Social Spatialization in a Community Dental Clinic Space: A Critical Ethnographic Exploration

by

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Abstract

Background: Inequitable access to oral health and dental services has become a policy priority. Meso-level policy interventions, such as creating inclusive spaces in settings intending to provide care to marginalized communities, are identified as an area requiring study. Researchers in other disciplines have explored the relationship between healthcare spaces and patients. Their findings demonstrate the impact of material objects and care environments on how and to whom care is delivered. Research about dental care spaces is limited, and non-profit or community-based dental spaces intending to serve marginalized communities have yet to be considered. Drawing on Shields' concept of spatialization, this thesis explores the practices, discourses and lived experience of an inner-city non-profit community dental clinic space.

Purpose: This dissertation explored a non-profit, community dental clinic's architecture and design as a physical structure and a social spatialization. The researcher explores how decisionmakers and individuals involved in the planning and design of the facility understood the clinic's target patient group, considerations in creating the clinic and the social spatialization of the dental clinic space.

Methods: The dissertation consists of two related chapters: (1) an exploration of how the patient population of the community dental clinic was defined and described by key decisionmakers and clinical staff; (2) an exploration of the community dental clinic (CDC) space, the discourse about the clinic, and research observations and reflections about the lived experience within the space.

Results: Two key decision-making groups involved in the planning and design of the CDC measured, defined and perceived the clinic's target patient group differently. Two patient groups emerged from the data: one described favourably and one negatively. An exploration of the CDC space through the framework of Shields' concept of spatialization reveals that practices,

architectural features, and perceptions of bodies and behaviours are reflected in the clinic space. This spatialization reflects a moral panic about potential destructive or harmful behaviours of the latter patient group that is used to justify the monitoring and surveillance of their behaviours (a form of policing) and serve to maintain a clean, hygienic environment. As bodies move through the clinic space, they are subjected to various forms of sorting and categorizing intended to weed out some bodies and behaviours from the clinic.

Conclusion: The critical exploration of a community dental clinic (CDC) space reveals the impact of societal beliefs, professional practices, and subaltern identities in the quest to create inclusive oral health care spaces. Findings from this thesis expand on current literature regarding how patient populations are defined, reveal assumptions about these groups and how current dental environments may reflect societal and professional biases. This study develops a foundation for understanding the impact of dental care spaces on care provision and to whom.

Preface

This research was supported by a grant from the Oral Health Community Engagement Fund (OHCEF) and the Edmonton District Dental Society (EDDS). The research project of which this thesis is a part received research ethics approval from the University of Alberta Research Ethics Board, Project Name "*Exploring How Presumed Patient Identity Impacts How Dental Clinic Spaces are Constructed"* (Pro00110258).

Acknowledgements

I respectfully acknowledge that I, the University of Alberta, and the community dental clinic I studied are located on Treaty 6 territory, a traditional gathering place for diverse Indigenous peoples, including the Cree, Blackfoot, Métis, Nakota Sioux, Iroquois, Dene, Ojibway/Saulteaux/Anishinaabe, Inuit, and many others whose histories, languages, and cultures continue to influence our vibrant community. Further, I acknowledge the significant enduring and continuing trauma of European colonization for the Indigenous peoples who lived and continue to live upon this territory.

My deepest appreciation goes out to Sharon Compton, the former director of the dental hygiene program in the School of Dentistry at the University of Alberta. She was the first to encourage me to consider graduate studies and research as the next step in my career journey.

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Special thanks to the Boyle McCauley Health Center administration, staff and patients for allowing me to conduct my interviews and field research in the Boyle McCauley Dental Clinic. This non-profit organization provides valuable health services to marginalized individuals who otherwise would not receive care and had the foresight to recognize oral health

services as integral to their mission. I hope that the findings from this thesis provide insight into how to create more inclusive dental spaces for marginalized individuals.

Finally, I could not have undertaken this journey without the loving support of my family: my husband Neal; our children Donovan, Ryan, and Delaney; our daughter-in-law Ashley; and my parents Janice and Richard Edgington. You have encouraged me to continue through all the ups and downs of graduate studies. When I was stressed, you provided me with a safe place to rest. I am forever grateful for your love and support.

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List of Abbreviations

BMHC- Boyle McCauley Health Clinic (Rebranded to Radius Community Health and Healing in 2023)

BMDC- Boyle McCauley Dental Clinic (Rebranded to Radius Community Health and Healing Dental Clinic in 2023)

CDA- Canadian Dental Association

CDC- Community Dental Clinic

IDF/FDI- International Dental Federation or World Dental Federation

WHO- World Health Organization

Glossary of Terms

Community Dental Clinics: not-for-profit or volunteer based dental clinics that provide essential and preventive dental services for a reduced or no fee to marginalized populations (Wallace, 2012)

Oral Health: this thesis draws on two existing definitions of oral health.

1. "a state of being free from mouth and facial pain, oral and throat cancer, oral infection, and sores, periodontal (gum) disease, tooth decay, tooth loss and other diseases and disorders" (WHO, 2023)
2. "oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort, and disease of the craniofacial complex" (Glick et al., 2016, p. 793).

Space: a site, area or region in which specific social activities occur and which has a shared cultural identity and image. Space is constituted of practices, dominant discourses and abstract representations, and lived experiences and perceptions, each of which is simultaneously interactive, co-constitutive and in tension with each other (Shields, 1991)

Spatialization: the production of space through a dynamic spacing and placing of humans, objects, and activities simultaneously informed by practical needs and social norms (Shields, 1991).

Target(ing): the choice of patient population that will receive a dental intervention or be included in a dental program.

CHAPTER 1: INTRODUCTION AND THESIS OVERVIEW

Inequitable Oral Health and Access to Care

The World Health Organization (WHO) defines oral health as "a state of being free from mouth and facial pain, oral and throat cancer, oral infection, and sores, periodontal (gum) disease, tooth decay, tooth loss and other diseases and disorders" (WHO, 2023). The World Dental Federation (FDI) states that "oral health is multi-faceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow and convey a range of emotions through facial expressions with confidence and without pain, discomfort, and disease of the craniofacial complex" (Glick et al., 2016, p. 793). Oral health and access to adequate dental care are fundamental human rights (Jozaghi et al., 2022; WHO, 2022). However, oral diseases disproportionately affect marginalized populations (WHO, 2023). Recognizing oral health as a fundamental human right, the WHO released the Global Strategy on Oral Health (WHO, 2022).

Current Policies Addressing Inequitable Access

The WHO Global Strategy on Oral Health (WHO, 2022) targets marginalized populations, including the socially marginalized, disproportionately impacted by poor oral health and inequitable access to care (Annex 3.9). One key research agenda is Barriers to accessing care (Annex 3.45). The strategy recognizes a need to address social determinants of oral health, including structural and social barriers (Annex 3.11), of which social stigma can be included. Mid-level (the institutional or organizational level) policy interventions, such as creating inclusive environments, especially in settings intending to provide care to marginalized populations, were identified as requiring future study (Annex 3.15).

Improving access to oral health and access to care has become a policy priority nationally (Canadian Dental Association (CDA), 2017), provincially (Alberta Health Services (AHS),2016) and

locally (Goldblatt, 2002). To date, research and policies have primarily focused on the affordability and availability of dental services, as evidenced by the recent Canada Dental Benefit (Canada Revenue Agency (CRA), 2022), along with population-level prevention programs like water fluoridation (Glick et al., 2016; WHO, 2022) and the establishment of community dental clinics (Goldblatt, 2002). These solutions to inequitable access do not question implicit institutional assumptions and structural barriers within the discipline of dentistry.

Despite the success of population-level initiatives such as water fluoridation, low-income individuals continue to be impacted by preventable oral health diseases at a disproportionate rate (Northridge et al., 2020). Population-level approaches do not address individual-level experiences and perceptions. Macro-level approaches assume that the population uniformly benefits from a policy or intervention. Neither approach addresses the potential structural barriers experienced by marginalized populations[11].

In Canada, dentists have indicated an unwillingness to accept publicly funded patients due to lower reimbursement rates (Goode et al., 2018). Debates about the implications of the ethical and moral obligations of the dental profession to meet public needs are emerging which are critical of dentistry's fee-for-service model and the dentist's reluctance to serve marginalized groups (Moeller & Quiñonez, 2020). Recent literature suggests that access to publicly funded insurance and local dental services may not correlate with higher utilization rates amongst marginalized groups (Goode et al., 2018; Northridge et al., 2020; Wallace & MacEntee, 2012).

[1] In Section 5.2 below, I discuss how this category is often used in policy reports as a shorthand for those who have low incomes or do not participate in the economy (un- or under-employed or economically excluded) often due to mental or physical disability, lack of education or housing or residential status and are thus marginalized and stigmatized. This paper uses the term 'marginalized' as a broad rubric and 'unhoused,' 'transient,' 'underserved,' and 'disadvantaged' as more specific socio-economic groupings.

Within the dental profession, low utilization of available dental services is perceived to result from low dental education, low prioritization of dental health, and a fear of dentistry (Goode et al., 2018; B. Wallace et al., 2014). The response of dental professionals is to further educate individuals with the belief that with understanding, these patients will come to value dental care. The responsibility for poor oral health and lack of knowledge is placed solely on the individual without consideration of social determinants of health. Stereotypes and biases that dental clinicians/professionals may have of low-income or homeless individuals are felt by marginalized groups (Goode et al., 2018; Wallace & MacEntee, 2012). Socially marginalized groups have reported stigma as a barrier to accessing care in some dental settings (Brondani et al., 2017; Jozaghi et al., 2022). The commodification and commercialization of dentistry in Canada is poorly suited to meet the needs of the public and privileges those who can either afford to pay or have dental insurance over those with the greatest need for service (Moeller & Quiñonez, 2020). Furthermore, in trying to maximize profits and access larger patient bases, dental clinics are often located in densely populated areas and compete to attract those patients who can afford high-quality dental or cosmetic treatments through either well-funded dental insurance plans or out-of-pocket personal expenses (Wallace & MacEntee, 2012). Public funding models do exist but often cover only a fraction of the fees charged in private clinics. The lower remuneration for dental services results in limitations on treatments available and choice of dental clinics, especially for marginalized individuals (Northridge et al., 2020; Wallace & MacEntee, 2012).

Community Dental Clinics (CDCs)

Community dental clinics show promise as an accessible, low-cost, or no-cost care solution for marginalized populations (Goldblatt, 2002; Wallace & MacEntee, 2012). These

dental clinics provide essential and preventive dental services at reduced fees or no cost. Wallace (2012) describes two (2) economic models of CDCs: volunteer-charitable (VC) clinics and not-for-profit (NFP) clinics. Each economic model has inherent strengths and limitations.

VC clinics involve volunteer dental professionals providing emergent care and pain relief at no cost on an intermittent or limited schedule (Wallace, 2012; Kallal, 2021). These clinics typically target low-income adults and those facing complex medical and social barriers to care (Wallace, 2012). The appeal of VC clinics lies in the perception of these undertakings as a compassionate response by the dental profession to inequality and social injustice, the elimination of labour costs, and their ability to provide care to smaller, remote communities with no local dental professionals or services (Wallace, 2012). However, these clinics rely on the availability of volunteer dental professionals and operate on an infrequent or irregular schedule. The irregular schedule restricts the availability of services to the timing of VC events, limits how many individuals are served, and diminishes the ability to offer follow-up treatment or the time to complete complex treatment plans (Wallace, 2012). Despite having a volunteer labour force, VC clinics also require significant fundraising to cover equipment and supplies (Goldblatt, 2002; Wallace et al., 2015; Wallace & MacEntee, 2013). The cost of running a clinic and reliance on volunteerism challenge the sustainability of a VC project.

Staff at CDCs have raised concerns that policymakers and private dental clinics perceive their clinics as a final solution to inequitable access to dental care (Wallace, 2012). These informants believe this perception permits policymakers to ignore broader social determinants of inequitable oral health and dental services and seek solutions to this issue (Wallace, 2012). The existence of a dental service designated for marginalized groups may also permit private dental practices to triage disadvantaged individuals away from private clinics to VC clinics and

services, leading to risks of stratifying dental care (Wallace et al., 2013, 2015).

NFP clinics operate using paid staff and regularly scheduled clinic hours (Wallace, 2012). These CDCs provide comprehensive dental services (i.e. fillings, tooth extractions and preventive treatments) on a fee-for-service basis paid directly by patients or through public dental benefits, often at reduced rates to cover operating costs and found to work best when integrated with other allied health and social services (Wallace, 2012). The strength of an NFP clinic is its ability to provide comprehensive care within the community on a consistent basis through regular operating hours and paid staff (Wallace, 2012). However, the cost of setting up and operating a permanent facility is substantial, and reliance on reduced fees and reimbursement places the financial sustainability of NFPs in jeopardy (Goldblatt, 2002; Wallace, 2012). The demand for dental services in underserved communities often exceeds NFP clinics' capacity, resulting in long wait times and delayed treatment (Goldblatt, 2002; Wallace, 2012). Although NFPs increase availability and affordability, this alone does not address other barriers the underserved experience. For those experiencing poverty, NFPs may not be accessible because such clinics still require some form of payment for services. For those who live in remote areas, NFPs may be difficult to access when transportation to the clinic is not readily available (Wallace, 2012).

Community dental clinics, both VCs and NFPs, are further limited by several other factors. CDCs are often found in densely populated areas where dental professional volunteers or students are readily available (Goldblatt, 2002). When students are the providers, CDCs are limited to urban areas with dental schools or dental outreach programs. (Northridge et al., 2020). Furthermore, as outlined above, even when dental services are available and affordable, marginalized populations are less likely to access dental care due to perceived stigmatization

(Wallace & MacEntee, 2012), suggesting that barriers to oral health care exist beyond that of availability and affordability.

The literature does not consider potential barriers to care that may involve not only professionals and care methods but also the spatial and temporal organization of clinical practice, including its location, architecture, and management of its operation. Researchers in other disciplines have begun to explore the relationship between healthcare environments and patients (Buse et al., 2018). Findings suggest that material objects and care environments can impact how and to whom care is delivered (Buse et al., 2018). The potential impacts of dental care spaces, systems, and practices on access to dental care have yet to be critically analyzed. Little is known about whether the current model of provision of oral health care accommodates the unique needs of marginalized populations. Furthermore, it is unknown whether the design and functioning of a dental clinic space contribute to the inclusion and exclusion of individuals as patients.

