Interprofessional Health Care Delivery: Perceptions of oral health care integration in a Federally Qualified Health Center

Michelle Wood, RDH, MS; JoAnn Gurenlian, RDH, MS, PhD, AFAAOM; Jacqueline Freudenthal, RDH, MHE; Elizabeth Cartwright, PhD

Abstract

Purpose: The purpose of this qualitative ethnographic case study was to explore the perceptions of a team of interprofessional healthcare providers regarding how oral health care was integrated into health care provided within a Federally Qualified Health Center (FQHC) in Brighton, Colorado.

Methods: Data were gathered through one-on-one, semi-structured personal interviews, which were recorded and professionally transcribed for evaluation. Purposive sampling included physicians, physician assistants, dentists, and dental hygienists. Descriptive analysis was used to describe the sample demographics. An inductive and deductive approach was utilized to assess the qualitative data and subsequently develop themes. Validity was established using triangulation, member checks, and peer review of data and themes by co-investigators.

Results: Eight participants (n=8) were interviewed. Subjects were between the ages of 31 and 58 and had been practicing between 5 and 30 years with an average of 13.6 years and had been employed by the FQHC an average of 6.8 years. Thematic analysis revealed seven themes: interprofessional collaboration supports patient care, immediate consultations lead to improved outcomes for all, shared expertise to optimize care delivery, oral health is health, increased communication through collocation, role clarity does not impede team functioning, and mission driven to provide excellent care. These themes support the domains of patient centered care, communication, and role clarity of the Interprofessional Care Competency Framework and Team Assessment Toolkit (ICCFTAT).

Conclusion: Findings from this study can aid FQHC’s in the implementation of integrated oral health care delivery systems. Further research is needed to understand how interprofessional health care collaboration (IPHC) affects the team dynamic in FQHC settings.

Keywords: oral health, oral health care integration, interprofessional health care, patient-centered care, medical home, Federally Qualified Health Center

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Introduction

Oral health is an essential component of systemic health; however, many people have limited access to oral healthcare services. There are many explanations why accessibility may be an issue; socioeconomics, poor oral health literacy, lack of dental insurance coverage, race, and ethnicity can all play a role. Access to oral health care is not only important, but is a basic human right; therefore, it should be available to all people in the United States (U.S.). Providing avenues where patients are able to seek improved health care, including oral health, is an important aspect of overall health.

Federally Qualified Health Centers (FQHCs) are integral to the U.S. healthcare system; one in twelve people use this safety net for their health care. Oral health is an important constituent of systemic health; oral health and systemic health have been demonstrated to be inextricably linked. FQHCs have a unique opportunity to positively impact the overall health status of millions of people.

Creating opportunities where oral health care is integrated with patient-centered health care within the FQHC system is essential to realizing the health care goals set forth by Healthy

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People 2020, the U.S. Surgeon General\(^2\) and the National Academies of Sciences Engineering and Medicine, Health and Medicine Division (HMD).\(^3\) According to the Health Resources and Services Administration (HRSA) in 2018, over 27 million people across the U.S. relied on HRSA-funded health centers for care.\(^5\) These FQHCs serve as a safety net for people who otherwise might not have access to health care.\(^6\)

Many health centers have incorporated teams of health care providers who work together to provide whole body care.\(^7\) Approaching health care in this holistic approach may also improve patient outcomes. Recognizing good oral health is essential to quality of life, many FQHCs have also incorporated oral health services in their mission.\(^7\) According to Grisanti et al., “FQHCs with a dental component are a primary safety-net solution for vulnerable populations and help decrease the barriers and inequities at-risk populations face in accessing and utilizing oral care.”\(^9\) While FQHCs are mandated by the federal government to provide preventive oral health care services, there continues to be a gap between an effective, standardized system for providing comprehensive oral health services to the underserved.\(^7\) For this gap to be minimized, it is essential that patient-centered medical homes implement oral health care programs.

Incorporating interdisciplinary health care teams increases communication between medical and in between providers to improve healthcare delivery. Interprofessional health care collaboration (IPHC) occurs when two or more professionals from different health care backgrounds work together, leveraging shared knowledge which promotes comprehensive health care for the patient.\(^10\)-\(^12\) There are many avenues for IPHC to be utilized, however, there is a decided lack of direction regarding best practices for execution of IPHC programs. Although this model of delivery has been supported by the World Health Organization and the HMD implementation of IPHC continues to lag.\(^3\)

Recently, there has been an emerging interest in IPHC as an avenue to improve communication and health care outcomes.\(^13\) There are many advantages for patients who receive their care through IPHC including an integrated health record allowing for greater communication between health care providers, timely care for improved overall systemic health, and patient-centered care.\(^14\) As more research becomes available, linking poor oral health outcomes to higher systemic health risks, it is becoming increasingly important to interlink health care delivery. Even though IPHC is the recommended model for health care delivery, there continues to be separation between the delivery of oral health care and medical health care.\(^7\) Creating patient centered medical homes promoting IPHC is essential to improving oral and systemic health for all populations, regardless of the socioeconomic levels of the patients receiving care.

