

A Collaborative Assessment of Barriers to Oral Health Care: Are Social Workers Needed?

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Abstract: *Oral health disparities are pervasive. Interprofessional education and collaborative practice experiences may be a means to address this problem in oral healthcare settings. This project aimed to determine: (1) barriers involved in patients' access to oral health care at an academic dental school clinic, (2) dental students' perceived ability to address patients' needs and/or care barriers, (3) the ability of current clinical operations' to address access to care issues, and (4) the potential role of a licensed health care social worker integrated into the clinic. Investigators conducted three focus groups –one student group (n=5), one clinical staff group (n=7), and one clinical faculty group (n=5). Further, investigators administered two needs assessment surveys in the dental school – one with students, staff, and faculty (n=144) and the second with the school's dental patients (n=150). Investigators employed descriptive and inferential statistical analyses to evaluate the survey data. Five principal barriers to oral health care for dental patients were identified from focus group and survey data, inclusive of patients, students, staff and faculty perspectives: (1) lack of financial means, (2) lack of/inadequate insurance, (3) limited/no transportation, (4) general health problems, and (5) language barriers. More female patients (38.7%) than male patients (8.1%) reported financial barriers to accessing oral care. Including licensed social workers in an academic dental clinic may help address patient barriers to care and support interprofessional collaborative practice.*

Keywords: *Interprofessional collaboration, oral health disparities, licensed health care social worker, needs assessment*

The benefits of incorporating social work practice within health environments are well-documented within the scholarly literature (Kitchen & Brook, 2005; Zulman & Grant, 2016). In these environments, social workers have proven to be valuable in the roles of team coordinator, referral source, mental health clinician, and patient advocate (Kitchen & Brook, 2005; Maramaldi et al., 2014). As such, collaborative efforts could be beneficial in other health care settings, such as dental clinics (Petrosky et al., 2009). While the

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collaboration between social work and health professionals has a long history, the collaborative relationship between social work and the oral health care field is more recent (Marks & Shaul, 2010; Petrosky et al., 2009; Weiyu et al., 2015; Zittel-Palamara et al., 2005). Further, social work involvement in free healthcare and student-run health and dental clinics serving vulnerable populations has found social work to be underutilized (Warren et al., 2017).

“Oral health is a key indicator of overall health” (WHO, 2018, para 1), and for this paper’s focus, the terms health and healthcare are inclusive of oral health and oral healthcare. In the U. S. and around the world, there is a strong link between oral health and the social determinants of health (WHO, 2018). Renzhaho and de Silva-Sanigoski’s (2013) study of over 4,500 families found lower oral health in children associated with increased parental psychological distress, poor family functioning, and increased child conduct and mental health problems. A review of the literature on dental and social work healthcare collaborations identified various valuable social work functions and areas of expertise that are needed in healthcare service delivery for the general population and, in particular, for vulnerable populations (i.e., children, minorities, homeless persons, and individuals with mental illness, and/or disability). Social work interventions such as clinic-based counseling, case management, and resource brokering can increase Health-related Quality of Life (Warren et al., 2017). Further, social workers can conduct community and patient needs assessments to identify gaps and specific areas for intervention. Social workers can provide psychosocial support and outreach to connect patients with private and public health insurance to address health needs (Stephens & Thomas, 2015).

Background

The Surgeon General released a report in 2000 on the state of Oral Health Care in America that outlined the existing disparities in accessing oral health care for vulnerable populations (Department of Health and Human Services [DHHS], 2000). Those who are racial and ethnic minorities, children, low income, older Americans, and those living with disabilities or chronic health issues have worse oral health (DHHS, 2000). Twenty years later, these disparities are still in existence (Rollins et al., 2019; Satcher & Nottingham, 2017).

In response to the Surgeon General’s initial report, the American Dental Education Association (ADEA, 2017) published a paper urging academic dental institutions to work towards improving the state of oral health in the US by focusing on existing barriers and by working to implement newer models for delivery of oral health care. Innovative models focus on oral health and its relationship to overall health and ideally include non-traditional oral health providers. This paper contends that the dental profession alone cannot solve the issue of access to care (ADEA, 2017). Collaboration with other health care professionals, such as social workers, can help oral health providers work towards solutions. This commitment was reinforced through ADEA’s support of dental education programs working within an integrated health system to care for patients with special needs (i.e., individuals with developmental or other disabilities, children, older adults; ADEA, 2018).

Additionally, barriers to oral health care noted by the Indiana State Department of Health (2016) illustrate specific oral health disparities between children receiving care from Medicaid/CHIP versus children not enrolled in these benefit programs. Among youth ages one day through 20 years old enrolled in Medicaid/CHIP, only 48.4% had a dental visit within the past year compared to 78.3% of children within this age group without Medicaid/CHIP (ISDH, 2016).

Rationale

When serving vulnerable populations, primary healthcare and primary oral healthcare providers experience similar challenges in assisting patients with overcoming social and economic barriers to healthcare. Suresh et al. (2016) underscore the importance of close collaboration among the varied health professionals for integrated healthcare, such as dentists, physicians, social workers, and nutritionists working together to reinforce healthcare concepts with patients. In a 2019 systematic review focusing on the integration of oral health care with primary healthcare, interprofessional collaboration was identified as a vital element of this evidence-based approach (Prasad et al., 2019). The aims of the primary oral healthcare approach are to promote health equity and healthcare access and to empower health promotion and oral disease prevention through risk and oral health evaluation, preventative measures, and education (Prasad et al., 2019).

