists.

This study examined faculty's experiences with oral health integration as part of a college-wide curriculum change initiative. A study of the interaction of faculty's responses among the cognitive, emotional, and intentional dimensions provided a more holistic view of how faculty experienced oral health curricular integration. Overall, participants described a positive reaction to the curriculum change initiative, which seemed to be influenced by a combination of personal and professional experiences with oral health care. Findings also highlighted the existence of ambivalence within and between dimensions.

According to Piderit (2000) and others, individual beliefs influence the emotions experienced during the change process (Avey et al., 2008; Liu & Perrewe, 2005; Sanchez-Burks & Huy, 2009), and emotions can positively or negatively influence an individual's response to organizational change (Barsade & Gibson, 2007; Cheng et al., 2012; Huy, 1999; Piderit, 2000). Thus, the interaction between the cognitive and emotional dimensions will affect an individual's behavior and whether she or he commits to change (Liu & Perrewe, 2005; Sanchez-Burks & Huy, 2009). This study captured predominantly positive responses within each domain, but responses were different for each participant. A majority of the participants described having had an underlying belief in the need for oral health curricular integration before engaging in curriculum change. For many of them, this belief stemmed from their general approach to teaching and overall support for curriculum change. The emotional responses that participants described ranged from anxiety to enthusiasm, depending on their unique experience. Most

participants described feelings of enthusiasm and spoke energetically when recalling early memories of implementing oral health learning activities with students. Participants who had encountered a patient with oral pain in clinical practice described feelings of sympathy and compassion. However, participants also described feelings of anxiety and frustration when faced with barriers and challenges, such as time constraints or lack of resources. However, participant intentions remained supportive of oral health curricular integration, as evident by their final positive change response. This suggests that strong positive responses in the cognitive domain prevailed over negative emotions, leading to overall support and acceptance of curriculum change.

Several participants also described mixed responses (i.e., ambivalence) toward oral health curricular integration. For example, two participants expressed belief in the importance of teaching their students about oral health and frustration with limited resources yet have continued conducting oral health simulations with their students. Another participant described her passion for teaching students about oral health but also a feeling of being overwhelmed when coordinating logistics for oral health clinical rotations each year. According to Piderit (2000), ambivalence is a hindrance to change and must be addressed by organizational leaders before an individual can transition to a positive and supportive change response. However, the findings of this study did not support this element of Piderit's (2000) theory, as many participants experienced ambivalence within one or more change response dimensions and still acted in support of the change initiative. This finding suggests that certain external factors may have influenced the participant's intentions to engage in and sustain oral health curricular integration efforts. For example, several participants were motivated to engage in the curriculum change when grant funding was available. Others seemed more inclined to sustain their efforts when

they received positive student feedback, peer recognition, or leadership support. Most participants described feelings of accomplishment and satisfaction after receiving positive student feedback and peer recognition. This suggests that ambivalence may not always act as a hindrance to change and individuals may intend to support change despite mixed reactions.

The findings confirm Piderit's (2000) assertion that an employee's response to organizational change is multidimensional and cannot be judged solely on acceptance or resistance to change. Rather, change responses should be studied and interpreted according to the reciprocal relationship within and between the cognitive, emotional, and intentional dimensions. According to Piderit (2000), the study of reactions along the three dimensions may lead to a more accurate prediction of the final change response. The findings of this study did not align with Piderit's (2000) claim that ambivalence is a hindrance to change. The participants in this study shared predominantly positive experiences with some instances of ambivalence and ultimately acted in support of curriculum change.

### **Implications for Research**

The findings of this study have direct implications for my own research and how I will approach my research in the future. As a research director and at the college under study, I am often tasked with developing and testing oral health related professional development programming to prepare faculty for curriculum changes. Evaluating faculty's learning experiences to assess teaching effectiveness and inform modifications to future programming is a key component of this research. Evaluation methods have traditionally followed a quantitative approach and consisted of surveys and/or pre- and post- assessments, as these methods are convenient and take less time to administer. Using interviews to explore faculty's experiences provided a deeper understanding of the various factors that influence faculty's support and



decision to sustain their integration of oral health into their curriculum. Further, the findings of this study highlighted the integral role of experiential learning and its impact on faculty's beliefs and feelings about oral health curricular integration. Moving forward, I plan to utilize a similar approach in my research by including interviews, and potentially focus groups, in the study of oral health curricular integration.