Understanding the impact of taken-for-granted practices, systems and structures in dentistry reveals social and structural barriers to oral health and dental care beyond cost and availability. Informed by the findings of this study, current and future community dental clinics and oral health initiatives will be armed with increased awareness of the social and relational aspects of space and be able to use this knowledge to inform their decisions on planning and designing more inclusive and accommodating dental care spaces for marginalized communities. Furthermore, this research expands on previous dialogues surrounding the role of the dental profession in meeting the oral health needs of the marginalized (Moeller & Quiñonez, 2020) and builds upon an interdisciplinary collaboration and dialogue between social science and dentistry (Exley, 2009).

Goals and Aims

This thesis sought to understand how an inner-city community dental clinic's target patient group was perceived and how the dental clinic space was conceived by those involved in the planning and design of the facility and explore the dental clinic space as a physical and social construction and production.

This thesis aims to address gaps in the dental literature about how marginalized groups are perceived and targeted for care, the nature of dental clinic space, and the relationship between the two by asking two (2) research questions (RQ):

1. When individuals were planning and designing an inner-city dental clinic, how and why did they define and choose the targeted patient population?
2. How does the dental clinic's physical and social space reflect, accommodate, and impact bodies, objects, and behaviours in the space?

The first of these research questions (RQ1) is significant because it describes and evaluates the process of determining the target patient population for the CDC under study. As stated in the previous section, it has been theorized that how groups are perceived can impact resource allocation decisions (Brown, 2012). Therefore, I assumed that the design of the CDC drew on preconceptions and previous experiences of marginalized individuals attending the clinic. The second of these research questions (RQ2) depicts, describes, and evaluates the spatiotemporal, social and material interaction between the architecture of the new clinic and the expanded set of procedures, with the required instruments and materials, that supported the staff and patients.

Thesis Overview

The thesis is divided into four (4) separate but related chapters.

Chapter 2 defines the study's conceptual framework, research design and methodologies for the entire study. This chapter includes a discussion of critical ethnography as a methodology, data collection methods, and methods of analysis. As this is an ethnography, a section of this chapter will include a description of the current context of dental service provision in the country, province and city where the research occurred and a description of an inner-city CDC, the neighbourhood it is situated in and the patients it serves. The chapter will also include discussions about validity threats and ethical considerations.

Chapter 3 is a component of the project that examines how key informants involved in the planning and designing the inner-city dental clinic defined and described the patient population they perceived the dental clinic would serve (RQ1). This question is significant as it establishes who decision-makers anticipated to be in the CDC. As noted, how a patient population is defined and perceived affects program design and policies, programs, and spatial design decisions. The findings in this chapter establish the discourse about marginalized people that existed among decision-makers that influenced planning and design decisions for the dental care space.

Chapter 4 addresses how a dental clinic's physical and social space reflects, accommodates, and impacts bodies, objects, and behaviours in the space (RQ2). Findings are presented as an 'interpretive tour' of the facility interspersed with interview data and field notes as well as interpretations and analyses based on literature in spatial studies and the researcher's experience in private practice and the inner-city dental clinic itself as a Registered Dental Hygienist.

Chapter 5 begins with the researcher's reflections on her experiences as a researcher and a trainee in an interdisciplinary space. Her reflections focus on how the body of work relates to the broader context of interdisciplinary collaborations and outreach programs, the importance of

self-reflexivity within the dental profession, the social contract, and the design and planning of future CDCs. This chapter also discusses limitations, considers areas for future study, and then closes the thesis with a brief conclusion.

CHAPTER 2: RESEARCH DESIGN AND METHODS

Research Design

Epistemology and Ontology

The study draws on realist assumptions that all perceived and conceived phenomena are real (Maxwell, 2012). It draws on critical theories to examine social, structural, and institutional assumptions (Maxwell, 2012). Additionally, this thesis draws on a sociological understanding of space and spatialization by exploring space's social and physical constitution (Shields, 1991, 2013). A realist conceptualization of space as a set of constructed relations allows one to address the physical features and social qualities of space, objects (human and non-human) and their relationships. Spatialization refers to the dynamic placing and spacing of objects (human and non-human), phenomena, and behaviours within a space, setting, and social context (Shields, 1991, 2013). Both spaces and their perception and experience are acknowledged as contextual and situated (Shields, 1991, 2013). This thesis utilizes spatialization as a framework for exploring the dynamics of clinical space and its three constituent aspects: 1) human practices within a space, 2) how a space is conceived discursively and abstractly represented, and 3) how a space is experienced as a framework for activities and objects (Lefebvre, 1991, as cited in Shields, 2013).

Methodology: Critical Ethnography

Ethnographic approaches are valuable for developing a nuanced, complex description and interpretation of a culture-sharing group by immersing the researcher in the field to gain first-hand knowledge of the phenomena they are studying (Creswell, 2018). Although this methodology is often conflated with cultural studies and anthropology, it also has roots in sociology (Creswell, 2018). The literature includes ethnography studying healthcare institutions'

architecture (Street, 2012). Data collection in ethnographic studies is multimodal and contextual (Creswell, 2018). Fieldwork relies on ethnographic observation and interviews (Creswell, 2018). Still, this methodology can also include collecting other sources (e.g., artifacts, documents, etc.) as they emerge in the field (Creswell, 2018). Data analysis involves the development of descriptive and emerging themes shared by the people under study and interpreted by the researcher to provide an overall understanding.

A critical ethnography draws on traditional ethnographic approaches and critical theory (Breda, 2013; Creswell, 2018; Oladele et al., 2012). Critical ethnography draws on four conceptual tenets (Breda, 2013; Oladele et al., 2012). First, it acknowledges that the researcher's experiences and biases inform the research topic, research design and data interpretations and thus requires researcher reflexivity (Breda, 2013; Oladele et al., 2012). Second, it seeks to reveal taken-for-granted beliefs and practices, which are often implicit and unnoticeable because we perceive them as truths and reality (Breda, 2013; Oladele et al., 2012). Critical ethnography attempts to render the invisible explicit by reflecting on what is present in interactions, the space, and what is absent or diminished by participants. This project aligns with this aim by carefully mapping and providing a visual description informed by the researcher's knowledge of the dental clinic. Third, it has a social justice perspective that elevates the researcher's ethical responsibility to address inequities and takes an activist stance. Foundational to this thesis is an activist stance that oral health is a fundamental human right and that the dental profession has an ethical responsibility to address oral health needs, uphold the social contract of dental professionals (Moeller & Quiñonez, 2020), and increase access to dental services for all individuals. Ultimately, critical ethnography aims to shift perceptions, knowledge, and conditions.

This thesis involves marginalization, exclusion, social inequity, and taken-for-granted understandings. Thus, a critical ethnography situated research activities within the same social context as the phenomenon and object of study as it exists. The methodology accommodated the observation and investigation of the complexity of the community dental space, multiple stakeholder perspectives, and the community's diversity. An ethnographic approach placed the researcher in situ within the inner-city dental clinic, facilitating a first-hand experience and a more nuanced contextual understanding of the dental clinic space. Data was gathered from several sources using multiple data collection methods to understand how dental clinic patients were defined and understood comprehensively. Throughout the research, data analysis sought to preserve the voices and perspectives of key informants. The researcher's experience, field observations and data from multiple sources facilitated the interpretation and analysis of data (Breda, 2013; Oladele et al., 2012). An exploration of dentistry's discourses, policies, processes and whether these contributed to inequitable care required consideration. This reflexivity was especially critical, as the researcher was a dental professional and was likely to hold professional biases.

Research Interest and Researcher Positionality

I acknowledge that my positionality influences my choice of research topics, methods, interpretation of data, and relationship with key informants and clinical staff at the community dental clinic.

My interest in access to oral health and dental care stems from my 36 years of experience as a dental hygienist in private practice. During that time, I became aware that barriers to care existed for many individuals. I have participated in international dental mission trips to Central and South America and volunteered at local events offering free dental care to the

Homeless and working poor. However, these solutions to accessibility felt inadequate and unsustainable. Opportunities to obtain free dental care were only offered sporadically, relying solely on dental professionals willing to volunteer their time and failing to meet all the dental needs of the patients served.

In 2017, I entered an undergraduate program in Sociology and began expanding and deepening my understanding of social inequality and barriers to accessing resources for marginalized populations. The work presented in this thesis combines my professional experience in the dental field with my orientation toward social inequality and inequitable access to dental care that persists.

For the duration of the field research for this thesis, I worked at the inner-city community dental clinic, which is the object of study, as a clinical instructor for the Faculty of Medicine and Dentistry. Despite my experience in the dental field, I had no prior experience working specifically in community dental settings nor any prior knowledge of dental clinic design processes, which excluded the possibility of this research from being purely auto-ethnographic. Typically, ethnographers require extensive time to build trusting relationships, become familiar with the cultural language and symbols, and collect data in the field (Creswell, 2018). However, I immersed myself in the community dental clinic through my role as a clinical instructor. This situatedness allowed me to reduce the time required to familiarize myself with the dental clinic setting and processes. It permitted me to obtain a more nuanced and contextual understanding of the clinic and applicable phenomena.

Self-reflexivity proved vital as I needed to negotiate the dualistic nature of my insider/outsider positionality and identity as a participant/researcher, dental professional/sociologist (Humphrey, 2007). Furthermore, self-reflexivity about the personal biases and prejudices that have accompanied my training in both disciplines will be necessary

(Lélé & Norgaard, 2005). I have included reflections on my experiences participating in an interdisciplinary space at the end of this thesis.

Social Context of This Thesis

Addressing inequitable access to oral health and dental services has become a global policy priority (WHO, 2022). Canada's most recent response to these inequities is the Canada Dental Benefit (CRA, 2022). Although this program presents a solution to the high cost of dental services, it currently only covers dental services for children and does not address social and systemic factors that create barriers to receiving care.

The existing service model for dentistry in Canada is fee-for-service, provided primarily by privately owned, profit-driven dental clinics (CDA, 2017). Dental fees also vary from province to province (CDA, 2017). Alberta has only a recommended dental fee guide, and dental clinics set their prices (ADA, 2018). Several public funding models exist in Canada but vary amongst provinces and territories (Shaw & Farmer, 2016). The Alberta Dental Association website lists nine community dental clinics in Alberta (ADA, n.d.). The economic model and target population of each of these CDCs varies.

Relevant to this thesis, The period in which the research occurred coincided with the COVID-19 pandemic. Social distancing and infection protocols impacted research methods and the dental space under study. These requirements necessitated virtual key informant interviews. During field observations, restrictions required the researcher, staff and patients to use personal protection equipment (i.e., gowns, masks, face shields). Only dental providers, support staff, and patients with appointments were permitted to be in the facility, necessitating the researcher to be someone already functioning in one of those roles. Dental offices were also required to remove or limit touchpoints (touchable objects like magazines, remote controls, paper, and pens that could be sites for virus transmission). Many material objects that would have been present in

offices before the COVID-19 pandemic were absent.

Object of Study: Boyle McCauley Dental Clinic (BMDC)

The object of study for this thesis is the Boyle McCauley Dental Clinic (BMDC), a community dental clinic offering comprehensive dental services five (5) days a week in an inner-city region of a mid-sized Canadian metropolitan city since 1992 (Radius Health, 2023). Dental services at this clinic are provided by paid staff and dental and dental hygiene students from the School of Dentistry (Radius Health, 2023). Treatment fees are scaled according to the individual patient's financial capacity to afford care. A sliding scale discount is assessed based on the patient's yearly income (Radius Health, 2023). Dental and dental hygiene students from the University of Alberta also offer free dental services on Saturdays through the Student Health Initiative for the Needs of Edmonton (SHINE) (Kallal, 2021; Radius Health, 2023).

Initially, the location of the dental clinic was the basement of the Boyle McCauley Health Clinic (BMHC), the only not-for-profit, "community-owned and operated health centre" in the city (Radius Health, 2023). The health clinic is located just north of the city's central business district in a disused area that once bordered railroad switching yards that were removed in the 1970s. The site is in an inner-city but less dense neighbourhood characterized by health and social services agencies and residences for the socioeconomically marginalized and an unhoused and transient population. Allied health professionals and social workers staff the health clinic. Initially, the health clinic's patient population was geographically based and included three inner-city neighbourhoods: Boyle Street, McCauley, and Norwood. These neighbourhoods are among the lowest-income regions in the city and have historically lacked affordable and accessible dental care (Goldblatt, 2002). However, BMHC's mandate has since shifted away from a geographically defined target to focus on severely marginalized populations who face multiple barriers to accessing health care due to health concerns, social barriers,

poverty and lack of Alberta health insurance (Radius Health, 2023.). Accordingly, the dental clinic, in the basement of the health clinic, was initially set up to serve the health clinic's target population, who also face barriers to accessing oral health and dental services beyond cost and availability (Radius Health, 2023). These barriers included classism, racism, homelessness, or health-related obstacles such as mental health issues and addictions (Radius Health, 2023).

After 25 years of operation[2], several factors necessitated the closure of the original dental clinic within BMHC and moving it to a new location. First, the funding structure for BMDC relied on fees from publicly funded insurance and payments from patients eligible for reduced costs. This funding structure left the clinic with a substantial budgetary shortfall (Goldblatt, 2002). Second, the clinic's capacity of three dental chairs prevented the clinic from meeting the increasing demand for dental services in the community (Goldblatt, 2002). Finally, the decision by Alberta Health Services (the local health authority) to locate a Safe Consumption site at BMHC, and more specifically in the dental clinic space, necessitated moving the dental clinic (Kornik, 2018).

On January 28, 2019, a new dental clinic officially opened, approximately 550 m from the previous dental clinic at the Boyle McCauley Health Clinic (BMHC) (Rai, 2019). The new clinic was expanded to include eight dental operatories (Rai, 2019). The School of Dentistry, at the local academic institution, spearheaded the creation of the "new" facility in partnership with local stakeholders: BMHC, the Metis Nation of Alberta (who own the building the clinic is in and whose members are often socially marginalized and living in the surrounding community), and Alberta Health Services (Rai, 2019). The "new" clinic created a unique opportunity to explore how decision-makers and individuals involved in the dental clinic's planning, design,

[22] The BMHC dental clinic was established in 1992 (*Boyle Dental Clinic Project*, 2018).

and daily functioning understood the target population and what considerations informed decisions around architectural design features.