Social workers bring many strengths to improving the micro, mezzo, and macro-level health and well-being of individuals, families, and communities (Zerden et al., 2017). Social workers employed in health and dental settings often act to bridge primary and behavioral health care by fulfilling three primary roles: behavioral health specialists, care coordinators, and community outreach coordinators (Fraser et al., 2018). The tradition and contributions of medical/health social workers have been around formally since the early 1900's when first written about by Cannon (1913) and Cabot (1919).

Oral health is critical for physical, emotional, psychological, and socioeconomic well-being, not only at the individual level but also at the interpersonal, community, and societal levels (Mertz, 2016). Disparities need to be more thoroughly investigated in all aspects of oral health care, including the allocation of resources for oral health care (National Research Council, 2011); use of oral health care services (Vujicic & Nasseh, 2014), quality of oral health care (Como et al., 2019); and, financing of oral health care, specifically, the burden of dental payments for both individuals and households (National Research Council, 2011; Vujicic et al., 2016). With its perspective of person-in-environment, social work is well-positioned to address patient risk factors and the social determinants of health (Fraser et al., 2018). As such, the US Department of Labor (2018) expects a 22% increase in social workers in health care settings over the next ten years.

This expansion of social work in interprofessional health teams is essential for the success of integrated, comprehensive health care because of their unique training in behavioral intervention and psycho-socio-cultural risk factors (Stanhope et al., 2015). While the role of social work in physical health settings has been well-documented, it has been less evident in oral health care settings. Social workers can critically assist dentists in holistically treating patients by helping to manage the myriad of other social and practical

needs that arise in dental settings. Further, addressing patient care that includes the patient's medical, dental, and psychosocial history has been shown to improve patient outcomes (Sabato et al., 2018).

The value of integrating social workers in primary care health settings to address psychosocial issues impacting patient health has been extensively discussed in the literature (McGregor et al., 2018). Although limited, two articles that describe collaborative oral health programs with integrated roles for social work include the Eastman Dental Center (EDC, Petrosky et al., 2009) and the Counseling Advocacy Referral Education and Service (CARES) Program (Zittel-Palamara et al., 2005).

The Cares Program and EDC social work models illustrate that integrating a social worker into an academic dental clinic can have positive outcomes for both patients and dental schools by overcoming the social barriers and meeting the needs identified for their respective communities. The social workers employed with CARES (Zittel-Palamara et al., 2005) and EDC (Petrosky et al., 2009) assessed patient needs and connected patients, students, staff, and faculty to community resources. These programs showed that patients assisted by social workers were able to more effectively access needed care. In addition, there was an added financial benefit to the dental school due to a reduction in the number of missed appointments.

While the above examples suggest that various vulnerable populations experience disparities in oral health care, there is limited data on this topic. The present study surveyed staff, students, faculty, and patients to identify the needs of vulnerable patients served by the dental school. The study explored dental student clinical care and self-reported discomfort in supporting patients' psychosocial challenges and how the dental school's clinical operations might be improved by including a social worker. The specific aims of this study were to explore:

- What are the barriers involved in patients accessing oral health care?
- What is the comfort level of dental students in addressing patients' needs and/or barriers to accessing care?
- How helpful are clinical operations in addressing access to care issues?
- What is the expected role of a licensed social worker if integrated into clinical dental operations?

Method

The study participants included faculty, staff, students, and patients at the Indiana University School of Dentistry (IUSD). Initially, faculty, staff, and students participated in a survey, and in the following year, patients participated in a similar study using a convenience sampling technique. A focus group of faculty, staff, and students was also conducted to generate ideas related to access to care issues and explore how a licensed social worker could address them within the clinic. This section includes survey and focus group design, procedures, and analysis. Institutional Review Board approval (IRB Protocol # 1711241723) was granted.