This research also contributes to the literature on oral health curricular integration in the context of curriculum change and employee change response. Quantitative research has dominated the literature on this topic and identified a number of barriers to oral health curricular integration, some of which conflict with each other. Two interdisciplinary studies identified faculty attitudes as potential barriers to successful integration (Dounis et al., 2014; Hein et al., 2011). However, a separate survey of interdisciplinary health professions faculty found overall positive attitudes toward oral health integration (Dolce, Holloman, & Goodkind, 2016). The participants shared experiences that indicate overall positive attitudes toward oral health curricular integration. However, conflicting responses across domains were also noted, suggesting that attitudes should be appreciated through dimensional interaction (Piderit, 2000). This adds another layer of complexity that should be further investigated by examining the degree of ambivalence and its relationship to the final change response.

Collaboration with dental faculty was another commonly cited barrier to oral health curricular integration (Berkowitz et al., 2015; Dounis et al., 2014; Glicken, 2014; Mouradian et al., 2005). Most of the participants shared experiences that included collaboration with dental faculty, which was communicated as both a facilitator and a challenge to sustained oral health curricular integration. For example, two participants described the important role of the dental professional in conducting simulations with students in order to replicate real-life scenarios.

Conversely, another participant described frustration with the challenge of identifying a new dental collaborator each year because her college did not have a dental school. This study suggests that collaboration with a dental professional may be both beneficial and challenging, resulting in conflicting positive and negative emotional responses. Therefore, collaboration with dental faculty should be considered within the faculty's change context.

All of the participants had experience with oral health curricular integration and had successfully sustained the changes made to their curriculum. Future research should include faculty who are less supportive or more resistant to oral health curricular integration so change resistance can be better understood. Because this study explored faculty experiences after the curriculum change, it may have missed important aspects of experiences during different phases of change implementation. Additional research should examine faculty experiences at various stages of the change response, such as the beginning and middle. Exploring faculty's reactions at varying points in the change process may provide additional insights about how to manage curriculum change successfully and a better understanding of the change response process.

### **Limitations**

This study has several limitations. The first limitation is its small sample size. This study included six participants, representing four distinct health professions. Therefore, findings cannot be generalized. A larger sample size representing other health professions may generate data that was not found in this study. A second limitation is the single research site. The research site for this study had great success in implementing and sustaining oral health curricular integration efforts. Thus, the results may not be transferable to higher education institutions that have had difficulty with oral health curricular integration. Finally, interprofessional education is a priority

at the research site. Educational institutions that do not prioritize interprofessional education may experience different results.

### **Conclusion**

The purpose of this study was to explore the lived experience of interdisciplinary health professions faculty during oral health curricular integration at a large urban university in the northeastern United States. Data analysis provided insights into how participants described their experiences integrating oral health into their curriculum in response to a college-wide change initiative. Overall, participant experiences were positive and supportive of the curriculum change initiative.

Each of the six participants described a developing awareness of oral health's natural alignment with the curriculum and persevered despite barriers and challenges to sustaining their integration efforts. It was evident to the researcher that each participant valued her or his role as an educator and believed in the importance of curriculum change to reflect evidence-based advances in the practice setting. Many participants shared experiences of excitement and pride when reflecting on their influence on students as future health care providers. It was also evident that prior clinical experiences with oral health care affected participants' acceptance and belief in the importance of oral health integration. Appreciation for support from students, peers, and college leaders was another common experience among participants. Several participants described how positive feedback from students motivated them to continue their efforts. Peer recognition and leadership support were also important to participants, especially when they faced limited resources.

College administrators who are interested in integrating oral health into health professions education should determine faculty readiness before implementing curriculum

change. Using interviews or focus groups to explore faculty's reactions to oral health curricular integration may help administrators anticipate resistance and influence future behavior. Finally, exploring faculty's reactions before implementing curriculum change may lead to sustained oral health curricular integration.

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## Appendix A: Recruitment Email

### **Subject Line:** Oral health curricular integration research study

My name is Jessica Parker and I am a doctoral student studying education at Northeastern University. I am conducting a research study to explore the lived experience of ambivalence among interdisciplinary health professions faculty in response to an oral health curricular integration initiative. For the purposes of this study, ambivalence is a mixture of positive, supportive responses and negative, unsupportive responses.