Initial informal conversations with the architectural designer of the current BMDC indicated that design features in the dental clinic drew from his perceptions of the populations in the community the clinic was likely to serve, from the design solutions utilized by businesses in the community and nearby, and the needs and concerns of the staff and patients. Early in the development of this research, an informal conversation with a staff member who had worked at both the "old" and "new" BMDC indicated there was a perceptible difference in the type of patients attending the new clinic and the "feel" of the new clinic. Furthermore, they suggested that the change was for the better. In their experience, some patients at the "old" clinic were not "good" patients. These individuals were described as intoxicated or "under the influence [of drugs]," unreliable in keeping appointments, and only interested in collecting free toothbrushes and toothpaste. Also, the staff member indicated that patients had shared that they felt "safer" now at the new clinic. This initial data suggested that segments of the previous patient base at the last location no longer attend the new clinic, that established understandings about these individuals exist and that the current and previous clinics differ in design and atmosphere.

Methods

Shields' (1991) conceptualization of spatialization framed the methods for this thesis. The research methods overlap space's three constituent elements: 1) the perceived space (the physical manifestation of the space, interactions and practices); 2) the conceived space (abstract space or how the space is represented through dominant discourses and abstract representations); and 3) the lived space (how the space is experienced as a frame for activity and social life) (Shields, 1991, 2013).

Data collection

The researcher used purposive and snowball sampling techniques throughout this research. Inclusion criteria were individuals known to be involved in the planning and design of BMDC. These informants included, but were not limited to, the facility's design architect, a BMHC board member, and a School of Dentistry member. Key informant selection was emergent. As the research progressed, initial key informants referred the researcher to others with insight into the dental clinic's patient population and the daily functioning of the clinic space. Data sources for this thesis included the three (3) significant stakeholder groups: the School of Dentistry partner, the not-for-profit organization which administers the community dental clinic, and the dental clinic staff.

Data for this thesis is focused on the design and space of the current BMDC. The researcher utilized historical data from the previous BMDC setting to contextualize, reference and compare the dental clinic spaces and the patient base served by each of the two clinics (historical and current versions).

Data collection methods included key informant interviews, document analysis and field observation.

Key informant interviews

Purposive sampling facilitated the selection of interview participants. Inclusion criteria were individuals with experience with the current and previous clinics or involvement in the design process. An interview guide directed the dialogue and questioning during semi-structured interviews (Appendix A). The semi-structured interview format kept the discussion focused and on topic, and open-ended questions allowed participants to explore their perceptions and experiences.

COVID-19 restrictions required that these interviews be conducted and recorded over Zoom. Recording the interviews facilitated the transcription of dialogue for data analysis. The research transcribed interviews verbatim.

Interviews allowed the study of key informant perspectives (Maxwell, 2012) about the BMDC, the patients, and design features. Data collection continued until saturation was reached and interviews no longer produced additional emerging descriptors and themes. Due to COVID-19 restrictions, these interviews were conducted on Zoom and were video and audio recorded and transcribed verbatim.

Field observations

As noted, the researcher in this ethnographic research was situated in the BMDC as a participant/researcher in the clinic, which facilitated field observation and enhanced learning and understanding of the processes and culture of the clinic (Creswell, 2018). Ethnographic observation allows the researcher to make explicit data the participants may not be willing to reveal in an interview or create inferences about the validity of interview data through situated observation of a participant's actions (Maxwell, 2012). Covert observation precludes informed

consent of the participants. However, an individual's awareness of being observed may influence their behaviours, actions, and dialogue. Therefore, the researcher informed individuals within the clinic space that they were observing the area's design and functioning. Field notes were recorded by the researcher away from the clinic and participants as soon after the field experience as possible.

The researcher recorded observations as field notes over one-year using journaling methods. Field notes included the researcher's reflections, preliminary analysis, initial interpretations, memos during and after document analysis, key informant interviews, and ethnographic observations. These notes facilitated researcher reflexivity and provided experiential knowledge of the clinic architecture and design and how the clinic functioned in real life for clinic staff and patients.

Document analysis

The inclusion criteria for textual data were publicly available documents referencing the BMDC from online sources and, with permission, from key informants. Textual data included blueprints, photos, news articles, website material, promotional material, and feasibility studies. These data sources enhanced and enriched the contextual and situated understanding of the BMDC space, design elements, processes, and functioning (the flow of various human and non-human elements through the space).

Data Analysis

The researcher used NVivo 12 software to manage and analyze data. Inductive content analysis was ongoing, iterative, and recursive and commenced as data was collected. All data underwent open, axial, and selective coding. Data analysis and coding were facilitated by the

researcher's experience as a dental hygienist in the setting under study and private practice settings, as well as their knowledge of dental processes, patient and dental staff interactions and dental clinic environments. Reflexive journaling methods were included to reveal and attend to researcher biases and preconceived notions that could influence interpretations and analysis. Every effort was made to preserve the emic perspective of key informants. Direct quotes from key informants are considered authoritative and representative of their beliefs and understandings of the phenomena under study.

Ethical Considerations

The University of Alberta Research Ethics Committee approved this study (Pro00110258).

All documents obtained from BMHC were public documents. However, data was anonymized where necessary to protect individuals and groups. Before agreeing to be interviewed, all participants signed a consent form (Appendix B). The researcher informed participants of the purpose of the study, the risks of participation, their right to revoke their consent and how to do so, and that they could choose not to answer questions that make them uncomfortable and could stop the interview at any point. Photographic data excluded the presence of humans or identifying material, participant or otherwise. The researcher used sketches and field notes for data and analysis, but these will not be disseminated or reproduced in any publication.

All data was uploaded and stored on an encrypted research drive accessible only by the lead researcher and their graduate supervisors. The lead researcher strictly controlled and monitored any additional access to data (i.e., access to recorded data by a transcription service or access to transcripts by assistants in coding data).

Validity

A critique of ethnography is that although it seeks to gain an emic (insider) perspective, it is ultimately interpreted through the etic (researcher) stance. This etic perspective is prone to bias and misinterpretation of the participants' events, behaviours, and intentions (Creswell, 2018; Maxwell, 2012). Although no method can guarantee validity, a multimodal approach allows cross-checking findings among various methods (Maxwell, 2012). Furthermore, in qualitative research, the researcher is part of the world they study and comes with preconceptions, ideologies and biases that may influence their data analysis, methods and line of questioning. “The participant in an interview is influenced by the interviewer and the interview setting” (Maxwell, 2012, p. 125).

The researcher avoided leading questions during interviews and remained self-reflexive about their situatedness, potential power inequity in the researcher/participant relationship, and their preconceived ideas and biases to mitigate this validity threat. Interpretations of data were validated by confirmation checks with key informants and rigorously examining supporting and discrepant data (Maxwell, 2013).

CHAPTER 3: TARGETING THE CDC'S PATIENT POPULATION

This chapter has been submitted for publication as Arntson, C., Shields, R., & Yoon, MN. (In submission). The exclusivity of 'Vulnerable': Exploring how a community dental clinic defines and describes its targeted population. *Community Dentistry and Oral Epidemiology*. C. Arntson was responsible for the concept design, data collection, data analysis, and manuscript composition. M.N. Yoon and R. Shields were the supervisory authors and contributed to the concept formation and manuscript composition. All authors contributed to manuscript edits.

Background

Addressing inequitable access to oral health services is a global priority (AHS, 2016; CDA, 2017; WHO, 2022). Despite public oral health initiatives to address this priority, some groups continue to be underserved (Northridge et al., 2020). Community dental clinics (CDCs) have shown promise for increasing access to care for individuals facing barriers to oral health care (Paisi et al., 2020; Wallace et al., 2015). However, financial and human resource constraints often require clinics to target a group within the population (Burt, 2005; Chestnutt, 2016; Gluck & Morganstein, 2003; Ingram & Schneider, 1991; Roberts-Thomson, 2012). Determining a target patient group impacts program design, eligibility of access and resource allocation and represents the policy priorities and values of decision-makers (Ingram & Schneider, 1991). This study examines how decision-makers involved in the designing and planning of a community dental clinic defined the population and targeted the group they intended to serve.

Boyle McCauley Dental Clinic (BMDC) is an inner-city CDC established in 1992 (Rai, 2019; Radius Health, 2023; Goldblatt, 2002). BMDC is located in the city's lowest

socioeconomic region (Rai, 2019; Radius Health, 2023; Goldblatt, 2002; Hogeveen & Freistadt, 2013). The region's population includes individuals experiencing classism, racism, homelessness, or health-related concerns such as mental health and substance use (Radius Health, 2023; Goldblatt, 2002; Hogeveen & Freistadt, 2013). The region's demographics are also culturally and ethnically diverse (Hogeveen & Freistadt, 2013). This clinic aims to reduce barriers to access for individuals in the surrounding communities (Rai, 2019; Radius Health, 2023; Goldblatt, 2002). Initially, the BMDC was in the basement of the community health center, the Boyle McCauley Health Center (BMHC). On January 28, 2019, the CDC was relocated to a new facility approximately 650 meters from the original location (Rai, 2019). The creation of a "new" clinic provided a unique opportunity to analyze how individuals involved in the planning and design of the facility defined and targeted the patient population they intended to serve.

Methods

This study was approved by the University of Alberta Research Ethics Board (Pro00110258).

Crucial to this study, the researcher, the key informants, and the patient population were residents of the city where BMDC is situated. Local and broader social discourses about the community surrounding BMDC and its population were familiar to the key informants and the researcher. The community and its residents are frequently associated with illicit activities and dangerous behaviours in the local media (Hogeveen & Freistadt, 2013). Therefore, this study's research design, methods and data analysis needed to acknowledge and reflect upon the literal data and any possible unconscious biases of the researcher, key informants, and textual data gathered. The researcher needed to exercise a level of reflexivity to remain cognisant of the

impact of her own biases.

Three (3) primary stakeholder groups involved in the planning and design of BMDC were from various professional disciplines, each presumed to have unique perspectives, knowledge and biases that informed their understanding of the patients at BMDC. Additionally, local media coverage and public documents recording the planning, construction and opening of BMDC contained descriptions of the patient population. Therefore, the research design needed to accommodate data collection from multiple sources and formats and required multiple collection methods.

The researcher for this study was an experienced registered dental hygienist and a clinical dental hygiene instructor at BMDC. Familiarity with the organizational culture and structure of the dental profession the processes common to a dental clinic and of BMDC, facilitated the interpretation and analysis of data. The duality of roles (researcher/clinician) and perspectives (insider/outsider) have both benefits and limitations (Watts, 2006). Field observations captured reflections on this duality.

Data Collection

This study utilized three data collection methods: semi-structured interviews with key informants, document analysis, and field observation. A purposive sampling technique guided the selection of key informants and textual data. Key informant interviews were video and audio recorded on Zoom and transcribed verbatim. The researcher collected textual data about the new clinic's planning, construction and opening from both printed and online sources. Key informants identified additional textual data during interviews, which they shared with the researcher and verbally consented to use in this study. Field observations were conducted in situ at the BMDC on Wednesdays while the researcher worked or volunteered as a registered dental

hygienist at the clinic. The researcher documented their observations and reflections about their experiences and interactions in a journal throughout the study.

Data analysis

Data from all data collection methods underwent inductive content analysis (Elo & Kyngäs, 2008). Analysis was iterative, recursive, and ongoing. NVivo software facilitated the analysis of data. The researcher was immersed in the data during the transcription of interviews, journaling of observations and repeated close readings of all textual data. Passages from interview transcripts and textual documents describing patients and their characteristics were extracted. Larger chunks of data were used to provide context for understanding participant meaning. The lead researcher descriptively coded manifest data related to the research question for this study. Descriptive and thematic codes stayed as close to the text as possible. Codes from all data sources were sorted into categories and subcategories based on commonalities and discrepancies.

Findings

The lead researcher conducted semi-structured interviews with eleven (11) key informants. These included the designer of the facility, a member of the fundraising team at the School of Dentistry, two (2) board members from the not-for-profit health center, a member of a team that developed the financial feasibility study for CDC, preceptors for dental (2) and dental hygiene students (2), and two (2) staff members from the CDC. The gender of the key informants was four (4) male and seven (7) female. Documents analyzed (n= 9) included the financial feasibility study, a project guide developed by the fundraising group at the School of Dentistry, four (4) online news articles relating to the opening of the BMDC, and the website pages of

BMHC, BMDC and the School of Dentistry community outreach program. Observations occurred over one year (September 2020 to September 2021), totalling approximately 275 hours of observation.

Defining the Population

All key informants identified financial barriers and the availability of dental services as challenging for the patient population. The patient population was described as vulnerable. The term "vulnerable" was used interchangeably with "marginalized," "needy," "underserved," and "people facing barriers to care" to describe this group of individuals. Key informants also used the term 'vulnerable' to refer to individuals at risk of dental disease. This vulnerability was framed as either due to a patient's characteristics (e.g., drug use, poor home care) or social barriers (e.g., lack of insurance, finances, or available care).

How vulnerability was defined was dependent on who was defining it. A quote from one key informant demonstrates the contextual nature of 'vulnerable' and the importance of defining it clearly.

> *I mean a vulnerable population, depending on who you are and what you see. It could be the frail, elderly,… you know all of these sorts of things. So, we've always tried to be very clear about our definition of the population. (Interview C)*

Targeting the Community

There was a fracturing of the understanding of who the target group was between the BMHC and the BMDC. The target community differed based on the measures used and the group of decision-makers determining the target community. Key informants from the dental profession used socio-demographic or geographic information (i.e., "in the neighbourhood" and "residents of the area" when describing the target patient population. Their conceptualization of

marginalization focused primarily on the cost and availability of dental services. Such informants also remarked that the clinic was "open to anyone," broadening the scope of the target community to those outside the region with the financial resources to travel to the clinic and pay for services. A key informant remarked that the community dental clinic's purpose, being open to anyone, was more ambiguous because their patient population was less defined.

Alternatively, key informants from BMHC conceptualized marginalization as complex, contextual and intersectional. This conceptualization of vulnerability led to a more defined group of patients. Key informants further explained that the BMHC had "shifted away from a geography-based towards a population-based definition," which targeted a "marginalized" community that "faced multiple barriers to accessing healthcare." The example provided was that despite universal healthcare coverage in Canada, which offers free healthcare to all citizens, BMHC's target patient group reportedly experiences stigmatizing attitudes and behaviours across the medical care system.