Table 1. *Survey Questions*

Students, Staff, and Faculty	Patient
<ol style="list-style-type: none"> 1. Which gender do you most identify with? 2. Which race and/or ethnicity do you most identify with? 3. Which category below includes your age? 4. Please indicate your (student) class status below. 5. How long have you been employed at IUSD (staff or faculty member)? 6. Are you a full-time or part-time employee (staff or faculty member)? 7. Please indicate which employment category best represents your current role at IUSD (staff or faculty member). 8. Please review the list of barriers in accessing oral health care and patients' possible concerns in getting to IUSD, continuing treatment, reliably showing up to appointments, or in feeling comfortable and satisfied with dental treatment at IUSD. Please check all which of you have personally observed with IUSD patients. 9. Of the items you previously checked, please identify the top three concerns or patient needs you have observed most often. 10. Students; On a scale of 1-5, with 1 being <i>very uncomfortable</i> and 5 being <i>extremely comfortable</i>, rate your comfort level in directly assisting patients with the following needs. Faculty/Staff; On a scale of 1-5, with 1 being <i>very uncomfortable</i> and 5 being <i>extremely comfortable</i>, rate how comfortable you feel in working directly or indirectly with a dental student to assist patients with the following issues. 11. Students; On a scale of 1-5, with 1 being <i>very uncomfortable</i> and 5 being <i>extremely comfortable</i>, rate your comfort level in providing outside referrals and resources to patients in the following areas. Faculty/Staff; On a scale of 1-5, with 1 being <i>very uncomfortable</i> and 5 being <i>extremely comfortable</i>, rate how comfortable you feel in working directly or indirectly with a dental student to provide patients resources and referrals in the following areas. 12. Please list the top 3 areas in which you feel students could use more assistance with providing referrals to patients. 13. Please add anything else you feel is important for us all to know about in terms of how best we can increase access to care for our patients: 14. Please review the list of barriers in accessing oral health care and patients' possible concerns in getting to IUSD, continuing treatment, reliably showing up to appointments, or in feeling comfortable and satisfied with dental treatment at IUSD. Please check all areas in which you believe a licensed health care social worker would be valuable in assisting patients and increasing their access to care. 15. Please identify any other additional roles in which you believe a licensed social worker could be of value within IUSD. 	<ol style="list-style-type: none"> 1. Which gender do you most identify with? 2. Which race and/or ethnicity do you most identify with? 3. What is your current age? 4. How long have you been receiving dental services at IUSD? 5. On a scale of 1-10, with 10 being <i>extremely satisfied</i>, please rate how satisfied you have been with your overall care at IUSD. 5a. Please explain your rating. 6. Please review the list of barriers in accessing oral health care and patients' possible concerns in getting to IUSD, continuing treatment, reliably showing up to appointments, or in feeling comfortable and satisfied with dental treatment at IUSD. Please check all which of you have personally observed with IUSD patients. 7. Of the items you previously selected, please click and drag the top three concerns and/or needs you have experienced most often or have most affected your access to dental services 8. Considering these top three concerns/needs, on a scale of 1-10, with 10 being <i>very helpful</i>, how helpful have IUSD students and faculty been in assisting you to address these needs? 8a. Please explain your rating. 9. Please add anything else you feel is important for us to know in terms of how we can best help patients access oral health care services. 10. Please select all of those in which you believe a social worker would be valuable in assisting patients and increasing your access to care. 11. Please identify any other roles in which you believe a social worker could be of value within IUSD.

Survey Design

Two surveys were designed for the study: (1) faculty, staff, and students survey and (2) patient survey. The patient survey and the faculty, staff, and student survey included various common question formats such as multiple-choice, Likert rating scales, and open-ended questions (see Table 1). Survey items for staff, faculty, and student participants within the IUSD Clinic included: demographic information, perceptions of patient barriers and access to care issues, comfort level in addressing these patient issues, and perceptions of the potential role of a social worker within dental clinics. Survey items for patient participants within the IUSD Clinic included: demographic information, patient care needs and barriers, access to care, and the role of social work within dental clinics (see Table 1).

Survey Procedure

Procedurally, during the first survey, staff/faculty/student participants received an electronic invitation to participate. Before completing the online survey, participants reviewed an informed consent document. After reading the study information sheet, participants anonymously completed the online survey within Qualtrics. During the second survey, investigators approached patients in various dental clinic waiting areas and invited them to participate in the survey anonymously. If patients agreed to participate, investigators provided them with a secure laptop to complete the Qualtrics survey and, if needed, offered Spanish translation assistance. Before completing the survey, patients reviewed an electronic informed consent document. Although patients were provided laptops to complete the survey independently, many patients requested that investigators read the survey questions aloud or navigate the touchpad and keyboards for them.

Survey Analysis

For both surveys, univariate descriptive data was analyzed. Additional inferential data analysis involved conducting chi-square tests to examine similarities and differences. These similarities and differences were between and across demographic groups and the various study factors--perceived patient needs, barriers in accessing care, perceived student comfort level in addressing patient barriers, and the expected value of introducing a health care social worker to clinical operations.

Focus Group Design

After the first survey was completed, IUSD faculty, staff, and students were invited to participate in focus groups partly informed by preliminary descriptive survey data. The goal of each focus group was to generate more specific ideas regarding possible solutions for addressing access to care issues and exploring the potential role of a future social worker within IUSD clinics. Each focus group followed a semi-moderated schedule of five questions (See Table 2).

Focus Group Sampling

Recruitment for focus groups included convenience sampling whereby faculty, staff, and students were invited from general email distributions within the school to participate when and if available. A snowball technique was used to recruit additional focus group participants. Student leaders recruited student focus group members. The Human Resources Director recruited clinical staff members. The faculty president recruited faculty focus group members. Overall, 17 participants attended three focus groups (5 students, 7 staff, and 5 faculty).

Focus Group Procedures

Focus groups were organized by roles within the dental school. Three focus groups were conducted: one student, one clinical staff, and one for clinical faculty. Each focus group lasted between 45-60 minutes. No financial incentive was provided; however, lunch was provided to participants. The same investigator moderated focus groups, and each session was audio-recorded for future analysis. See Table 2 for focus group questions.

Table 2. Focus Group Questions

1. I'd like to start by hearing about the most significant barriers you have observed and, more specifically, how you have seen these barriers addressed in the clinic environment?
2. What additional resources do you think would be necessary for IUSD to address these barriers?
3. What are your experiences with health social workers and what do you view their role to be within a medical environment?
4. What do you see as the most valuable role a licensed social worker could take within the IUSD clinic?
5. Do you have any additional comments or information that would be helpful for our research team to know?

Focus Group Analysis

Following each focus group, the audio recording was listened to by the researcher and thematically analyzed. Using a social constructivist approach, emerging themes were identified until categorical saturation was reached (Braun & Clark, 2006; Flick, 2002). In the final analyses, categorical themes were related to the salient literature.