To be eligible to participate, individuals must:

- be currently or previously employed as a part-time or full-time health professions faculty member in the college under study;
- have previous experience with oral health curricular integration;
- be willing to participate in a minimum of two 60-90 minute face-to-face or Skype videoconference interviews, with a possibility of a third follow-up interview;
- agree to the use of audio recording of the interview(s); and
- agree to the publication of the data collected and analyzed from this study.

The interviews will allow the participants to reflect on the meaning of their experience of ambivalence regarding oral health curricular integration. Transcribed data will be shared with each participant to ensure accuracy. Your review of interview transcripts may take 20-30 minutes.

Participation is voluntary and completely confidential.

If you are interested in participating in this study, please call or email Jessica Parker. Selection will be determined following a brief 5-10 minute screening call.

**Telephone:** 919.222.3449

**Email:** [j.parker@northeastern.edu](mailto:j.parker@northeastern.edu) or call 617.838.2440.

Thank you for your time and consideration.

Jessica L. Parker

This study is being conducted by Jessica Parker, an EdD candidate at Northeastern University. This study has been approved by Northeastern University's Institutional Review Board for research studies (IRB# CPS18-01-01).

## Appendix B: Screening Phone Call Script

Hi. Thank you for expressing interest in participating in my research study about health professions faculty's experience of ambivalence with oral health curricular integration. My name is Jessica Parker and I am a doctoral student at Northeastern University. The goal of this study is to explore the experience of ambivalence among interdisciplinary health professions faculty as they integrated oral health into their curriculum.

As the researcher, I will be conducting this screening call and the interview(s).

At this time, I would like to ask you a few criteria-based questions to determine whether you are eligible to participate. If you are eligible, I will then provide additional details about the study so that you can make a decision about participating. If you decide to participate we will set an interview time.

1. Are you a current part-time or full-time faculty member in a health professions program at this college? (If *yes*, proceed to question 3; if *no*, proceed to question 2)

2. Were you previously a part-time or full-time faculty member in a health professions program at this college? If *yes*, proceed to question 3; if *no*, proceed to "not eligible statement")

3. Have you at any point during your tenure as a faculty member conducted a learning activity related to oral health with your students? This could consist of an online learning exercise, didactic learning activity, clinical rotation, experiential learning program, simulation activity, or any other activity where oral health competencies were integrated into your curriculum. (If *yes*, proceed to question 4; if *no*, proceed to "not eligible statement").

4. Are you willing to participate in a minimum of one 60-90 minute face-to-face or Skype videoconference interview, with a possibility of a second follow-up interview if it is necessary to capture additional information? (If *yes*, proceed to question 5; if *no*, proceed to "not eligible statement").

5. Are you willing to agree to the use of audio recording of the interview(s)? (If *yes*, proceed to question 6; if *no*, proceed to "not eligible statement").

6. Are you willing to agree to the publication of the data collected and analyzed from this study? (If *yes*, proceed to "accept participant statement;" if *no*, proceed to "not eligible statement").

**Accept participant statement:** Based upon your answers, I am pleased to tell you that you meet all of the criteria for participate in this study. Now, I'd like to provide a brief overview of the study and you can let me know whether you are still interested in participating. (Proceed to study overview)

**Not eligible statement:** I'm sorry but based on your response(s) you do not qualify to participate in this study. Thank you for your interest.

**Study overview:** This study aims to explore the lived experience of ambivalence among interdisciplinary health professions faculty with oral health curricular integration. The research question is: What were the lived experiences of oral health curricular integration among interdisciplinary health professions faculty at a large urban university in the northeastern United States?

Your participation will require one 60-90 minute face-to-face or Skype videoconference interview, with the possibility of a second interview. You will also be asked to review transcripts to confirm accuracy, which may take an additional 20-30 minutes.

Do you have any questions about the purpose of the study or the research question? (If *yes*, answer questions and proceed with script; if *no*, proceed with script)

Are you interested in proceeding to participate in the study? (If *yes*, proceed with script; if *no*, express thanks and end call).

Thank you for agreeing to participate in this important study. I would like to go ahead and schedule an interview at your earliest convenience. I can meet you on campus at a location of your choosing or we can meet over Skype videoconference. Please let me know your choice. As mentioned previously, the interview will last approximately 60-90 minutes and a second interview may be required to capture additional information. (Select date, time, and location of interview).

I will now email you an electronic copy of the Informed Consent Form, which provides additional information about the study. Please read through this form completely, sign with an original signature, date, and email it back to me before our scheduled interview. Please do not hesitate to contact me with questions or concerns.