One key informant noted that they understood how some care providers could find it unpleasant to treat individuals who may be disagreeable, "dirty," and "smelly." The informant also thought that traditional doctor's offices are ill-suited to deal with the complex social and medical needs (such as mental health and substance use) these individuals often have. The informant explained that general practice medical offices would not have social workers, mental health care, or substance specialists on site who could effectively and efficiently deal with these needs.

Patient Characteristics

During initial descriptive coding, two (2) patient groups within the community emerged in the data (Group A and Group B). The patient characteristics of each patient group were described differentially. It became apparent that the patient characteristics emerging were like

those described by Sossauer et al. (2019). Therefore, Sossauer's five (5) patient characteristics (Intrinsic, Personal, Medical, Cultural and Social) (Sossauer et al., 2019, pp. 3–5) provided a framework for organizing the data and codes from this study. Characteristics for each population group were then compared and analyzed for similarities and differences. These comparisons were interpreted using the researcher's schema as a dental hygienist, a provider at the BMDC, a resident of the region where the CDC resides, and a sociology student to reveal underlying assumptions about each group.

Group A generally included low-income individuals, families and children, whereas group B included homeless individuals, substance users, or individuals with mental health needs (Table 1). Descriptions of each group differed as outlined below (additionally see Table 2). Group A was described positively, and Group B was described negatively.

This study defined intrinsic characteristics as immutable characteristics such as age, gender, and race (Sossauer et al., 2019). Group A was described generally based on age. For instance, key informants referenced wanting the new facility to be more 'family-friendly.' However, for group B, intrinsic characteristics were often modified (e.g., with the term "marginalized" and youth modified as "street youth"). Adding the modifier infers that these individuals are a subgroup outside the norm. Group B also contained Indigenous as it is referenced as a race. The outlier in this group is the sex characteristic Male, which is not typically associated with vulnerability in the literature. This group may have included this characteristic based on the assumption that most Group B members are male. However, nothing in the data reveals why being male was associated with this group.

Personal characteristics include individual habits, manners, behaviours, or tendencies, as well as the level of autonomy (Sossauer et al., 2019). Key informants perceived Group A's

personal characteristics positively, and these characteristics were observed to be accommodated in the CDC. They attended scheduled appointments, were sober and had good personal hygiene. The only challenging behaviour associated with this group was related to being a "fussy child." Apart from patient management strategies, the clinic accommodated group A well. Alternatively, group B was associated with several challenging, threatening, intimidating, and criminal behaviours. Members of this group were described as having poor personal hygiene. Also, group B was associated with more negative characteristics, which challenge providing dental services, such as unpredictable behaviours due to substance use and poor mental health.

Patient characteristics of Group B had negative connotations and were perceived to intimidate Group A and diminish their comfort with accessing the clinic. Decision-makers recognized this concern and desired to meet group A's needs and deter group B's presence.

> *We're hoping that if we could move it out of the current location, where there's quite a number of people loitering around the steps of that old space, to make it a bit more child-friendly and a bit more sort of working poor friendly if you will. Where they wouldn't feel intimidated trying to walk past the people who are all kind of hanging around outside, right? (Interview B)*

Medical characteristics included oral health, medical health, and comorbidities (Sossauer et al., 2019). Fewer medical characteristics (Table 2) are associated with group A than with group B. Interestingly, "substance use," "trauma," and "mental illness" are medical concerns associated only with group B. Alternatively, the medical characteristics of "pregnancy," "mobility," and "[substance use] recovery" were only associated with group A. Further, key informants believed each group sought and received dental care differently. Group A was associated with seeking routine maintenance and more "comprehensive treatment,"

whereas group B was more often associated with “emergency treatment.” Some informants noted that some groups could experience difficulties with scheduling appointments. From observations in the clinic, the researcher observed that emergency patients were not scheduled but would walk in and be required to wait until a dentist was available. The front-end staff prioritized scheduled patients, whom they permitted to be seen by the dentist first.

Cultural characteristics included language, religion, ethnicity, or group affiliation (Sossauer et al., 2019). There were no cultural characteristics linked to group B in the data. However, key informants described loitering as a social activity for group B. Language barriers and low literacy were considered problems for seeking informed consent. However, based on data and observations in the clinic, accommodations are made for a family member or friend to be present as an interpreter. An informant reported that before COVID-19, a children’s play area was in the waiting room to occupy children during their parent’s dental appointment. The researcher observed that, during COVID-19 restrictions, family members were provided with PPE and allowed into the operatories to interpret or to accompany children. The researcher observed that staff and students often treated intoxication and substance use as insurmountable barriers to receiving consent, often resulting in intoxicated individuals being dismissed without treatment.

Social characteristics included socio-demographic status, legal status, or insurance status (Sossauer et al., 2019). Generally, more social/systemic characteristics were associated with group A. Interestingly, interview and observation data suggested that group A was often eligible for the sliding scale discount and did not have dental insurance. However, many dental providers perceived this as the group with access to publicly funded insurance. Analysis of a feasibility study for the clinic indicated that low-income families and Metis seniors living in the vicinity were targeted as potential patients and perceived to have access to public dental

insurance. The feasibility study did not address the resources available to new immigrants, refugees, or group B. Key informants described group B as "clients of Boyle McCauley Health Center" and reported that this group often has access to dental benefits:

> *So, the team of support staff, nurses, medical office assistants, health advocates, who are basically social workers, outreach workers, our mental health team, all those people basically level the playing field so that there are frequent reminders for you to make your appointment. So, the point of that team is to allow the client's goals to be fulfilled. (Interview J)*

Discussion

This study fills a gap in the literature about CDCs by seeking to understand how decision-makers define a population and target the community of individuals they serve. The findings indicate that all the individuals involved in the planning and design of the CDC understood the intended patient population to be 'vulnerable.' Despite semantic differences, 'vulnerable' was used interchangeably with other terms. How vulnerability was defined depended on how it was measured and who was measuring it. This finding highlights the importance of having a shared, explicit understanding of who the population is, what makes the population vulnerable, and to whom the term applies at the beginning of any interdisciplinary projects or community engagement. Without this agreement, key stakeholders could face misunderstandings, and the program may not address the needs of the community it intends to serve.

Significantly, data revealed that the population defined as vulnerable by the key informants was not homogenous. All the key informants described the target patient population as individuals who lacked access to dental services because of financial barriers and availability

of services. However, the findings demonstrated that two subgroups were described, defined, and perceived differently within the population.

In this study, the definition and the description of one patient group, group B, included stigmatizing language (Freeman et al., 2020), and the needs of this group were not considered equitably (Sossauer et al., 2019). Both groups, A and B, faced barriers to dental services due to a lack of financial resources and availability of services. However, this description concealed the intersectional nature of vulnerability (Link & Phelan, 2006), the stigmatizing nature of the definition (Brondani et al., 2017; Mago et al., 2018) and the inequitable consideration of the needs of a marginalized subgroup (Sossauer et al., 2019).

Sossauer et al. (2019) state that limited resources necessitate limiting healthcare targets to a specific group within a population. This suggestion strengthens the argument that universal dental coverage is a possible solution to equitable access to dental services for all individuals (Canadian Revenue Agency (CRA), 2022; Canadian Dental Association (CDA), 2017; World Health Organization (WHO), 2022). However, our study indicates that, despite the CDC's available location and low-cost dental services, how decision-makers define and describe populations may be divisive and stigmatizing. Removing financial barriers and making dental services available in the community does not eliminate the stigma associated with some patient characteristics. Thus, some stigmatized groups will continue facing inequitable care access despite making dentistry more affordable and available.

Link & Phelan's (2006) model of stigmatizing behaviour provides a framework for understanding how the multiple domains of stigma interact with key informants' description of Group B. Intrinsic characteristics for this subgroup were always modified with words like marginalized. Adding a modifier implies that key informants perceived individuals in Group B as 'other.' This finding exemplifies a hierarchical ranking of 'vulnerable' individuals. Link &

Phelan (2006) acknowledge the relationship between stigmatizing language and stereotypes and prejudicial language, behaviour and social exclusion. Personal characteristics for Group B were stereotyped as dangerous, criminal, and destructive. Extant literature indicates that dentists resisted locating their practices in low-income neighbourhoods and accepting marginalized individuals as patients (Brondani et al., 2017; Mago et al., 2018; Paisi et al., 2020; Wallace et al., 2015) and that individuals experiencing homelessness and substance use disorder report experiencing stigma in traditional dental clinic settings (Brondani et al., 2017; Mago et al., 2018).

Limitations existed for this study. First, field observations only occurred on Wednesdays, but the characteristics of patients accessing the clinic and the organization and processes in the clinic may vary during the week. Second, the small sample size of key informants and documents may not represent the exhaustive perspectives of all CDC programs, policies and decision-makers. The subject of this study was the BMDC and the thoughts and perspectives of those involved with the planning and design of the clinic. Our findings are not generalizable. BMDC is a hybrid CDC that operates as a standalone dental clinic with scheduled appointments and regular business hours. CDCs outside this study's scope may not operate the same and may target and define their patient population differently. A comparative analysis with other CDCs and public dental programs would extend the findings across different sites. Third, the interpretation of data in this study was conducted by a researcher with extensive experience in various dental settings. Other researchers may not have drawn the same conclusions. However, all attempts were made to mitigate possible bias and increase validity.

Sossauer et al. (2019) found that vulnerability results from a mismatch between patient characteristics and four domains: the characteristics of providers, the healthcare system, the treatment, or the communication between providers and patients (p 7). The relationship between dental patient characteristics and these domains offers further study opportunities.

Further examination of how the conceptualization of the 'vulnerable' population served by BMDC is reflected in the clinic space, how resources are allocated and how patient needs are considered is required.

Conclusion

The findings of this study align with previous research on 'vulnerability.' Key decision-makers did not equitably consider the needs of two differently defined 'vulnerable' groups. Populations deemed most at risk are frequently labelled 'vulnerable' with little consideration given to the impact of its definition and understanding. Understandings of vulnerability are indeed consequential. It can influence decisions on who and how oral health services are designed and delivered. It can have implications for equitable care. Understanding vulnerability is imperative and, therefore, calls us to reflect upon who is making decisions, what their understanding of vulnerability entails and what impacts those beliefs have on communities.

CHAPTER 4: SPATIALIZATION: AN INTERPRETIVE TOUR OF THE COMMUNITY DENTAL CLINIC

When discussing dental clinic space with dental colleagues, inevitably, the conversation focuses on the functionality and ergonomics of the physical space for the dentist and staff. There is a sense that dental clinics have a common layout based on the flow of patients through the space and having necessary dental materials and equipment easily accessible to staff. In this sense, the basis of dental clinic design is less about patients' needs and more about the needs of the dentist and staff.

Common understandings of clinical space as a physical layout ignore the social qualities of a space and the underlying meanings of the architecture and urban context. In such a situation, the focus is first on the spatial relations between bodies and material objects prioritized by the practitioner and staff. Secondly, the focus is on the ambiance or ways an ensemble of objects, bodies, and relations communicate, enact, or realize a cultural code, meaning or reinforces the first set of relational priorities.

This is not to say that dentistry ignores the impact of sensory objects on patients. However, research about dental care spaces is limited. Studies limited to orthodontic practices and pedodontics patients found design features of dental offices, such as colour and decor, can impact patient compliance and anxiety levels (Panda et al., 2015). Other research found that dental clinic waiting room design can symbolize a dentist's level of professionalism and clinic cleanliness (Arntson & Yoon, 2023; Unthank & True, 1999). This literature points to the agential and symbolic nature of dental clinic spaces, especially regarding patient management. However, the dental spaces under study are private, for-profit dental clinics serving pediatric patients. Little is written about the design and architecture of not-for-profit or publicly funded community

dental clinics and marginalized populations. Absent from this research is a critical exploration of dental care spaces, their creation and impact. This chapter explores the risk that such understandings direct attention away from the role played by patients who take up not only roles but spatial relations itineraries through the space and bring their priorities and concerns about what is present or excluded, related to or repressed, by which agents and how.

Background

Researchers in other disciplines have explored the relationship between healthcare spaces and patients (Buse et al., 2018; Gordon, 2006; Street, 2012). Materialities of care is an emerging discipline which draws from the sociology of health and illness as well as science and technology (Buse et al., 2018; Gordon, 2006; Street, 2012). Proponents suggest that, as a conceptual lens, materialities of care can reveal taken-for-granted aspects of health care (Buse et al., 2018).

Material objects and built environments hold symbolic meaning that represents mythologies, knowledge and histories and occasionally act as substitutes for care and/or may guide, enable, or limit care practices. Human and non-human objects in any environment act synergistically, and a single act or process of health care may involve the interaction of multiple objects simultaneously. These invisible, everyday objects and practices are contextually embedded in space, often unnoticed or perceived as unimportant. The power and influence of these objects and the architecture often go unchallenged and uncritiqued. These findings demonstrate the impactful nature of material objects and care environments on how and to whom care is delivered. If inequitable access to oral health and dental services is a global priority (WHO, 2022), dentistry needs to consider the nature and impact of dental spaces.

A sociological critique of current dental policies and structures can supply insights into taken-for-granted dental narratives about patients and the dental clinic space and how these

narratives problematize and exclude specific segments of the population (Exley, 2009). Sociological theories provide a unique lens to understand social exclusion, marginalization, and inequity (Freeman et al., 2020). This perspective can benefit the dental profession in finding new ways to create inclusive environments for everyone.

This study draws on a sociological understanding of space as a social and physical constitution to explore a non-profit, inner-city community dental clinic (CDC) providing care to marginalized communities. Additionally, this study reveals assumptions underpinning the dental clinic space and existing structural and social barriers to accessing care. The aim is to expand current dialogues in dentistry and sociology about healthcare spaces and their affects.

Conceptualizing Space and Social Spatialization

Space

Despite dentistry's focus on pragmatism and the empirical perceptions of space, the literature lacks a unified definition and understanding of space. Definitions of space vary between and amongst disciplines and theorists that selectively deal with spatial aspects of phenomena and problems (Shields, 2013). This study draws on sociology, spatial theory, human ecology and geography to define space. More specifically, this study draws on Shields' conceptual framework of social spatialization (Shields, 1991, 2006, 2013, 2016).