Results

Survey Participants

Table 3 offers an overview of all sample survey participants by gender, race, and type of participant. A total of 172 faculty/staff/students and 159 patients voluntarily completed a survey. Of those participants, 28 faculty/staff/ students and 9 patients did not fully complete surveys. Students who participated in the study represented 8% of the total student population. Staff and faculty represented 21.9% and 20.1% of the total surveys completed, respectively. The majority of respondents for both the students, faculty, and staff (80.6%) and patient (71.3%) surveys identified as White, with nearly 12% of patients

identifying as African-American. Slightly more than half (53%) of the patients who completed the survey reported having been a patient at the school's clinic for at least six months.

Table 3. *Gender and Race of Survey Participants*

	Faculty/Staff/ Students (n=144)	Patients (n=150)
Gender		
Male	46 (31.9%)	74 (49.3%)
Female	97 (67.4%)	75 (50.0%)
Unknown	1 (0.7%)	1 (0.7%)
Race		
African American	9 (6.3%)	18 (12.0%)
Asian/Pacific islander	9 (6.3%)	6 (4.0%)
White	116 (80.6%)	107 (71.3%)
Latin American	4 (2.8%)	8 (5.3%)
Multiracial	1 (0.1%)	4 (2.7%)
Others	2 (1.4%)	5 (3.3%)
Prefer not to answer	3 (2.1%)	

Barriers in Accessing Oral Health Care: Perceptions of Faculty, Staff, Students, and Patients

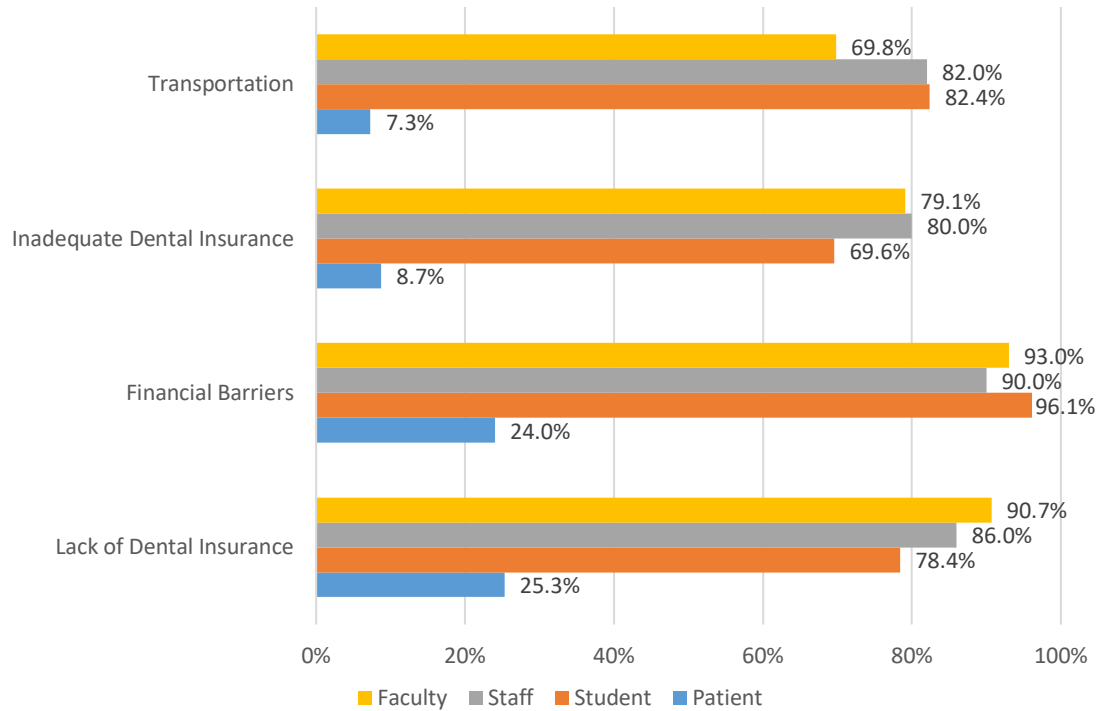
The most frequently reported patient barriers, according to faculty/staff/students surveys combined, included: (1) financial barriers (93.1%), (2) lack of dental insurance (84.7%), (3) lack of reliable transportation (78.5%), and (4) inadequate dental insurance coverage (75.7%). The terms financial barriers, lack of dental insurance, inadequate dental insurance, and reliable transportation were the verbiage presented in the survey as they are commonly used survey terms in the literature. The financial barrier item indicated that someone does not have enough money to pay for their dental care, notwithstanding any private or public insurances, as dental insurance generally only pays up to 50% of all restorative care. The term lack of dental insurance means not having any dental insurance, while inadequate dental insurance means not having enough coverage. Not having reliable transportation refers to the inability to consistently make one's dental appointment or make it on time.

Patients

According to the patient participants, the most frequently reported patient barriers included: (1) lack of dental insurance (25.3%), (2) financial barriers (24%), (3) lack of reliable transportation 7.3%), and (4) inadequate dental insurance coverage (8.7%). More female patients (38.7%) reported financial barriers than male patients (8.1%; $\chi^2 (1) = 19.354, p < .001$). Likewise, there was a higher percentage (37.3%) of patients age 30-60 years who reported that financial barriers impacted their ability to access oral health care compared to patients in the other age groups (27.6% below 30, 12.9% 61 above; $\chi^2 (1) =$

9.882, $p=.007$). The most frequently reported barriers to oral health care are shown in Figure 1.