Before we finish this call, do you know of any other faculty who are current or previous employees of the college who might meet the criteria for the study? I would greatly appreciate if you tell them about the study and give them my contact information.  
Thank you and I look forward to our interview!

## Appendix C: Informed Consent

**Northeastern University, Department of Education****Name of Investigator(s):** Dr. Tova Sanders, Jessica Parker**Title of Project:** Interdisciplinary Health Professions Faculty's Lived Experiences with Oral Health Curricular Integration: An Interpretative Phenomenological Analysis**Informed Consent to Participate in a Research Study**

We are inviting you to take part in a research study. This form will tell you about the study, and the researcher will explain it to you first. You may ask the researcher any questions that you have. When you are ready to make a decision, you may tell the researcher whether you want to participate. You do not have to participate if you do not want to. If you decide to participate, the researcher will ask you to sign this statement and will give you a copy to keep.

**Why am I being asked to take part in this research study?**

We are asking you to be in this study because you are a health professions faculty member who reports having experience integrating oral health competencies into your curriculum.

**Why is this research study being done?**

This research project focuses on the experience of ambivalence among interdisciplinary health professions faculty members in response to an oral health curricular integration initiative. My goal is to gain insight into your experience with ambivalence in the context of oral health curricular integration so that college administrators and leaders can successfully develop and sustain an oral health curriculum across health professions programs.

**What will I be asked to do?**

If you decide to take part in this study, we will ask you to participate in two, possibly three, face-to-face or Skype video interviews. You will be provided a copy of your interview following transcription and asked to review it to ensure that the data accurately reflects your individual experiences. You may also be asked to review researcher notes and other data to assess for accuracy. You may be contacted to participate in a second interview if additional data is needed.

**Where will this take place and how much of my time will it take?**

You will be interviewed in your own home or at a time and place on Northeastern University's

Boston Campus that is convenient for you. The interviews will take about 60-90 minutes. Approximately two weeks later, I will mail you a paper copy of your interview to review. This may take you about 30-60 minutes to complete. You can call or email your feedback back to me.

**Will there be any risk or discomfort to me?**

There are no known foreseeable risks, harms, discomforts or inconvenience that you may experience.

**Will I benefit by being in this research?**

There will be no direct benefit to you for taking part in the study. However, the information learned from this study may help college administrators and leaders implement a sustained oral health curriculum.

**Who will see the information about me?**

Your part in this study will be confidential. Only the researchers on this study will see the information about you. No reports or publications will use information that can identify you in any way or any individual as being of this project.

To ensure confidentiality and security, all files will be encrypted and password protected. Recordings will be de-identified and pseudonyms will be used in place of participant's names. Each interview recording will be transcribed verbatim by a professional transcription company into a Word document. A Transcript Confidentiality Statement will be signed by the professional transcription company to ensure the confidentiality of participants. Transcripts will be saved and de-identified in the same manner as recordings and will be accessible by the researcher only. Hard copies of consent forms will be stored in a locked file cabinet in a locked office only accessible by the researcher. Upon completion of the doctoral thesis project, all data will be transferred to an external hard drive and stored in a locked file cabinet for five years. All data and associated documents will be permanently destroyed or deleted five years after completion of the study.

In rare instances, authorized people may ask to see research information about you and other people in this study. This is done only to be sure that the research is done properly. We would only permit people who are authorized by organizations such as the Northeastern University Institutional Review Board to see this information.

**If I do not want to take part in the study, what choices do I have?**

Your alternative to taking part in the study is to choose not to participate.

**What will happen if I suffer any harm from this research?**

No special arrangements will be made for compensation or for payment for treatment solely because of my participation in this research.



**Can I stop my participation in this study?**

Your participation in this research is completely voluntary. You do not have to participate if you do not want to, and you can refuse to answer any question. Even if you begin the study, you may quit at any time. If you do not participate or if you decide to quit, you will not lose any rights, benefits, or services that you would otherwise have as an employee.

**Who can I contact if I have questions or problems?**

If you have any questions about this study, please feel free to contact Jessica Parker, the person mainly responsible for the research, at [j.parker@northeastern.edu](mailto:j.parker@northeastern.edu); 919.222.3449. You can also contact Tova Sanders, the Principal Investigator, at [t.sanders@northeastern.edu](mailto:t.sanders@northeastern.edu).