The Interprofessional Care Competency Framework and Team Assessment Toolkit (ICCFTAT) was developed by the Toronto Academic Health Science Network in collaboration with the University of Toronto Centre for Interprofessional Education.\(^10\) This framework and toolkit were created as a means for multiprovider healthcare organizations to adopt IPHC as a method for health care delivery. The ICCFTAT consists of six domains or competencies: Patient/Client/Family/Community Centred Care, Communication, Role Clarity, Conflict, Team Functioning, and Collaborative Leadership.\(^10\)

The first domain, patient centred care, seeks to engage the client in shared decision making.\(^10\) In the communication domain, the team actively shares information and solicits communication from team members to aid in comprehensive understanding. Role clarity affects the functionality of the team. In this domain, the providers understand their individual roles and the roles of other providers and supporting collaborative members. Knowledge is leveraged to establish and achieve quality patient outcomes.\(^10\) Within the conflict domain, the team confronts disagreements to develop resolutions. The fifth competency, team functioning, encompasses how well the team demonstrates principles of team-work dynamics, principles and processes that enable effective IPHC. The final domain is collaborative leadership. In this competency, providers support a team culture which promotes shared decision making, equity, and leadership across all levels of the team.\(^10\) These competency domains served as the theoretical framework for examining how oral health care was integrated into a FHQC medical home and how the integration affected the providers. The purpose of this qualitative ethnographic case study was to explore the perceptions of a team of interprofessional healthcare providers regarding how oral health care was integrated into health care provided within Salud Family Health Centers, a Federally Qualified Health Center (FQHC), in Brighton, Colorado.

**Methods**

A qualitative approach was chosen for this ethnographic case study of how the health care provider culture of Salud Family Health Centers in Brighton, Colorado impacted the integration of oral health care into the patient-centered medical home of the FHQC. Data was collected by the principal investigator (PI), through recorded one-on-one semi-structured personal interviews. Participant anonymity was protected through the use of pseudonyms.
Once exemption status was determined by the Institutional Review Board at Idaho State University, a purposive sampling approach\(^1\) was used to recruit the participants. This approach was selected since it is known to reflect the average person, situation, or instance of the phenomenon of interest.\(^1\) Sample sizes were not pre-determined; recruitment continued until saturation was achieved. Inclusion criteria included individuals with a minimum of sixteen direct patient contact hours per week and employment for a minimum of one year in their position. Maximum variation was achieved through purposeful sampling, which has been shown to increase the transferability of the results.

Physicians, physician assistants, dentists, and dental hygienists were included in the sample. Informed consent was given verbally following receipt of a written consent document. Participants received a copy of the interview guide one week prior to their scheduled interview. Anonymity was safeguarded by employing pseudonyms during the interview process as well as on the transcripts. Audio recordings were transcribed verbatim by a professional transcriptionist, who signed a confidentiality agreement; participants’ names were blinded to the transcriptionist. The interview guide was reviewed by the co-investigators to ensure rich contextual information would be gained through open-ended questions. One of the co-investigators joined a pilot video conference with the PI and a non-enrolled test subject to confirm that the PI was well versed in the interviewing technique. The interview guide is shown in Table I.

Descriptive analysis was used to describe the demographics of the sample. Information gathered included gender, age, role within the FQHC, number of years practicing, and number of years providing healthcare at Salud Family Health Centers. An inductive and deductive approach was employed to assess the qualitative data followed by identification of themes. The transcribed interviews were concurrently assessed and refined with current data collection to ensure rich contextual information was gained.

Establishing trustworthiness is crucial as it aids in ensuring the validity and reliability of the data. Several methods were employed to increase data authenticity. First, the study questions were gathered using a triangulation of data strategy; multiple perspectives were gathered from different subjects. This approach enabled the primary investigator to develop converging themes from these data.\(^1\) Second, member checks or respondent validation was used to ensure initial findings were accurate with the subjects interviewed.\(^1\) Finally, the PI’s position as a member of the interprofessional team at Salud Family Health Centers was disclosed in all findings from this study. Data and themes were cross-checked by peer review with the co-investigators.