Figure 1. *Most Frequently Reported Barriers to Access Oral Health Care*



Staff, Students, and Faculty Focus Group Perceptions of Patient Barriers in Accessing Care

Focus group data provide an increased understanding of student, staff, and faculty perceptions related to patient access to care. The most frequently cited barrier by the focus group participants was long appointments and wait times. Long appointments and wait times are commonly reported issues in dental schools as appointments generally take about 25-35% longer because one is receiving care from student providers. While financial barriers were reported as the primary barrier in survey responses, this was the second most frequently cited barrier during focus group conversations. Participants discussed how payment plans are helpful in mitigating financial concerns, but they do not cover all patient needs. In addition, other financial barriers related to transportation and not being able to take time off work created difficulty for patients.

When discussing barriers to accessing care, focus group participants often mentioned long appointments and wait times. More specifically, faculty/staff/student participants reported that many patients could not afford to take time off work for a 3-plus hour appointment. Those needing care in the school’s dental specialty clinics (e.g., orthodontics) were placed on long wait lists, which faculty/staff/student participants suggested is not

realistic for patients who need more immediate care. Faculty/staff/student participants also added their concerns about (1) transportation, (2) uninsured patients, and (3) language barriers. First, faculty/staff/student participants were concerned about patient transportation needs, such as having adequate access to public transit and alternative forms of transportation such as Medi-cab. Secondly, faculty/staff/student participants expressed concern that uninsured patients are not sure how to navigate various insurance or health care systems and that there is currently not enough staffing and/or training to assist patients with these issues. Additionally, faculty/staff/student participants reported that some patients do not fully understand their private or public insurance coverage. Participants believed that patients assumed their insurance will not cover the proposed treatments and therefore need to pay out-of-pocket, which may lead to missed appointments and not getting the needed care. Finally, faculty/staff/student participants reported experiencing language barriers within the clinic. Two focus groups (faculty and students) reported ineffective interventions to address language barriers. Some suggested that the language-translator telephone line is tedious, inconvenient, and slows down the clinical workflow. Often, bilingual staff and/or students assist with patients who are non-English speakers. However, this approach reduces staff resources and distracts students from other responsibilities.

Possible Solutions for Addressing Patients' Access to Care

Several solutions to access issues were explored by focus group participants. The focus group participants suggested that financial barriers could partly be addressed through more effective discounts and payment plans and by adding more considerations and structure to the process of receiving financial assistance. Both student and faculty focus groups noted how some faculty give patients discounts more often than others. Given that each clinic operates differently in terms of providing discounts, a more uniform policy and procedure could help patients access care. Finally, some participants suggested increased clinical efficiencies, such as having more faculty members in the clinic to supervise additional dental students to reduce the length of appointments and wait times.

Comfort Level of Students in Addressing Patient Barriers and in Providing Resources

Survey participants rated the comfort level of students in addressing various patient barriers. Dental students were asked to rate their comfort level, while staff and faculty rated their perception of the comfort level of students in addressing patient barriers. Students most frequently reported feeling uncertain, uncomfortable, or very uncomfortable in assisting patients during their clinical encounters with the following issues: (1) helping patients access reliable transportation (83.3%), (2) addressing reports of elder abuse (76.2%), (3) assisting and treating patients with schizophrenia (76.2%), (4) addressing suspected use/abuse of opioids (73.8%), and (5) responding appropriately to a patient who reports suicidal ideation (73.8%; Table 4).

Students, staff, and faculty were each asked in what areas students feel uncomfortable in addressing psychosocial barriers to care. Students' self-rated levels of discomfort were generally higher than the perceptions of faculty and staff. As Table 4 displays, students

generally reported a relatively high level of discomfort or uncertainty with helping patients across five areas of need. Discomfort was operationalized as respondents reporting a combination of feeling “uncertain,” “uncomfortable,” or “very uncomfortable” in addressing certain patient barriers. There were not many areas of agreement between the groups. Students (83.3%) and faculty members (73%) agreed that transportation was the area that students felt most uncomfortable assisting with; however, less than half of staff members (47.1%) recognized that this was a considerable discomfort for students. For students, schizophrenia (76.2%) and elder abuse (76.2%) were the second-highest areas of discomfort, while suicidal ideation (73.8%) and suspected use/abuse of opioids (73.8%) were the third highest areas of discomfort. For staff, suspected use/abuse of opioids was rated the most uncomfortable area for students (72.7%), while schizophrenia (61.8%) and suicidal ideation (61.8%) shared the second-highest area of discomfort. Faculty rated transportation as the highest area of student discomfort in assisting dental patients, followed by schizophrenia (63.9%), suicidal ideation (62.2%), and opioid abuse (62.2%) (Table 2). While roughly half of the faculty (55.3%) and staff (50%) agreed that students were uncomfortable addressing elder abuse, over three-quarters (76.2%) of students rated themselves as uncomfortable.