Space is not merely a three-dimensional container or conceptual void around which we place borders and walls and then place and arrange material objects (Shields, 2013). Even amongst the disciplines of advanced mathematics and physics, this conceptualization of space is no longer held to be true (Shields, 2013). Despite physical space's homogeneity and fixed nature, conceptual and lived spaces are heterogeneous and relational. As a social production, this

relational space is constitutive of 1) practices, 2) dominant social discourses, 3) and ways of knowing and being (Shields, 1991, 2013). These are variously referred to in critical geographical and ethnographic literature as spatial practices, representations of space, and spaces of representation (Shields, 2013).

Spatial practices are real and actual and can be understood as physical space (Shields, 2013). This element of space consists of a space's tangible, concrete or material components. These components include the physical boundaries of a space, such as walls, fences, pathways, and borders that limit the space, create functional zones, and determine the movement of bodies through that space. The tangible, material objects, both human and non-human, within space are also included. Space is the physical landscape and functioning of an environment. The physical components of a space and the objects within it act relationally, and the inclusion or removal of material objects or humans from that space alters the function and nature of the space. Thus, a surgical suite at an oral surgeon's office looks and functions very differently than a pedodontics office because each discipline has a different workflow, uses different tools and technologies, and caters to different types of patients.

Representations of space are the abstract conceptualizations of a space (i.e. maps, blueprints, images, discourses about the space), which may be literal representations or include elements of the ideally possible, such as absences or embellishments (Shields, 2013). Space is understood to be a social construction designed, constructed and experienced by humans which reflects, reinforces and reproduces dominant social beliefs and values (Shields, 2013). Prevailing social, historical and cultural beliefs and norms about the purpose and function of space and the bodies, objects and behaviours expected to be included in the space become codified into rules and requirements that, in turn, are embedded into how designers, architects and urban planners imagine and program spaces (Shields, 2013). How a dental space is conceived varies historically

and culturally. So, what is considered a dental space in medieval Western Europe differs significantly from modern North America's (Shields. 1991, 2013).

Spaces of representation are the intangible and virtual qualities or nature of a space that are simultaneously experienced as very real. The experience and understanding of a space is not homogeneous. Space is experienced individually through the multiple intersections of social identities, social status, and individual memories and experiences. Individuals inhabiting subaltern ways of being and knowing (such as marginalized communities) interpret and experience these spaces differently than the dominant majority and contest dominant meanings and arrangements (Shields, 2013). This conceptualization of space acknowledges the presence and transformative nature of alternative and subversive knowledge and practices pushing against the dominant representations of a dental clinic space and everyday ways of being (Shields, 2013).

Each spatial constituent and its components are co-constructed, simultaneously experienced, interrelated, reproducing, reinforcing and in contradiction to one another (Shields, 1991, 2013). Space and human praxis are linked to other social structures, such as classism, racism, capitalism and neoliberalism, that determine acceptable or taboo behaviour in a place. Cultural beliefs, subaltern bodies, and ways of being currently marginalized or excluded from space may contest, evolve to become norms or challenge social constructions of space. Abstract understanding of a space becomes a physical manifestation when dominant social understandings of what a space should be, how it should function, and the individuals and objects that should be included or excluded underpin the design and construction of space. A dialectical tension between spatial elements continues until either change or an uneasy peace and co-existence of

differences results, finding a way to live in dissonance with one another (Lefebvre, 1991; Shields, 1991, 2013)

Social Spatialization

Social spatialization, or spatialization, is the production of space involving the spacing and placing of objects, individuals, social activities, phenomena and processes informed by practical needs and social norms which determine which objects and activities are to be included and excluded from the space (Shields, 1991, 2013, 2016). Space is created as relations between objects, agents and markers of location. This social spatialization is a dynamic spacing and placing of activities driven by practical economic requirements (as argued by Lefebvre 1991) and cultural needs. This process creates specialized and segregated sites for each object, activity, or social group (Shields, 2013). There is a spatial ordering or regime within and amongst spaces which hierarchically arranges individuals, knowledge and understanding within space, each taking on more or less importance and power. Neighbourhoods, communities, regions, and public and private spaces have individual and collective meanings. The collective meaning of a place/space and the individuals and activities within them gain a reputation, becoming a mental shorthand for cognitive meaning.

This study explores a community dental clinic space through this sense of space as a set of decisions about spacing and placing practitioner and patient bodies, medical and other objects, which both professionals and clients then take up in carefully choreographed performances we refer to in taken-for-granted ways as “a visit to the dentist.”

Dental Care Space as a Social Spatialization

In this thesis, dental care space is conceptualized as a social construction and production practiced, conceived, and perceived. Contradictions between spatial practices, representations of space, and spaces of representation continue to propel a search for better arrangements

beyond the organization of episodes of dental treatment themselves. Questions are raised about accessibility and geography, affordability and economics, the position of dental care in everyday lives and so on. However, due to a lack of space and time, this thesis focuses on the dental clinic space itself.

This study defines space as an area where specific social activities occur and has a shared cultural identity and image (Shields, 1991). This definition permits the study of a specified space or site's specific cultural logic. Although this limits the consideration of the more expansive urban and economic space beyond the clinic, it facilitates an exploration of traditional dental knowledge and practices and the everyday functioning of a dental clinic space, staff, and patients within a community-based dental clinic for this research.

The Object of Study: The Community Dental Clinic (CDC)

The object of this study is a community dental clinic (CDC) serving the inner-city of a midsized Canadian metropolitan region. Acknowledging the link between oral and systemic health, the board of directors and the administrative team of a non-profit community health organization (BMHC) opened a dental clinic in the basement of the existing health clinic. The original CDC was relocated, reimagined, and expanded. A ‘new’ CDC facility opened on January 28, 2019 (Rai, 2019). The relocation and creation of a ‘new’ CDC provided an opportunity to explore considerations and decisions behind the choice of location, the dental clinic space's design, and the CDC's social spatialization.

Methods

Research Design

This study examined a community-based dental clinic (CDC) space as a physical construction and social production. The aim was to critically analyze the decision-making process for planning and designing the space and the lived experience of the space for taken-for-granted assumptions about the

marginalized community the clinic serves and explore how these assumptions manifest in the physical design of the clinic space.

A critical ethnographic methodology was chosen (Breda, 2013; Oladele et al., 2012). The researcher was in situ at the CDC as a professional dental hygienist and academic preceptor for dental hygiene students. This embedded experience facilitated a contextual understanding of the clinic's organization and patient population, providing them with first-hand experience and a more comprehensive understanding of the dental clinic space (Breda, 2013; Oladele et al., 2012). The researcher chose a multimodal data collection approach drawing on multiple sources and types of data to capture the complex nature of the dental clinic space under study.

Data Collection

Data sources for this study included the three (3) significant stakeholders: the academic institution's School of Dentistry, the non-profit social services organization administering the CDC, and the CDC staff and administration. Methods were chosen using social spatialization as a conceptual framework that would capture the representations of space (conceptual/discursive), spatial practices (lived), and spaces of representation (perceptual/experienced). Data collection methods included key informant interviews, document analysis and field observation.

A purposive sampling technique was utilized to choose key informants with experience in the current and previous CDC or involvement in the design process for the new clinic. The researcher conducted semi-structured interviews using an interview guide. Interviews were conducted and recorded over Zoom to adhere to COVID-19 restrictions. The interview began with a discussion about the interviewee's understanding of which patients BMDC aimed to serve. Interviewees then answered open-ended questions about considerations during the planning and design of the CDC followed (see Appendix A).

A similar sampling strategy was used to gather relevant textual data. Inclusion criteria

were printed and online textual data referencing the current CDC's planning, construction and opening. The researcher conducted a Google and library search for any reference to the CDC in websites or online news outlets. Additionally, at the end of key informant interviews, interviewees were asked if they had any textual or visual documents they would be willing to share.

Field observations and the researcher's reflections on her experiences and interactions were collected using journaling methods.

Data analysis

Data from all data collection methods underwent inductive content analysis (Elo & Kyngäs, 2008; Kleinheksel et al., 2020). Analysis was iterative, recursive, and ongoing. The researcher was immersed in the data during the transcription of interviews, journaling of observations and repeated close readings of all textual data. NVivo software facilitated the analysis of data from multiple sources and mixed methods.

The lead researcher extracted chunks of data describing the physical features of the clinic and their purpose from interview transcripts and documents. Utilizing a larger coding unit facilitated the interpretation of participant meaning by including the context for statements. Manifest data related to this study's research question and aim were descriptively coded. Descriptive and thematic codes stayed as close to the text as possible. Codes from all data sources were sorted, categorized and subcategorized based on commonalities and discrepancies. Interpretation of data was informed by the researcher's experience as a dental hygienist and first-hand experience in the space during field observations.

Findings

Eleven (11) key informant interviews, nine (9) documents, and over 200 hours of field observations occurred during this study. Key informants included two (2) board members from

the community health clinic, the architect, two (2) members of the planning committee from the academic institution, two (2) CDC clinical staff members, four (4) academic preceptors, and an author of a financial feasibility study for the proposed clinic. Textual data included publicly available documents from print and online sources. These included but were not limited to, blueprints and photos of the clinic, promotional material for fundraising, websites, and online news articles. Field observations were conducted while the researcher worked in situ at the CDC on Wednesdays for more than 200 hours over one (1) year.

An Interpretive Tour of the CDC Under Study

Spatial theory, specifically the concept of spatialization, provides a framework for this section. Data in this section are viewed, prioritized and analyzed through this theoretical lens. The findings from this study are presented as an interpretive tour of the inner-city community dental clinic interspersed with data from transcripts, documents and the researcher's field notes and reflections. A blueprint overlaid with the path of movement through the office and objects of interest maps out the route of this virtual tour (Fig. 1). This approach to presenting findings is reminiscent of traditional ethnographies and aligns with this study's critical ethnographic methodology. This writing style provides a framework for presenting complex findings from multiple methods and data sources in a logical progression as it leads the reader sequentially through the clinic space, similar to how a patient would relate to the clinic space.

Background of the CDC

The previous dental facility relied on publicly funded insurance and a subsidized patient-pay structure, often leaving the program facing a substantial budgetary shortfall (Goldblatt, 2002). The increasing demand for dental services outweighed the clinic's capacity. A decision to replace the dental clinic at the community health clinic with a safe consumption

site forced the clinic to close or relocate (Kornik, 2018). As a not-for-profit organization, the community health clinic did not have the financial means to create a new clinic independently.

Coincidentally, the School of Dentistry (SOD) approached the community health center about creating a teaching site (Interviews A, C and D). Both parties appear to have deemed the prospect of a new facility mutually beneficial. Dental hygiene students had a long history of coming to the CDC, but dental students, except for the student-run initiative SHINE, did not (Interviews C & D). A larger facility would provide the teaching space to accommodate dental student rotations. The SOD perceived the new facility to benefit the non-profit community health center as it would continue to offer dental services, increase the availability of services to the community, and save operating costs by providing free services delivered by students.

The SOD and not-for-profit health center's partnership enabled the health center's Board of Directors to consider moving to a larger facility (Interview C). Relocating the facility provided the "opportunities to redevelop the clinic… [into a] bigger, more modern, useful space." Within this stakeholder partnership was an agreement on a division of responsibilities or commitment.

We [the SoD] committed to doing the fundraising essentially to [fund] the space…build out the leasehold space. And then, they were the ones that were to operationalize it and sustain it. (Interview B)

Furthermore, the relationship between the stakeholder groups was perceived to be mutually beneficial for the SOD:

[the clinic] gives our students an opportunity to work with that vulnerable population…with people that are underserved…helps them understand the cultural barriers to accessing care…we really hope that will kind of form the basis of some sort of social accountability for our students as they go forward. (Interview B)

and for the non-profit health center:

[a new clinic that was]…substantially bigger than what they had before,...would increase the volume of care provided to…needy people…[and] by students providing care, there's no cost for the actual provision of care from a labour perspective,...and the university is paying the preceptor that is supervising the student who provided that care. (Interview B)

and for the community:

The benefits of the new clinic include: Reduce wait times for those who may be in pain; increase capacity to deal with emergency cases lessening the load on hospital emergency rooms; increase in patients with more chairs; enhance preventative care through continuity of care; [and] help students become better healthcare providers as they learn how to serve vulnerable populations in need (Document I)

Several key informants reported that the SOD group took the lead in designing the dental

clinic space. Key informants from the community health center stated they “weren’t dentists” and didn’t feel they knew how to create a dental clinic. This statement indicates that in the representation of space for this clinic, dental knowledge and space of representation of ‘what a dental space should be’ dominated the design and planning. The alternative ways of knowing space and representing the needs of the community BMHC serves were devalued or not considered. Foundational to the CDC are dental knowledge, dental needs, and dental professionalism, which supersedes all other knowledge in this space. The dental clinic is not the space of social work or socializing. A key informant from the non-profit administering the clinic stated:

> *I think the space is obviously a vast improvement over the previous space that was in the basement. It is designed as a conventional dental clinic. I have to assume that it was designed mostly by non-Boyle McCauley staff because it is very dental-specific. And, of course, we don't have that in-house dental expertise to look at workflow and how a dental clinic should look. So, to me, it's very much a conventional dental space. And not in line with sort of our social service sector. So, you know, the space specifically is nice. It's not necessarily built, I think, for the population that we are serving. (Interview J)*

Practical implications of this finding include the need for reflexivity among dental professionals involved in the planning and designing of a CDC and the need for authentic engagement with the community and other disciplines. When designing a CDC or collaborating with other disciplines and communities, dental professionals must remain vigilantly aware of dental knowledge's power in a dental space. Other disciplines may defer to dental professionals because they feel their knowledge is irrelevant. However, the expertise of the CDC staff and social service sector about the community appears to have been devalued by dental

professionals and social services. A possible result of the over-reliance on dental expertise is the re-creation of a conventional dental clinic rather than re-imagining a dental space that accommodates the needs of the marginalized community the non-profit organization serves.

A 'New' Location: The Neighbourhood and Facility

Among the city's residents, the region in which the old BMDC is located is commonly considered dangerous and intimidating. This stereotype of this region and its inhabitants as dangerous, intimidating, and a threat leaves a stigmatized perception and place-image that haunts this area (Shields, 1991). From this perspective, the heavy policing of the place seems to accomplish several objectives: to maintain order and deter disorderly conduct, to protect the public from these individuals, and to keep dangerous and intimidating bodies from escaping the region's imagined boundaries. The new CDC location remained within the local neighbourhood's boundaries. This neighbourhood sits within an urban region characterized by low-socioeconomic status, crime, homelessness and social services (Hogeveen & Freistadt, 2013). The region is heavily and actively policed (Hogeveen & Freistadt, 2013). A real estate investment blog labelled the region "the black triangle" and suggests that investment in this region has posed a significant danger to new investors because of the presence of crime and dilapidated structures (Davies, 2008; see Fig. 2). This label positions the region and its inhabitants as a threat to commercial real estate values and the safe, clean, middle-class aesthetic.