### Results

Eight healthcare professionals (n=8), between the ages of 31 and 58 years, participated in this study. Participants had been practicing in their respective professions between 5 and 30 years with an average of 13.6 years and had been employed by the FQHC an average of 6.8 years. Participant demographics are shown in Table II.

Thematic analysis revealed seven themes related to the research questions examining how oral health was integrated and how this integration affected the providers in the FQHC. The following themes were identified: interprofessional collaboration supports patient care, immediate consultations lead to improved outcomes for all, shared expertise to optimize care delivery, oral health is health, increased communication through collocation, role clarity does not impede team functioning, and mission driven to provide excellent care. Each theme will be explored in depth.

**Interprofessional Collaboration Supports Patient Care**

Interprofessional collaboration supports patient care was the first theme to emerge from the data. Participants expressed thoughts of multiple healthcare professionals functioning as a single unit improved patient care. This collaboration was evident for both medical and dental providers. One participant stated:

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Table I. Interview guide

<table>
<thead>
<tr>
<th>Question</th>
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<tbody>
<tr>
<td>Can you tell me about a time when oral healthcare integration was used in patient care?</td>
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<tr>
<td>How did this impact your patient?</td>
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<tr>
<td>Can you tell me what impact oral healthcare integration has on your professional practice?</td>
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<tr>
<td>How do you feel about oral healthcare integration?</td>
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<tr>
<td>How does communication occur between medical and dental providers?</td>
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<tr>
<td>How does this type of communication impact the healthcare you provide?</td>
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<tr>
<td>How is patient information shared?</td>
</tr>
<tr>
<td>How is care coordinated between medical and dental providers?</td>
</tr>
<tr>
<td>How does role clarification and coordination of care impact healthcare operations at Salud Family Health Centers?</td>
</tr>
</tbody>
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“I had an elderly patient who vaguely mentioned liver disease on her medical history. We did a simple extraction on her and the area bled excessively. I reached out to her primary care provider who is here at Salud and we had multiple conversations both in person and via our electronic medical record. Based on these conversations, we modified her treatment plan and avoided any future extractions.” ~ Bosco, dentist

Immediate Consultations Improved Outcomes for All

The second theme extrapolated from these data demonstrated that the immediacy of consultations improved outcomes for both patients and providers. Patients were positively impacted when providers were able to consult with other professions. One of the physicians stated, “It got him care and the biopsy a whole lot faster than if we had had to refer him out,” J. Lo. This impact was evident across the spectrum of health care providers. When discussing patient care, one dentist stated, “We had the whole team discussing every aspect of her treatment and how to proceed, so it was really beneficial to her.” Bosco.

Medical providers were also positively impacted by having immediate consultations as they offered further education, reassurance, and confirmation of follow-up care for the patient. Shannon, a physician assistant, stated how consultations with oral health professionals provided reassurance when diagnosing and treating the patient. She discussed her lack of formal education regarding oral health issues and how to treat oral disease.

“We get a lot of patients that come in for facial swelling or dental pain. Because I am not trained very well in that area, it’s hard. I could make a general assumption of what’s going on, but I was able to get the dentist to come over and take a look and give me suggestions.” Shannon

Shared Expertise to Optimize Care Delivery

Another dominant theme that became apparent was the perception of active involvement of experts in their fields in order to optimally deliver exceptional care to the patient. Providers felt practicing in this environment enabled them to provide enhanced care for their patients. One physician stated:

“It certainly widens the scope of patients that I can take care of and makes me feel a lot more confident about patients coming in that they are getting the care they need. It makes my job easier. Obviously, I don’t have a lot of dental training and so to be able to have those resources and the staff members on staff that can help take care of those patients makes my day phenomenally a lot easier. When it’s integrated in the clinic setting, I can get those answers right away and it doesn’t take hours or extra work.” Victor Krum.

This sentiment was echoed by Bosco, one of the dentist participants, who said, “It totally enhances my ability to care for patients.”

Several subthemes linked to this theme were apparent in the data. Health care providers realized that they were able to utilize the expertise of others felt more assured when treating medically complex patients. Bosco, a dentist, stated, “I feel confident having the resources in the same building to help me make sure our patients receive the best possible whole person care.” Practicing in this enhanced environment also led to increased fulfillment for several providers, as they were able to utilize the full scope of their education. Sara, a dental hygienist, stated, “I feel much more fulfilled. I feel like our patients get so much better care, through the MDI [medical dental integration] program but also through our clinical practice.”