Table 4. *Student, Staff, and Faculty Perceptions Regarding the Students' Discomfort in Addressing Patient Psychosocial Barriers to Care*

Patient Barriers to Care	Agreement that Students are Uncomfortable n (%)		
	Students (n=42)	Staff (n=33-34)	Faculty (n=36-38)
Suicidal ideation	31 (73.8%)	21 (61.8%)	23 (62.2%)
Transportation	35 (83.3%)	16 (47.1%)	27 (73.0%)
Schizophrenia	32 (76.2%)	21 (61.8%)	23 (63.9%)
Elder abuse	32 (76.2%)	17 (50.0%)	21 (55.3%)
Suspected use/abuse of opioids	31 (73.8%)	24 (72.7%)	23 (62.2%)

Areas in Which Students Require More Resources to Assist Patients in Accessing Care

Considering that students felt discomfort with certain patient issues and that staff and faculty generally concurred, it was important to inquire about what resources the participants viewed as valuable for assisting patients with referrals and resources. Interestingly, the three sets of respondents reported four key sets of referral information that patients most needed. Only one of those overlapped directly with the area of students' discomfort with patients (substance use/abuse; 51.8%). Respondents (n=56) reported that the students likely need further resources and/or referral information for the following: (1) mental health needs (58.9%, n=33), (2) financial assistance (46.4%, n=26), and (3) transportation (41.1%, n=23). Respondents' previous recognition that students may have some difficulty with mental health issues such as suicidal ideation and schizophrenia is congruent with the identified need for further mental health referrals and resources. Each focus group discussed the clinical need for a centralized physical and/or online location for referral information and adjunctive interprofessional health care resources.

Patient Perceptions of IUSD's Helpfulness in Addressing Barriers to Accessing Care

Patients were asked how helpful IUSD was in assisting them to access care. The overall mean was 8.2 ($SD=2.275$) on a scale ranging from 1 (*not at all helpful*) to 10 (*very helpful*). Patients rated their level of satisfaction with their overall care at IUSD as 8.8 ($SD=1.78$) on a scale ranging from 1 (*extremely unsatisfied*) to 10 (*extremely satisfied*). Additionally, no statistical differences were found using the Manney-Whitney U test and the Kruskal Wallis test on these two items by patient age, gender, or race.

Student Challenges in Demonstrating Helpfulness with Patients

Faculty and staff members reported that a few dental students have difficulty consistently using lay terms to describe oral health care needs and treatment plans. Staff also reported that some students need to express more empathy, work more toward efficient problem-solving with patients, and more effectively recognize certain nonverbal cues of patients. Additionally, some focus group students shared that some of their peers were not interested in working with "difficult patients," patients facing certain access to care barriers, or even patients with special care needs. There was concern that some students might not show an appropriate level of caring and empathy for the treatment and inclusion of a diverse patient population. One participant reported that a few students, and some staff, do not always greet patients and focus enough on patient satisfaction.

Expectations for the Possible Introduction of a Licensed Social Worker

Over one-third of patients (37.3%) and most students, staff, and faculty respondents (93.8%) agreed that a social worker could be of assistance with financial barriers. Other areas that a social worker would be helpful within the dental clinic selected by patients were lack of dental insurance (36.7%), lack of reliable transportation (28%), language barriers (22.7%), and childcare needs (20.7%) (see Table 5). Students/staff/faculty expected that a social worker could assist with financial barriers (93.8%), transportation (86.4%), childcare needs (70.4%), lack of dental insurance (65.4%), and language barriers (51.7%).

Table 5. *Beliefs About the Value of a Social Worker: Patients (n=150) and Students, Staff, & Faculty (n=81)*

Patient Barriers	Endorsement of Social Work Benefit	
	Patients	Students/Staff/Faculty
Financial barriers	56 (37.3%)	76 (93.8%)
Lack of dental insurance	55 (36.7%)	53 (65.4%)
Lack of reliable transportation	42 (28.0%)	70 (86.4%)
Language barriers	34 (22.7%)	45 (51.7%)
Childcare needs	31 (20.7%)	57 (70.4%)

Staff, Student, and Faculty Perceptions of Additional Roles of a Social Worker

Staff, students, and faculty (n=82) identified additional areas in which a social worker could be of value. After the issues noted above, the most frequently reported areas in which a social worker would add value in a dental clinic were: addressing suspected domestic

violence (77.8%), mental illness (72.8%), substance use/abuse (72.8%), suspected elder abuse (72.8%), and suspected child abuse (72.8%; Table 6).

Figure 3. *Expectations for How a Social Worker Might be of Assistance in a Dental Clinic: Comparison of Students (n=42), Staff, (n=34) and Faculty (n=38)*