Data from this study indicates that, in planning for the new location, the stakeholders felt that the clinic needed to remain in the same neighbourhood but be in a safer area. "*We definitely wanted to stay in the same area because we need to be able to be accessed by the people we are trying to serve." (*Interview B*).* One key informant indicated that the choice of location was limited by what was available in the neighbourhood (Interview C). However, within that

parameter, only a few sites seem to have been considered. The new location is approximately four (4) blocks or 550 metres from the community health clinic and about 100 metres closer to the downtown police detachment. Unlike the health center, this location places the CDC along a 'safer' community boundary.

> *The dental clinic is on the less, you know, sketchy edge and the actual health center is right in the heart of the most difficult, you know, area in [the community]. (Interview C)*

Another safety consideration that impacted the choice of location was the need to distance the clinic from a 'culture' linked to the existing community health centre's clients who were transient, unhoused or had substance use disorders or mental health concerns perceived as intimidating behaviours and activities. The planning team chose a street-front location to deter loitering and illicit activities at the new clinic (see Figs. 3 and 4). Data from key informant interviews indicate that the team also hoped that distancing the new clinic from the community health centre would attract other subpopulations in the neighbourhood: the working poor and immigrant families.

> *We ideally wanted something that was kind of a street front sort of thing but away from where people would sort of typically loiter. We're hoping that, if we could move it out of the current location where there's quite a number of people loitering around the steps of that old space, to make it a bit more child friendly and a bit more working-poor friendly. They wouldn't feel intimidated trying to walk past the people who are all kind of hanging around outside. So, by moving a little way away but still having it easily accessible from a geographic perspective, we're hoping we can change a little bit sort of the culture of that (Interview B)*

> *In the old clinic, families were deterred from using the service because of the drug use in and around the health center. However, the new clinic will be a few blocks away from the health center, with large windows and main street access. (Document D)*

> *The access to the new facility, I think that it's a more inviting environment for people with young families. It was pretty intimidating in the old facility, you know, 'cause there was a lot of people come on a Saturday morning where families are trying to enter the facility. But there are people who are struggling with addictions and even the safety of the environment…I think the new location definitely helps attract a different clientele as well. (Interview D)*

The location of a space is not arbitrary (Shields, 1991). Rather, the location of a space is chosen by someone, for someone, and for some purpose or event (Shields, 2013). In this case, the data strongly suggests that the new facility's site was purposely placed to create distance and socially exclude bodies and behaviours seen as intimidating and intolerable to families with young children. Additionally, despite remaining in the city center, relatively close to the previous

location, data suggests that additional barriers may now exist for the BMHC clients. The old site offered a one-stop convenience where the community health centre's clients could access their health needs. Informants noted a social space between the new location and the previous one, which contains barriers to accessing dental care for some community health centre clients.

> *We just had a bit more of our inner-city population would access the dental clinic at the old location. I think just 'cause it was just in the building [CHC], so it was just there, so it's easy. They could just pop in. Now that we're off-site, I find that traffic is a little less.*

> *They're starting to find us now, I find, but it's still a lot less 'cause you can tell people that it's two blocks over there or 'just walk over there,' but half the time, they don't make it those two blocks…a lot can happen in two blocks in that neighbourhood." (Interview E)*

The same informant explained that the path from the community health center to the new CDC contains many social services and opportunities to socialize in the space between the two facilities. The CHC clients rely on the food bank, free meals, and social and housing support between the sites. Additionally, tent cities and alleyways contain opportunities for socialization with homeless peers, drug use and other illicit activities. Different needs and competing priorities distract CHC clients from their dental needs, leading to late arrivals to the dental clinic or missed appointments. Despite efforts to distance the clinic from unwanted behaviours and bodies, the researcher observed several indications that these subaltern ways of being still occur around the entrances to the new clinic. Symbolically, a tiny drawing of a syringe injected into an apple presents itself on the sidewalk in front of the clinic's entryway. Human defecation is occasionally observed next to the clinical staff entrance, hidden in a corner behind the building, inadvertently offering some modicum of privacy for individuals without access to washroom facilities. Clinical staff stated that they believed homeless individuals were using the space as a washroom and that it is a problem they have been asking the building to address.

The provincial Metis Nation Housing Corporation owns the building that houses the CDC. During the planning process, the project team imagined that the new clinic could provide care to the Metis residents living in the building and any clients coming in from Metis settlements in outlying areas. The project team wanted to attract these and other potential dental patients by locating the CDC nearby.

> *The building it's in is also owned by the Metis Nation of Alberta through their housing corporation. So, within the building itself, there are a lot of Metis people who would have the need for access to care as well. We were hoping that we could kind of facilitate providing care for that group of people as well by being closer that would facilitate it. (Interview B)*

We turn now to a tour of the interior facilities of the new clinic.

The Entryway and Vestibule

Double glass doors provide access from the sidewalk to the patients' entryway into the clinic (Location A & B on the map, also see Fig. 5). The area measures approximately 2.5m by 1.5m. The double doors and the entryway size were designed to meet local building codes, requiring the space to accommodate wheelchair access (Interview A). Functionally, this area prevents hot/cold air transfer between the clinic and the outdoors (Interview A). The internal walls of the patient entryway are a combination of materials (see Fig. 5): the lower half is constructed of gyprock, and the upper portion is glass. The architect indicated that glass is a much more expensive building material. The purpose of using a transparent material like glass throughout the vestibule was to facilitate surveillance of individuals as they approached the building by clinic staff seated at the reception desk opposite the entryway (Interview A).

The CHC board had indicated a desire to restrict access beyond the vestibule to the dental clinic to protect the safety of patients and clinic staff (Interview A). Key informants stated that the transparency of glass walls (found throughout the entranceway, vestibule, waiting room and the ramp and entrance to the treatment area (see Figs. 4,5,8) was preferable because it facilitated monitoring individuals entering the facility and in the waiting room area.

> *It [the glass] allowed people, staff to see who's coming and who's going, from a safety point of view, and that's why the ramp [railing] is all glass. If you were sitting and I was at the receptionist [desk], I would be able to see someone sitting in the very far corner of that reception area. So, having four times the transparency was actually a safety requirement. (Interview A)*

The clinic design draws inspiration from casinos and jewelry stores in the neighbouring communities (Interview A) and included buttons placed below each computer station at the reception desk that would remotely lock the interior door of the patient entryway when pressed. If the front desk staff believed that any individual's body or behaviour was dangerous or threatening, they could lock the interior door, preventing the individual from entering the dental clinic. Similarly, if behaviours within the clinic were deemed unacceptable or threatening, clinic staff explained that if they could get an individual into the vestibule, they could lock them out of the clinic as a de-escalation technique. This glassed-in enclosure created by locking the interior doors of the entryway has earned several nicknames: "the mantrap," "the bubble," and "the fishbowl."

The extensive use of glass in the public entryway and the inclusion of a remote locking mechanism on the interior door that enables staff to control access to the dental clinic suggest that the clinic has been designed as a "defensible space" where the architecture and design elements are intended to limit behaviours (Reynald & Elffers, 2009). A well-known example of defensible design elements is armrests that divide up public benches, which, on the surface, serve to provide a physical armrest for users but obscure the purpose of preventing sleeping on such benches. On the surface, the glass in the vestibule makes the clinic visible to people on the street and provides staff and patients with natural light and warmth from radiant heat transfer.

Concealed is the role of glass as a surveillance tool. These architectural features create a system that facilitates the control and defence of the facility and its inhabitants. Simultaneously, the glass and street front location deters criminal behaviours or illicit activities by extending visibility from the clinic to the sidewalk. The dental clinic's staff determines acceptable behaviours for users of the space. Those granted access to the inner sanctums of the clinic, staff and patients must continuously demonstrate a shared social understanding of the use of this space and the bodies and behaviours permitted entrance.

The vestibule acts as a semi-permeable boundary between the public neighbourhood and the semi-public and shared spaces of the clinic. Although several key informants indicated that the community dental clinic was a public space "open to anyone," the presence of the access-controlled set of entrance doors alongside design considerations for the clinic's surveillance, its staff and patients would suggest otherwise. Therefore, the vestibule is constructed to facilitate the surveillance of the exterior environment for possible threats. Beyond the function of the vestibule as an entrance to the facility, the area is designed to facilitate the surveillance, categorization, sorting and discrimination of bodies and behaviours attempting to enter the space. Therefore, some bodies are filtered out and excluded from the space beyond the vestibule and within the dental clinic, making the facility's interior semi-private rather than public.

Tensions arise when the intended use of the vestibule is violated and when the defensive mechanism of the vestibule is compromised. In my fieldwork journal, I recorded the following incident:

> *Today was rainy and cold. I could see an empty shopping cart was blocking the inside door of the entrance, and a body was on the floor. A woman had entered the "bubble" between the exterior and inner doors. She had laid down on the floor and made a makeshift bed. A*

> *light fall-type jacket covered her upper torso and an aging, tattered comforter lay across her feet. A plastic bag filled with items was tucked under her head. [A staff member] was able to push the door open slightly and get their arm in far enough to push the shopping cart aside. Through the opening, [the staff member] was trying to explain to her that she was blocking an emergency exit and couldn't sleep there. She offered to let the woman warm up for a while. The woman muttered something and lay back down. The woman then asked [staff member].to give her "4 or 5 more minutes. Two patients arrived. They were unable to get past the woman or open the door. The police were called. (Researcher's field note)*

This excerpt is an excellent example of repurposing the space by recasting and respatializing it as a temporary shelter and refuge. Both the inner and outer doors could be blocked by a person lying down, combined with positioning a shopping cart in such a way as to prevent either set of doors from swinging open into the vestibule. This behaviour was observed only once, but the repurposing or "hijacking" of the vestibule is an example of pragmatic spatial innovation by the person seeking shelter and safety.

Feigning ignorance of the true purpose of a space can be considered a form of resistance, and the creation of insurgent spaces within dominant spatializations and despite architectural attempts to police and control the use of facilities and spaces (Roane, 2022, as cited in Shields, 2023). In this case, the individual resists social norms for behaviour and disregards the intended purpose of the entryway, transforming it into a personal space that aligns with her needs.

> *Today, a patient walked into the dental clinic seeking more topical anesthetic. He had been given a small amount previously by the dentist when he was in pain as a substitute for Orajel* [the brand name of an over-the-counter topical anesthetic]. *He*

> *lashed out verbally when the treatment was unavailable and slammed his fist against the door. When the man trap was activated, he slammed the exterior door open and pushed it to the point of breaking the door frame. The door was damaged to the point that it would not close and could not be locked. No police were called. The staff expressed concern that someone would need to stay at the office until the door was fixed because the office could not be locked otherwise. (Researcher's field note)*

In the event described above, the vestibule works as a gate. As a "trap," the vestibule elicits the patient's frustration but does not detain per se. The option to leave the building was always available to the patient. The door of the vestibule is merely the operative inclusion-exclusion mechanism. Although the patient is mad at the staff, he cannot attack them and therefore directs his anger on a surrogate of the clinical staff, the mechanism they have used to exclude him. While the facility is designed to help prevent patient violence against staff, it is susceptible to damage. It thus requires repair as a further set of actions of caring and maintenance, which are excluded from this study but warrant investigation.

The territory in and around the clinic is divided into areas of varying control, each separated by physical and symbolic barriers to access. Although the behaviour of individuals on the street may seem out of the control of clinic staff, physical and symbolic barriers are present. The lack of benches in front of the facility deters loitering. Hedges and planters discourage bodies from being near the glass. The front of the building is constructed almost entirely of glass. The transparency of the building material facilitates the natural surveillance of activities occurring in front of the clinic. Suppose Newman's concept of constructing defensible space (Reynald & Elffers, 2009) holds. Then, the visibility of the public space surrounding the clinic also provides a sense of safety and protection for the intended users and clinical staff.

Alternatively, for some members of the population, aware of the social stigma surrounding their bodies and behaviours, this visibility is not protective but becomes a deterrent to approaching the facility. Later in this chapter, a quote from a key informant reveals how the use of glass in the waiting room may prove problematic or be a deterrent for some marginalized individuals (see p. 64).

The Reception Area

An individual stepping into the clinic from the vestibule is confronted by the reception desk (Location C on map). The reception desk positions front-end staff as gatekeepers and further controls access to the shared spaces of the patient washroom and waiting room. Although there is no physical barrier, an individual must pause here and address the front office staff before proceeding (see Fig. 6). The reception desk is raised approximately two feet above the ground level. A key informant stated that the entire treatment space had been raised to accommodate the electrical and plumbing conduits necessary to run dental equipment because the building as it stood did not have room between the floor of the clinic and the parking structure beneath it (Interview A). Notably, the administrative area did not have the same requirements for dental equipment as the treatment area. However, in consideration of the need for clinical staff to have access to the administrative area to speak to front-end staff, the administrative area was raised to the same level as the rest of the treatment area to prevent the need for clinical staff walking up and down the stairs continuously throughout the day.

A key informant stated that an unexpected benefit of the raised reception area is that it facilitates surveillance of the entire waiting room area and a "*Big Brother perspective"* (Interview A*).* It was observed that staff seated at the reception desk are elevated above the patient, situated in front of them like a judge overlooking the defendant. This observation aligns

with Foucault's (1979) concept of buildings as a physical manifestation or mechanism of social control constructed to produce and reproduce desired individual behaviours.

At the reception desk, the front office staff further categorizes and sorts through bodies entering the building. Individuals entering the dental facility are sorted according to scheduled appointments or walk-in emergencies. Those individuals who do not fit the parameters of these categories are offered an appointment on another day or asked to leave. Those individuals with scheduled appointments are invited to take a seat in the waiting room until the provider is ready to see them. Scheduling appointments requires access to resources such as a phone or the internet or the ability to walk in and make an appointment during the clinic's hours of operation.