**Who can I contact about my rights as a participant?**

If you have any questions about your rights in this research, you may contact Nan C. Regina, Director, Human Subject Research Protection, Mail Stop: 560-177, 360 Huntington Avenue, Northeastern University, Boston, MA 02115. Tel: 617.373.4588, Email: [n.regina@neu.edu](mailto:n.regina@neu.edu). You may call anonymously if you wish.

**Will I be paid for my participation?**

You will not be paid for participation.

**Will it cost me anything to participate?**

We do not anticipate that you will incur any costs by participating in this study.

**Is there anything else I need to know?**

You must be at least 18 years old to participate unless your parent or guardian gives written permission.

**I agree to take part in this research.**

\_\_\_\_\_  
Signature of person agreeing to take part in the research      Date

\_\_\_\_\_  
Printed name of person above

\_\_\_\_\_  
Signature of person who explained the study to the participant above and obtained consent      Date

## Appendix D: Interview Schedule

### Part 1: Introductory Protocol

Thank you again for participating in this study on the experience of oral health curricular integration among health professions faculty who have continued to integrate oral health into their curriculum in response to a college-wide curriculum change initiative. You have been selected to speak with me today because you have been identified as someone who has a great deal to share about the experience of sustained oral health curricular integration.

The interview questions are designed to help you reflect upon your personal experiences and feelings related to sustaining the integration of oral health in your curriculum. You are free to decline to answer any question that makes you uncomfortable. You are also free to withdraw from the study at any time. Your privacy and confidentiality are also of the upmost importance and I will make every effort possible to ensure confidentiality. There are no foreseeable risks associated with participating in this study.

Your responses to interview questions are very important. Therefore, I need to audio tape this interview so that I can capture everything you say. You may also notice me taking notes during the interview, which I will reference during the data analysis phase of the study. Your audio file will also be transcribed by myself or a professional transcription company. If a professional transcription company is utilized they will be required to sign a confidentiality statement and will only receive a pseudonym, to maintain confidentiality.

I would like to begin recording this session now. Is that all right with you?  
(Audio recording to begin)

To meet our human subjects requirements at the college, participants are required read and sign the Informed Consent Form, which was provided to you. Thank you sending me the signed Informed Consent Form. Just to review, this document, which you signed, states that: (a) all information will be held confidential, (b) your participation is voluntary and you may stop at any time if you feel uncomfortable, and (c) I do not intend to inflict any harm. Do you have any questions or concerns about the interview process or this form? I have planned for this interview to approximately 60-90 minutes. Do you have any questions at this time?

### Part 2: Questioning

1. What health professions discipline do you teach?
2. How did you choose to go into the [insert discipline] field?
3. Please describe how you came to begin teaching as a [insert faculty's discipline].
4. Describe your responsibilities as a faculty member in the [insert discipline] department/program?

5. What is your teaching philosophy?
  - a. *Prompt:* Has it been consistent or changed over time?
  - b. *Prompt:* What inspired a change in your philosophy?
6. Tell me about the first time you experienced curriculum change.
  - a. *Prompt:* How did you respond to it?
7. Tell me about a more recent example of when you were faced with curriculum change.
  - a. *Prompt:* How did you respond?
8. Tell me what you recall thinking about when you heard about integrating oral health into your curriculum?
  - a. *Prompt:* Describe your reaction.
9. Tell me about the first time you developed and planned an oral health related learning activity for your students.
  - a. *Prompt:* What was your experience?
10. Tell me about the first time you implemented an oral health learning activity with students.
  - a. *Prompt:* What happened? How did it go?
  - b. *Prompt:* Does anything about the experience stand out in your mind?
11. Provide an example of a time when conducting an oral health learning activity was particularly rewarding.
  - a. *Prompt:* Tell me about how this impacts your plans to continue conducting that activity with students?
12. Provide an example of a time when conducting an oral health learning activity was particularly challenging.
  - a. *Prompt:* Tell me about how this impacts your plans to continue conducting that activity with students?
13. Is there anything that you would like to add about your experience with oral health curricular integration that I haven't asked?

### **Part 3: Wrap-up**

Thank you for participating in this interview. If I find that I need to capture additional information I will contact you with follow-up questions. Is that ok with you? I will share a transcript of this interview with you as soon as it is available, as well as my initial notes and interpretations of the interview. I will ask that you provide any feedback or revisions within a certain timeframe. Can you please confirm your contact information and the email address that you would like me to send this information to?

Do you have any questions for me? If not, thank you again for participating in this study.  
*Audio recording ends.*