### Table II. Participant demographics (n=8)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td>Female</td>
<td>5</td>
<td>62.5%</td>
</tr>
<tr>
<td><strong>Age range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-39</td>
<td>6</td>
<td>75%</td>
</tr>
<tr>
<td>40-49</td>
<td>1</td>
<td>12.5%</td>
</tr>
<tr>
<td>50-59</td>
<td>1</td>
<td>12.5%</td>
</tr>
<tr>
<td><strong>Profession</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>Dentist</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>Dental Hygienist</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Range of years of practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-9</td>
<td>3</td>
<td>37.5%</td>
</tr>
<tr>
<td>10-20</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>30-40</td>
<td>1</td>
<td>12.5%</td>
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<tr>
<td><strong>Span of years at Salud Family Health Centers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>6-10</td>
<td>2</td>
<td>25%</td>
</tr>
<tr>
<td>11-14</td>
<td>2</td>
<td>25%</td>
</tr>
</tbody>
</table>

“I had an elderly patient who vaguely written liver disease on her medical history. We did a simple extraction on her and the area bled excessively. I reached out to her primary care provider who is here at Salud and we had multiple conversations both in person and via our electronic medical record. Based on these conversations, we modified her treatment plan and avoided any future extractions.” ~ Bosco, dentist

In addition to the primary theme, a subtheme of confirmation as part of collaboration was identified. Medical providers utilized the dental hygienists as the first responder to aid in confirmation of diagnosis.

“I use it regularly, but anytime I have a patient that has an oral concern that I’m not quite certain what’s going on or I think I know, I will call in a hygienist to look in the patient’s mouth.” ~ Lucy, physician assistant
**Oral Health is Health**

Practicing health care within a facility with multiple professions working together and learning from each other, led to providers realizing the impact of oral health on systemic health. Rufus, a dentist, discussed how medical providers are affected by this proximity. “I think that Salud physicians are much more in tune to dental disease and preventing that, and how dental disease can impact the overall health of their patient.” Lucy, a physician assistant, echoed this sentiment with, “I think it [oral health] really affects overall long-term health.”

**Increased Communication through Collocation**

The proximity of medical and dental providers practicing healthcare together facilitates open communication between the professionals. One of the dentist participants, stated,

“I guess, officially through consults being sent, referrals being sent electronically. It can also occur with a physician from urgent care stepping over, walking through the doors and coming to one of our offices and asking us if we had time to take a look at something.” Rufus

A sub-theme which arose within this category was that communication was fundamental in creating a medical health care home where patients were able to have multiple needs addressed in one appointment. A dentist, Rufus, indicated how open lines of communication can lead to safer health care choices and treatment for the patient. “…I think that having knowledge, you can be more informed in making a decision about their [the patient] treatment…can lead to a safer practice.” Furthermore, good communication strategies allow for a unified message to be heard by the patient being treated. One physician, Victor Crum, said, “I think when they [the patients] hear it from one person, it’s easily forgotten. But when you hear it from multiple sources, I think it gives the patients more reinforcement.”

**Role Clarity Does Not Impede Team Functioning**

Providers within this FQHC were not unified when determining whether their roles were distinct or blurred. Perception of the individual’s role within the team can impact role clarity. Even though this area of the study was not clarified within the sample, it was evident that role clarity did not have a negative impact on how the team functions in the delivery of health care. Participants often discussed co-treating patients, implying a shared burden when it came to patient care which in turn impacted their to ability to effectively treat patients. One of the dentists, Rufus, stated, “I feel that a lot of the medical providers at Salud feel comfortable diagnosing basic dental disease because we are here and because we do interact, and there is training and education that can go on.”

The participants also felt that having communal patients had a positive impact on patient outcomes. A physician, Victor Krum, stated, “Having the team on the same page…and able to talk about it at the time, those concerns get addressed appropriately and can be responded to quickly.”

**Mission Driven to Provide Excellent Care**

The mission of the FQHC was found to be a major driving force in how care was delivered. The comprehensive approach to health care was related to the mission and culture of Salud Family Health Centers. One of the dentists, Rufus, said, “The ingraining of that comes in the systems that are established here at Salud, the physical closeness that we share with other providers, the fact that we have more of a sense of community.” A dental hygienist, Chris, discussed how the culture of Salud Family Health Centers felt more like a family rather than the aseptic medical offices he had previously practiced in. He said, “Honestly, the culture is that we try to make it as much as much of a family as possible.” In this FQHC, the participants indicated that they worked cohesively to provide the most effective patient care. Another dental hygienist participant, Sara, stated, “You’re [the healthcare providers] all here on that mission, let’s provide these patients with great care today.”