Scheduling an appointment is further complicated by a system categorizing the patient's likelihood of attending a scheduled appointment. Patients are classified as Gold, Silver or Bronze. Gold patients attend all or most of their scheduled appointments and are permitted to schedule as many dental appointments in advance as required. Silver patients have missed a few scheduled appointments. These individuals are only allowed to schedule one appointment in advance. Bronze patients have a record of missing appointments and are not permitted to schedule appointments in advance. From the perspective of financial sustainability, this system appears to make sense for a dental office relying on fees for service and scheduled production. However, the categorization of patients prioritizes the needs of individuals who may not have the greatest need. Walk-in emergencies are told to have a seat, and a provider will see them when and if they have time in their schedule. There is no guarantee that they will be seen or any indication of how long they will have to wait.

Patients are further categorized into groups based on their ability to pay for services: those with insurance and those with no insurance. Insured patients are classified as those with private dental plans and those with publicly funded dental insurance. Individuals with no access

to insurance are also divided into subcategories based on the Notice of Assessment, which summarizes an individual's yearly income from the previous taxation period and is the basis for determining the fee payment for dental services (i.e., a reduction in fees, either 0%, 50% or 75%). This method of subsidizing dental costs is called a sliding fee scale. Theoretically, this sliding fee structure makes dental services more affordable for low-income, uninsured individuals. However, for large families, the patient portion of treatment fees multiplied by their family members becomes cost-prohibitive in relation to their disposable income. Additionally, one key informant discussed the flaw in this system for the financial sustainability of the community dental clinic.

> *I think there's an assumption that you just have some cash-paying people who can subsidize the people who pay discounts. But of course, you can only see so many people in a day, you know, in the ratio to those cash-paying people to subsidize the non-paying people doesn't actually work. Like, if you were to do the math of it, it ends up being probably like a 20/80 split or a 30/70 split. And then that affects the mission of the whole place, right? How accessible is your program if you only have two slots a day that can be offered at a discount? (Interview J)*

Although data verifying the interviewee's perception of clinic usage goes beyond the scope of this article, the quote suggests that the clinic's processes and systems of care are barriers to accessing dental services for some individuals at the CHC. Scheduled appointments ensure that operatory time and productivity are maximized. In a fee-for-service model of care, these systems are linked to the financial sustainability of the clinic (Moeller & Quiñonez, 2020). However, these systems do not equitably consider the needs of the entire patient population being served and inadvertently create a hierarchical social space in which patients with the resources to pay for

services and schedule and attend appointments have more access to dental services in the clinic.

Despite the specialization of the administrative and waiting area to accommodate the needs of front office staff, mementos from patients and the community are present. Subaltern knowledge and ways of being also appear in the reception area. A cartoonish poster of a cat with a Cheshire-like grin is posted on a side wall next to a tooth-shaped analog clock.
The patient who donated the picture is a regular client at the dental clinic. They commented that the clinic needed something happy to look at and demanded that it be posted in plain view for all the patients. A small collection of religious figurines on the reception desk is a gift from other patients (see Fig. 7). I will speak more about aesthetic considerations in this clinic later in this chapter. However, suffice it to say the presence of these objects suggests that the patients perceive a lack of representation in this space.

After determining that a patient belongs in the clinic, the patient has two possible paths to follow: one to the patient washroom and one to the waiting room.

Patient Washrooms

A washroom sits to the right of the reception desk (location D on map). Although it is a single-occupant washroom, it is large enough to accommodate a wheelchair. Any extra room in the restroom is utilized as additional storage for the clinic. This storage is locked to prevent theft. The washroom is not a public space. Instead, it is a patient space and access to the washroom is controlled by the front office staff. Like the remote locking mechanism on the vestibule's interior door, a button beneath the reception desk must be pressed to unlock the washroom and permit access.

Based on the understanding that substance use disorder was an issue for several BMHC clients, informants expressed concern about possible overdoses in the washroom. Key

informants indicated that controlled access to the washroom was based on a perceived need to monitor the bodies entering the washroom and their potential activities in a private space. Additionally, a “suicide-prevention” coat hook on the wall of the washroom is designed with a breaking point so that individuals with “mental health challenges [or] mental health disorders” (Interview A) could not commit suicide in the washroom. Several key informants indicated that there was a need to have access to the washrooms in the case of medical emergencies such as overdoses and suicides.

There is a sense of moral panic and an assumption that individuals at the clinic require monitoring and protection from themselves and others. The architecture is designed to deter illicit and self-harm activities, primarily focusing on individuals with substance-use disorders and/or mental health disorders. These same individuals are perceived as threatening to the clinic staff's and patients' safety.

Waiting Room Area

A waiting area is located to the left of the reception desk (Location E on the map). Two parallel rows of industrial-strength plastic chairs face each other, and a few are lined against a short wall. These chairs are available for patients awaiting their appointment or accompanying friends and family (see Fig. 8). The occasional armrest separates the chairs into groups of two or three, suggesting small family groupings. Realizing that a non-profit organization would be responsible for the cost of maintaining the clinic, efforts were made to use more durable materials (Interview A). The location of the chairs is semi-permanent. A beam near the floor fixes individual rows of chairs together. The designer indicated that this “beam-seating” type was similar to those found in “very public environments.” However, this type of seating was not merely to ensure the seating arrangement remained unaltered.

> *Those types of products are designed for heavy abuse and high traffic, but the key criteria came that they [the CDC staff and administration] do not want any furniture that could be lifted and thrown. So, in the heat of a moment, you're not going to get a group of two or three people. It's usually maybe one person or two people in an altercation. Even two people you can't lift that thing. It's not heavy, it's awkward. And, so, it's just a kind of public safety item. Again, a lot of these items come into play because of the facility. Not because it is a dental clinic but because of the type of patrons and where it is located. (Interview A)*

The walls of the waiting room are predominantly glass. Functionally, the exterior glass walls were part of the existing structure. So, the design was worked around these. These windows provide natural light from the outside, promoting mental health and a bright atmosphere for clients and staff in the building (Interview A). However, on observation, only front-end staff spend a significant time in this area of the clinic.

Of interest to this study, one interviewee stated that the windows, because they provide an unimpeded view of the entire waiting room area to individuals outside the building, could be a barrier to care for some populations, which was not considered in the planning and design of the clinic.

> *Like maybe some would, a few. Not very many, but maybe a few clients wouldn't [or]don't appreciate the openness and all the windows in the waiting area. I mean, sometimes you end up with clients who may be fleeing a, you know, an abuse situation, and like being exposed might not feel very comfortable in that waiting area 'cause it is, windows pretty much all around you. So, there is, like, maybe that like maybe a bit like uh, at least a wall of like solid maybe somewhere. (Interview E)*

Glass is also used to construct the ramp walls and the wall separating the clinical space from the waiting room. The function of the ramp is twofold: to connect the lower waiting room floor to the raised clinical floor and to accommodate wheelchair access. One key informant indicated two secondary purposes of using glass as a building material: glass allows for natural light in the room, which has shown benefits for the well-being and mental health of the clinic staff and patrons; natural light facilitates some radiant heating of the room which saves on heating costs for the facility *(Interview A)*.

A television is mounted high on the far wall of the seating area because the room is almost surrounded by glass. There are pragmatic reasons for the location of the television. A mounting bracket can not be attached to a glass wall; therefore, the location of the television was limited to cement and wooden surfaces. Given the defensive design elements discussed previously, one questions whether the positioning of the television was also due to a concern for possible theft and damage. The television is intended to entertain and distract patients awaiting their dental appointments. The front-end staff controls the channel selection and, therefore, the viewing content. Evidence of patients requesting the channel be changed was not observed.

There is little decoration or health education in the waiting room. Some of this may be due to COVID-19 restrictions limiting touchpoints that cannot be disinfected. A poster warns patients that abusive language or behaviours towards staff and other patients will result in the dismissal of the perpetrator. It also provides a QR code that links to a site where patients can report abusive staff behaviour. One is left to wonder which patients would have access to cell phones capable of scanning QR codes to report abuse. Another poster warns of the potential issues with using cannabis before dental procedures. It should be noted that at the time of the study, cannabis was a legal substance in Canada. Interestingly, no posters warning of the

consequences of controlled substances such as methamphetamines, cocaine or fentanyl were available for patients.

A glass wall with a glass door physically separates the waiting room from the treatment/clinical space. Again, using glass as a construction material for this wall reflects a perceived need for transparency between the two areas to facilitate the clinical staff's surveillance and monitoring of bodies in the waiting room. Despite no lock on the door to the treatment area, the entrance to the space for scheduled treatment is controlled. The patient must be invited into the clinical space for their scheduled treatment by a provider who escorts them through the treatment area to an operatory scheduled for their procedure.

Treatment Area (Locations G-K)

Silent alarms. Buttons to a silent alarm are in three areas in the clinic: at the front desk, on a shared wall as the patient enters the treatment space, and on one of the concrete columns between the operatories at the back of the clinic. The button located at the front desk is located below the desk. The buttons are placed on the wall at eye level within the treatment space. These buttons are barely noticeable on the concrete wall but are labelled with the name of the building security company (Fig. 9).

The alarm was intended to be used if a patient was violent or physically abusive. Key informants from BMHC indicated de-escalation training was mandatory for clinical staff. Interestingly, dental and dental hygiene preceptors were unaware of the button or its function. Furthermore, although the BMDC staff were aware of the alarm, they were not aware of a time when it was used or were able to explain what would occur if the alarm was pressed. When asked if the alarm signalled the police, most clinic staff replied that they thought it just signalled the building security when a threat was presented. None of the key informants could explain

what events would occur if the alarm was activated.

The presence of the alarm button suggests an anticipation of violence in the space. The button may provide a sense of safety and security to staff and clients. However, given that most of the providers in the treatment area were unaware of the alarm buttons, it is questionable whether these features impart any comfort. Furthermore, there is no protocol regarding the activation of the alarm. Therefore, determining whether a situation warrants pressing the alarm button seems arbitrary and subjective. According to clinical staff, the system has not been tested, so there is no way of knowing how much time it would take for security staff to respond to a violent event.

Clinical Treatment Space. The overall treatment space is divided into two areas - one for the community dentists on staff (Location I in two areas of the map) alongside a designated for dental and dental hygiene students to provide care (Location K on map). The other is a central sterilization area (Location J on the map; also see Fig. 12). Although the designer stated that the clinic's layout depended on the building's existing concrete pillars and walls, the treatment space is also based on a division of tasks and specialization. There is a deliberate consideration of ergonomics and efficiency, with each area having easy access to shared equipment and the sterilization area. Each activity pod connected to and was accessible to the central sterilization area.

The providers with the least experience in providing care and with Boyle McCauley's population, namely the dental and dental hygiene students, inhabit the clinic region the furthest away from the public entrance to the clinic. Students in this space are perceived as more vulnerable to dangerous population members and need more protection. Locating students near the back of the facility distances them from parts of the clinic that may expose them to individuals who may not have been filtered out by the processes and design of the facility.

The operatories near the front of the clinic are designated for community dentists. Each community dentist on staff is assigned to a pod of two operatories and a dental assistant for the day. These treatment pods are located closer to the front of the clinic, which suggests an assumption that they are more experienced dental providers and, therefore, more capable of dealing with 'unknown/unpredictable' patients and intimidating situations. Not all the community dentists employed by the clinic had experience or specialized education in dealing with abusive or dangerous situations. Informal conversations with two community dentists suggest that they had experience working in prisons. Another community dentist had worked in a mental health facility. However, none of these dentists claimed to have any specialized training.

Interestingly, differences in protocols and efficiencies were observed amongst the different provider pods. For example, it was observed that some community dentists were less likely than students and preceptors to filter out patients based on consumption of an illegal substance in the previous 24 hours, the presence of a cold sore, or complex medical histories requiring a medical consultation before treatment. Additionally, treatment times varied between types of providers. Typical treatment times for community dentists were limited to one (1) hour. Appointments with dental students were 1 ½ hours, and dental hygiene students were assigned 3-hour appointments. The duration of these appointments is long and arduous, and it was observed that some patients requested to be scheduled solely with community dentists to avoid lengthy or multiple appointments required by dental hygiene students.

Discrepancies in charting completion and the level of care provided to patients were also observed. Dental hygiene instructors required their hygiene students to ensure the patient charts contained complete periodontal records and dental charting. Many patients have complex

medical and periodontal needs requiring multiple appointments. Complete dental records assist providers in assessing, diagnosing and treatment planning. Also, complete mouth probing and current radiographs are required to preauthorize additional scaling units for patients using publicly funded dental insurance. It was observed that patients in the clinic had had dental cleanings by other providers despite incomplete dental records.

In this researcher's experience, variations in treatments and protocols are not uncommon amongst multi-provider dental offices. In the context of this clinic, some patients refused to see "slower" providers because they could not afford to take the time away from work. Some patients complained that other providers (DDS students or community dentists) had not required the assessments. Although the free labour by student providers helped offset the costs of running the dental clinic, when patients refuse to see students, the clinic's sustainability could be impacted.

Open Space. Except for a wide sliding door which isolates two of the community dentist operatories from the rest of the clinic, a sliding pocket door to a small lab area, and a door to the designated staff lunchroom area, the clinical space consists of open operatories and spaces. Key informants stated that the open concept facilitated staff awareness of what was happening throughout the clinic.

> *An open environment like that is going to be safer anyway because others will observe what's going on, so you know one of the patients is being inappropriate. It would be easy for others to observe and intervene. (Interview B)*

This finding points to creating a physical space that facilitates monitoring bodies in the facility to ensure they align with social norms (Foucault, 1979). Clinical staff, administration,

community dentists, academic staff and learners are all drawn into monitoring the facility for dangerous behaviours in the clinic's treatment area.

The openness facilitates panoptic surveillance of the space for abusive language and dangerous behaviours and bodies. There is a sense of anticipation and preparedness for a dangerous event.

Doors. Two operatories can be isolated by closing a large sliding door called a barn door (Figure 9). Unlike a traditional door, the sliding door can not be locked. However, sliding the door in front of the entrance to the two operatories isolates these operatories from the rest of the treatment area. According to one of the key informants, the intent was to have a way of buffering the noise and disruption caused by anxious, scared children or unruly, abusive patients. However, on observation, the barn door was seldom closed. On the occasions that the door was observed to be closed, the space beyond the doors transformed into a changing room for staff or a quiet space for the dentist to catch up on notes or listen to continuing education videos. One wonders about the practicality of this design feature.