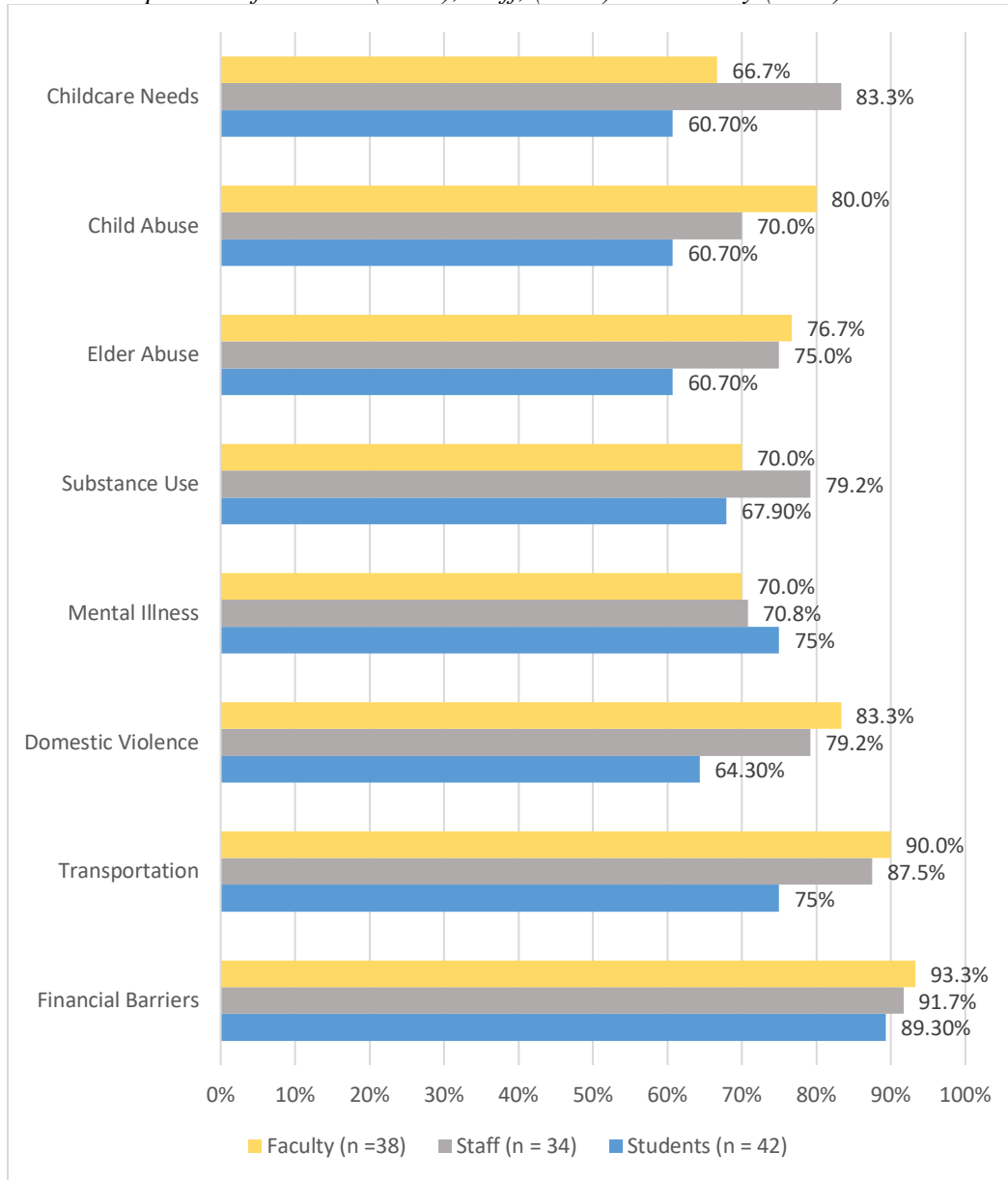


Figure 3 illustrates the differences, though not statistically significant, between students, staff and faculty in their expectations of how a social worker might assist in a dental clinic.

Table 6. *Perceptions of Additional Roles of a Social Worker with Assisting Patients and Increasing Access to Care by Staff, Students, and Faculty (n=82)*

	Affirmative n (%)
Social Worker Could Help with Patient Needs	
Suspected domestic violence	64 (77.8%)
Mental illness	60 (72.8%)
Substance use/abuse	60 (72.8%)
Suspected child abuse	60 (72.8%)
Suspected elder abuse	60 (72.8%)

Focus Group Expectations for a Social Worker

Within both staff and faculty focus groups, participants (n=8) shared instances in which they had worked with a social worker in other health settings and had found their support helpful. Participants expressed that social workers could assist with addressing barriers, tracking patients for future appointments or referrals, and providing critical and essential psychosocial resources.

In both the focus groups and open-ended survey responses, most individuals within IUSD do not clearly understand the role, duties, or value of a health social worker. No students and only one faculty member had any prior experience working with social workers. All staff in the focus groups reported having had some brief interactions with social workers. As such, each group expressed that students would need significant education on the role of a social worker and how they might specifically work with them in the clinic. They also reported that orientation and training are likely needed for staff and faculty as well so that a social worker could collaboratively and effectively assist patients. Finally, the staff and faculty focus group participants suggested that the current lack of foundational knowledge and understanding about interprofessional education and practice might improve once the clinic fully integrates a social worker.

Discussion

This preliminary study and corresponding analyses illustrate numerous patient barriers, as reported by patients, faculty, staff, and dental students. In response to the Department of Health and Human Services initial report (2000) and the ADEA (2017), two dental schools have demonstrated the ability to address barriers similar to those reported in the present study by integrating a social worker into their patient clinic (Petrosky et al., 2009; Zittel-Palamara et al., 2005). This study's key findings are further discussed below in conjunction with the social work intervention approaches found within these two university dental clinics.

Patient Barriers Involved in Accessing Oral Health Care

The most frequently reported perceived patient barriers to oral health care identified in the present study were: (1) lack of financial means, (2) lack of or inadequate private or public insurance, (3) limited or no transportation, (4) general health problems, and (5)

language barriers. These barriers were similar to those identified by the CARES Program at the University at Buffalo (Zittel-Palamara et al., 2005).

Addressing Patients' Needs and Barriers to Accessing Care

Consistent with previous research (Petrosky et al., 2009; Zittel-Palamara et al., 2005), dental students in this study were uncomfortable addressing certain barriers to treatment. A health social worker integrated into the dental school can help mitigate such issues. The areas that caused the most discomfort for dental students included: assisting patients with transportation and responding to elder abuse, symptoms of mental illness, suspected opioid use, and suicidal ideation. This finding supports integrating a licensed social worker into the dental clinic to provide clinical consultation of patients and training of dental students in how to address these issues when they arise in the clinic. These findings support the role of the social workers employed with CARES (Zittel-Palamara et al., 2005) and EDC (Petrosky et al., 2009) programs as they often serve as referral sources for such issues. Social workers in these environments effectively connected patients, students, staff, and faculty to community referrals and resources.