**Discussion**

The primary purpose of this study was to determine how oral health care was integrated within this patient centered medical home as identified by the perceptions of the health care providers. FQHC’s are uniquely situated at the forefront for preventive health care infrastructure that has been developed to support comprehensive health care delivery. Several elements have been identified for the successful integration of IPHC to occur within health care including collocation, patient sharing, and awareness of patient oral health care needs.

In a comparative study examining boundaries in inter-professional health care, teams were studied to better understand how roles were created within primary health care settings. MacNaughton et al. studied pharmacists, registered nurses, nurse practitioners, registered practical nurses, dieticians, and social workers and found that a barrier to IPHC was collocation. When teams were not in close proximity to one another, the level of collaboration between healthcare providers declined. Another important aspect for developing increased collaboration is the belief in patient sharing; if providers thought of the patient as ‘ours’, rather than ‘their’ responsibility, improving the patients’ outcomes became a joint effort where interactions and knowledge was shared by different healthcare providers.
A qualitative case study developed by Harnagea et al. examined the perceived barriers and facilitators for oral health care integration of providers in two public health centers in Quebec, Canada.19 The first theme identified was drivers of integration, which included sub-themes of oral health care service missing in publicly funded health services and oral health needs as a driver of integration. A majority of the participants noted that oral health services were either inadequate to meet the needs of the population or non-existent.19 The second theme identified was importance of IPHC. Non-dental health care providers who worked in public health clinics were especially aware of the challenges of meeting their patients’ health care needs. Most participants felt oral health care integration would promote comprehensive care and that collaboration was critical to improving access to health care and preventing disease.19 Participants in this study reflected on the benefits and ease of meeting the oral health care needs of their patients within the FHQC setting.

Furthermore, participants in this study highlighted the importance of the professional role in integrated oral health care. In the Harnagea et al. study, the majority of providers felt that they did not have the required skill set to meet the unmet needs of the population underscoring the need to increase the dental workforce in the patient centered medical home in order to impact oral health care integration.19 The importance of meeting these needs were supported by the findings of this study as collocation, collaboration, patient sharing, and awareness of patient oral health care needs fostered comprehensive health care for the benefit of the patient as perceived by the health care providers.

In addition to evaluating the integration of oral healthcare into Salud Family Health Centers, a secondary purpose for this study was to clarify how this integration affected the health care providers practicing at the FQHC. The ICCFTAT provided the theoretical framework for the data evaluation. Results from this study supported the domains of patient centred care, communication, and role clarity from the IPHC theoretical framework. Health care providers at Salud Family Health Centers were enacting IPHC through the provision of comprehensive health care. Both medical and dental professionals were able to leverage the expertise of other professions to effectively meet the health care needs of their patients. While role clarity was ambiguous, it did not negatively affect the functionality of the team’s ability to provide integrated health care. Practitioners at this FQHC seemed to have an inherent understanding that stabilizing the patients’ medical health would take precedence over oral health care needs. Findings from this study support the Interprofessional Care Competency Framework, moving theory to practice, and may provide a purposeful model for other FQHC’s to follow. Providing the FQHC with specific domains may enable a smoother transition when moving from a multi-practitioner model of delivery to an interprofessional model.

This study had limitations. The PI was a member of the interprofessional team at the facility where the study took place. Brief engagement occurred during the recorded interviews. However, while there was occasional participant engagement, thematic overlap was found across the sample population, indicating that this limitation did not impact the results. Further research is needed to support more widespread implementation of oral health integration models into health care delivery systems. Data to determine the impact of oral health integration on patient outcomes and promote easily accessible patient centered medical homes is needed to increase actualization of these integrated programs. Further study focusing on the complexities of role clarity in collaborative health care teams is also needed.

**Conclusion**

Results from this qualitative case study identified the recurring themes of physicians, physician assistants, dentists, and dental hygienists regarding how oral health care is integrated into an FQHC and how that integration affects them as health care providers. The seven themes were: interprofessional collaboration supports patient care, immediate consultations lead to improved outcomes for all, shared expertise to optimize care delivery, oral health is health, increased communication through collocation, role clarity does not impede team functioning, and mission driven to provide excellent care. Findings from this study can assist other FQHCs in implementing an oral health care integration through the use of a theoretical framework. Further research is necessary to understand how IPHC affects the health care team dynamic and how that dynamic impacts patient health outcomes.

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