Limitations

This study had several limitations. The initial survey instrument of students, staff, and faculty revised following implementation to improve our likelihood of getting more patients to answer the subsequent shorter overall needs assessment survey. Electronic surveys, especially when completed on a mobile device, can lead to a lower response rate. For example, 29 patients began the survey but did not make it past the demographic section. Individuals who skipped or did not complete portions of the survey, which may have been due in part to the length of the survey or attempting to complete the survey on a phone or other small mobile device, were not included in the analyses.

The study included three focus groups. However, the original goal was to conduct nine. It was extremely difficult to recruit participants. Individuals who did show up to the focus groups shared that many of their peers/colleagues were not interested in participating because "social work" is out of their scope of practice. They did not understand a social worker's relevance to their immediate job or learning. This limitation demonstrates a key challenge in addressing the barriers mentioned previously – a willingness for health professionals to collaborate with each other and the patient/client. Faculty, staff, and student education on the value of ICP and the role of the social worker in dental practice is crucial to establishing a culture of interprofessional collaboration in the dental school clinic and encouraging a team-based approach to solving the complex mix of factors that impact patients' access to oral healthcare. Lastly, some non-participants remarked that they were exceedingly busy with competing priorities and could not participate in the surveys or focus groups.

Strategies to Integrate Social Work into Dental Settings

Participants reported that a licensed social worker could potentially address many access to care issues in the dental clinic. In order to address these issues, clear strategies

need to be identified so that the social worker is effectively integrated into the dental team. Integration strategies include identifying solutions for operational concerns, programmatic opportunities, and interprofessional education training.

Social workers can address operational concerns by collaborating with the dental clinic's quality improvement and compliance teams as well as impact the financial position of the dental clinic. As recommended by participants in the study, items to be addressed include language barriers and long appointment/wait times. The social worker can also develop a referral resource system to assist in addressing the access to care issues. Finally, the social worker can attend to operational concerns of financial impact by increasing patients' preventative and maintenance care, which can reduce the utilization of high cost, non-specialized emergency department visits, increase clinic-based patient treatment, and increase patient-canceled clinic appointments vs. no-shows (Lyons, 2020). Financial barriers could be addressed more effectively by offering individualized payment plans and implementing a sliding fee scale based on the patient's income. Additionally, standardized policies and procedures regarding fee discounts and payment plans across each of the clinics could be implemented, so that faculty and students apply them to patients in a uniform and equitable manner. With these net changes, there may be an increase in reimbursement rates.

Two suggested programmatic opportunities which support the clinic operations and patient care include telehealth technology to support language interpretation services and consults with behavioral health specialists. An interactive telehealth language support system offers the ability to have synchronous face-to-face video interactions for all forms of interpreting between the interpreter, patient, and provider to better address language barriers encountered during in-clinic care. IUSD could more fully utilize its existing chairside monitors to provide online streaming of general, medical, and dental education, provide face-to-face language services, and telehealth or telebehavioral health services. In addition to conferring with a social worker about resources and referral needs on this telehealth platform, an interactive chairside mobile referral and resource platform could be used to find, promote, note, and share critically important information (e.g., domestic violence-related resources).

Importantly, it is necessary to implement an intentional training program for all dental students, faculty, and staff on interprofessional education and collaborative practice. Research evidence indicates that IPE is considered to be an essential element in modern health sciences education (Lash et al., 2014) and that engaging in IPE can reduce stereotyping, improve one's willingness and preparedness to collaborate with others (Gunaldo et al., 2020), and provide a greater appreciation of the roles and skills of other professionals in an interprofessional care team (McKinlay et al., 2019). Engaging in interprofessional learning can improve students' knowledge and skills in preparation for collaborative practice and increase favorable attitudes regarding various aspects of interdisciplinary teamwork, such as communication and shared problem-solving (Dyess et al., 2019).

The school's dental and dental hygiene students currently participate, with learners from up to eight other professions, in a university-wide, competency-based, multi-

component foundational IPE curriculum. The components of this core curriculum occur in a sequenced fashion throughout the students' respective educational program and currently include exposure-level and simulation experiences. The last two components of the core curriculum, currently in development, offer clinical experiences in collaborative care. Integrating a social worker into the dental school's clinical operations would provide the opportunity for dental students and faculty to engage in team-based care and would provide the framework for a clinical component of the core IPE curriculum.

Some dental school faculty also participate in the core curriculum as facilitators of one or more of its components. However, faculty appreciation of, and skills in, interprofessional collaborative practice varies widely, and all dental faculty, especially clinical faculty, would benefit from additional training. The dental school's credentialing and professional development continuing education offerings could include sessions on IPE/ICP to enhance faculty buy-in and willingness to participate in interprofessional collaboration. Likewise, knowledge of IPE/ICP among dental school staff members is not extensive, and they would benefit from an understanding of the advantages of interprofessional collaborative practice and the skills required for effective teamwork, as well as the specific role and value of a social worker in the oral health care setting. Similarly, EDC worked to train all clinic providers within the school to understand the role of the social work professional and how one can address patient problems (Petrosky et al., 2009). In sum, findings from this needs assessment support the inclusion of social workers in an academic dental clinic. In addition to supporting interprofessional collaborative practice, doing so may help address patient barriers to care and thus promote better oral health outcomes.

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