The reality of scheduled appointments is that patients are assigned to a dentist and one of the operatories that the dentist is working in. So, suppose an unruly patient is causing a disruption in one of the other operatories outside of this treatment pod. In that case, there is no way of isolating the noise elsewhere in the clinic. There is neither a way to anticipate which patients will be disruptive nor move them into the isolation area should they become disruptive mid-procedure because the operatories in this area would presumably be scheduled with other patients.

Similarly, a sliding pocket door isolates a small room intended to produce dental models for comprehensive treatment, such as crowns, bridges, or dentures. Pouring and trimming dental

models can be very noisy and disruptive. It is not uncommon to have a way to isolate the lab area in a dental office from another room. However, at BMDC, the door was seldom observed to be closed. The inclusion of a dental lab is curious, given that at BMDC, poverty is assumed, and dental procedures such as crowns and bridges are expensive. Treatment plans, which included crowns and bridges, were rarely observed. It was observed that patients requiring dentures were referred to a denturist in the neighbourhood. So, it is apparent that models for dentures or partial dentures would not be fabricated in this area either. The small room functions more as a storage area than a laboratory. There were occasions when the sliding pocket door was observed to be closed. Like the large sliding door described above, the purpose of closing this door was to create a private and discrete change room for staff and students when the washroom was already in use.

A traditional hinged door separates the designated staff room from the treatment area. In part, this door is the visible boundary between the treatment area where patients are present and an area exclusively accessed by staff. It was observed that this door remained closed while patients were in the treatment area or when staff members used the staff room as a quiet workspace. At other times, the staff room door was propped open when patients were not present in the treatment area or when staff were in the staff room. The decision to open or close the door seems dependent on the presence of staff to monitor who is in the room and what they are doing or the need to prevent patient access. In essence, the door limits access to a private sanctum reserved for staff and students. Staff at the clinic stated that restricting access to the area protected personal property and prevented individuals other than staff from entering the room.

Some key informants who work in the clinic referenced one criminal incident. It was reported that since then, staff and students have been more careful about locking up their items

and closing the door to the staff room. The effectiveness of the door as a barrier to outsiders comes into question, considering another event when a stranger remained undiscovered, sitting in the staff room. The individual was not a member of the staff or students. Staff described them as “dressed normally” and “normal looking.” The dental clinic is a dynamic space. Due to the number and rotation of providers, students and staff circulating in the clinic throughout the week, staff and students assumed that the person was known to one of the staff members. Although this proved false, the ability of this person to go undetected because of their normalized body and behaviour suggests a flaw in the security design. Bodies and behaviours that can “pass” as normal are not monitored the same way as those that don’t and can inhabit the staff-only space undetected. Here again, one ponders how a built environment becomes a mechanism for controlling the bodies and behaviours of individuals in the clinic space (Foucault, 1979).

However, the ability of one to conform to hegemonic norms, as in the example of the individual in the staffroom going undetected, provides an individual with access to areas they were not intended to have. This finding challenges the belief that the space can be defended from intrusions.

Dental Operatories. Dental product companies donated the cabinetry and chairs in each dental operatory. Therefore, none of the cabinetry materials matched. Efforts were made to create a unifying theme or aesthetic amongst all of the operatories in the dental clinic.

> *All the wall panelling- So, you'll see that from the floor to about four feet is a full maple panel in the operatories. That was the reason we chose it because we knew that it would probably be the most neutral product to coordinate with the dental cabinets without being a solid colour and all that was added. We never do that in most dental clinics (Interview*

A).

Data does not clarify why attention to aesthetics and a cohesive appearance was significant. However, an editorial article on dental office design (Unthank & True, 1999) provides insight. The authors, who are dentists and architectural designers for dental offices, suggest that the appearance of a dental office reflects the level of provider professionalism, the cleanliness of the office, and the type of care the patient can expect to receive. If this is true, then the unified appearance of the operatories may be intended to signify a high level of professionalism, cleanliness and quality of care.

Key informants also considered the patient population when choosing the wall panelling. The material chosen for the panelling was industrial-grade and durable. The panelling was also high quality and more expensive. However, it was thought that the upfront costs of these materials would prevent long-term costs for the non-profit organization responsible for the facility's administration and care.

> *That is the same type of stuff you'd put on walls in a hospital so that the beds hit the wall and don't damage it. A kind of fibreglass reinforced panel with a decorative finish of faux wood. Because we knew that some people coming to the clinic might be literally having their house on their back, in a backpack. And they hit a wall that damages it. (Interview A)*

This quote exemplifies how informants assumed that unhoused bodies would be present in the dental clinic and anticipated that the behaviours of these unhoused bodies threaten the dental clinic's clean aesthetic. Based on these assumptions, careful consideration of the durability of design materials underpins all aesthetic choices. The prioritization of unblemished materials also signifies cleanliness, which is commonly associated with infection prevention and control in healthcare facilities and comes to the forefront in the sterilization area discussed in the next section.

Protocols for providing 'safe' dental care were problematic for some patients. For example, many emergency patients are in pain and have infections requiring antibiotics before dental treatment. Local anesthesia does not work well in the presence of active infections. For individuals who have difficulty scheduling and keeping appointments, the need to return for an additional appointment can create stress and frustration. An encounter with one patient who presented with a sore tooth and had waited to see a dentist for two (2) hours revealed that some individuals would choose to take the tooth out themselves rather than deal with a painful tooth until they could return. This frustration was further compounded by the current 4-6 week waiting period for an appointment with a dentist. The waiting period for scheduled appointments extends beyond the antibiotic coverage, and some patients face an additional period of antibiotic coverage when they return before any treatment is completed. By the end of the appointment, the individual stated that they would go home and take it out themselves. This statement is concerning. Part of the reasoning behind the construction of this facility was to relieve hospital emergency rooms having to deal with dental emergencies (Goldblatt, 2002). One must also consider the increased risk of postoperative complications after self-extractions identified in the literature (Gilbert et al., 1998; Goldblatt, 2002). Also, given the pain involved in extracting an infected tooth, one must consider the additional health risks of self-medication with over-the-counter analgesics or prohibited street drugs.

Sterilization Area. Central to the treatment area in the dental clinic is the sterilization area (Location J; also Fig. 12). This clinic area is designed to facilitate a systematic one-way flow of instruments and staff. Staff members enter the sterilization area with dental instruments soiled by patient blood and debris from dental procedures. The instrument drop-off point is a countertop that is imagined to have three distinct zones: 1) dirty instruments, 2) clean but not sterile instruments, and 3) wrapped and packaged instruments ready for sterilization. Each zone determines the state of instrument cleanliness allowed in the zone, the procedures applied to the instruments in the area,

the equipment located in the zone, and the level of infection prevention and control, such as requirements for staff gowning, gloving, and shielding. As bodies and instruments move along the countertop, the risk for disease transmission decreases. At the end of the counter are four sterilizers where the process of eradicating pathogens is completed. Sterilization is carefully monitored and recorded. A series of test strips and biological indicator tests are performed daily to ensure the sterility of instruments and create an evidence trail for use in contact tracing, proof of meeting infection prevention and control (IPC) requirements, or possible future litigation should the clinic be accused of unsafe practices leading to the transmission of disease.

The sterilization area's centrality is simultaneously pragmatic and symbolic. There is a practical need for providers from all clinic areas to have equal access to the sterilization area. Infection prevention and control requirements in health care settings are a priority as there is a need to prevent the transmission of possible pathogens from patient to patient or staff. At the same time, the location of the sterilization area in the centre of the treatment area perhaps symbolizes the dental clinic's essential nature or primary function to eradicate the microbial threat to oral health. The tendency is to perceive the homeless, the indigent, drug users and the mentally ill as dirty, immoral, and eccentric. These individuals may also be perceived as untreatable and hopeless. Poor hygiene in the mouth, or generally, threatens the dental clinic's goal to achieve and maintain sterility and sanitization. One imagines that a homeless individual without access to facilities with running water or a clean place to carry dental supplies would feel out of place in a space focused on infection control, sterility, and sanitization. Reflecting on this, one wonders how difficult it must be for this segment of the community to approach a building, knowing that their bodies are unclean.

Staff Room: Multifunctional Retreat for Able-Bodied Staff Only

. The staff room (location L) is a multipurpose area. Staff, clinical preceptors, and students can retreat to this area for their lunch break, to use the staff washroom, to get a drink of water, or to catch up on patient charting. As you enter the room, a built-in desk with two computer stations is located along the right wall. These computers are intended for the use of students and staff to review charts, complete treatment notes, and other administrative duties. These aspects of dentistry are conducted in the privacy of this space reserved for the staff. Along the far wall is a kitchenette with a bank of cupboards, a sink and dishwasher, a coffee maker, a microwave, and a fridge. In the middle of the room is a dining table with four chairs. The arrangement of these items provides a lunchtime eating area for staff and students. Set against another wall is a shelving unit for supplies. To the left of the entrance is a bank of lockers for staff and students to keep their belongings safe. A designated staff washroom is also located in this room. Altogether, these facilities are a “back-stage” that constitutes a set of affordances that allow practitioners and staff to present and perform their public roles in the clinic as professionals.

Staff and students also enter the building in this area. Unlike the access requirements for the main entrance of the building, there is a step up from the staff’s building access, in the alleyway at the rear of the building, to the staff room. There is an assumption that the bodies entering this area are able-bodied and do not require accommodation. According to one key informant, disabled bodies would not be able to perform the tasks required of dental professionals. For example, when the provider’s foot is pressed, foot pedals activate the drills necessary for preparing a tooth. Therefore, the configuration and arrangement of the dental operatory areas inform which bodies can perform dentistry and dental hygiene. Furthermore, the assumptions about which bodies can perform dental procedures inform the staff room's access

requirements.

Discussion

This chapter has explored the physical and social space and the social spatialization around and within a community dental clinic (CDC). The findings demonstrate that the community dental clinic serves more than a pragmatic or functional purpose. The architectural and administrative practices of operating the facility as a space becomes a spatial frame impacting interactions. The representations of the dental space prioritized dental knowledge and experience and situated the clinic as a dental space based on staff needs, ergonomics, typical dental procedures, processes, and workflow and required bodies and behaviours aligned with these processes and needs. Negative place images and discourses about the region and its inhabitants introduced physical elements and objects that facilitated control, monitoring, and surveillance. However, the clinic's physical, structural, and social manifestations act as an autonomous machine that performs a task *on* people in society.

Incorporating reflexivity in collaborative interdisciplinary projects would allow individuals to assess the impact of their social position, power and privilege, personal biases and the context of a situation. Although the term reflexivity often refers to a method in qualitative research (Beck, 2013; Olmos-Vega et al., 2023), it could be applied in the pre-design as well as in the post-evaluation stage of policy development, program design and community engagement. Additionally, community engagement occurs on a continuum (Tinglin & Joyette, 2020). A collaborative approach that goes beyond informing and consulting and involves multidirectional communication and meaningful input by all stakeholders into the design and development of the CDC, may have more successfully accommodated the needs of dentistry and the

social service sector.

There is a capitalist logic underpinning the considerations for the clinic's location. Like a private practice setting, CDC's income was generated through the production of dental services and reliant on a steady source of patients with the means to pay the fees. The location of the CDC in this study seems to have been chosen partly due to the proximity to an ample supply of a targeted group (in this case, low-income families, Metis, and new immigrant families) who were assumed to have the greatest need and thus demand for dental services. However, there is no indication that the targeted groups chosen, by those involved in the planning and design of the facility, have a more significant need or demand for dental services than other community members.

The clinic space of the CDC does not consider or reflect the lived experiences of all individuals in the community. It was designed to attract and protect the 'virtuous' bodies and behaviours in the community by deterring and excluding those deemed dangerous and intimidating. The needs of the latter group were inequitably considered. Implicitly, the architectural design and administrative processes favour bodies that possess the virtues of compliance and good personal hygiene. These 'virtuous' bodies and behaviours possess the social capital necessary to make and keep appointments: a phone, a home address, a predictable schedule, and reliable transportation. However, community members do not have equal access to this social capital. Many homeless people have substance use disorders or mental health concerns that make their lives unpredictable.

In terms of spatial practice, the physical arrangement and practices of the dental clinic space require patient bodies to submit and perform in ways that allow dentists to work on them. To receive dental care, an individual must be able to sit still with their mouth open for an

extended period. A patient can't escape the procedure when lying back in a dental chair, and the power imbalance between patient and provider is accentuated. The patient is virtually at the provider's mercy. For those who grew up in remote communities, it is also possible that their previous experiences of dental treatment and clinical spaces led to evacuation to metropolitan centres for treatment for themselves or family members (and sometimes, these are one-way trips due to fatal illness). There may be associations between trauma and clinic spaces or similar medical spaces, such as dental clinics, as spaces of representation (Shields, 2013).

Further study of possible 'medical architecture traumas' should include the perspectives of marginalized populations of dental clinic space. In a clinic space intended for a marginalized and possibly traumatized population, 'virtuous' bodies have managed their traumas. However, mental health research often points to this demand as the crux of patients' health problems.

Is a universally inclusive dental space design possible? CDCs need to be able to attract dental professionals to work in them and have predictable scheduled production to achieve financial sustainability. Providers and 'virtuous' patients may not enter these spaces if they feel unsafe. Other CDCs exist in Canada, some of which serve stigmatized communities such as the unhoused and transient and those with substance use disorder and mental health concerns. It is unknown whether there is any flexibility to dental procedures that would provide care to non-conforming bodies or those that resist submission to the intrusiveness of treatment or cannot maintain patience during waiting periods. One thinks also of those individuals who have experienced significant physical, mental or emotional trauma. Could a dental space be designed that implemented trauma-informed care? Research into other CDC spaces and models of care would provide an interesting comparison and insights into designing dental spaces for these communities.

Underpinning the defensive architectural features in the CDC is a moral panic about this group's potentially destructive or harmful behaviours, which justifies a form of policing involving monitoring and surveillance (Reynald & Elffers, 2009). The CDC's placement and spacing in the community reflect a belief that the local neighbourhood is a dangerous space containing dangerous people. Simultaneously, the entire neighbourhood is dimensionally stigmatized. The potential presence of these dangerous individuals threatens society's morals, norms and beliefs and the patients' and staff's sense of security. As individuals move toward and through the CDC dental space, their bodies and behaviours are progressively submitted to architectural features and administrative processes that sort and categorize them.

A dental clinic is also a technological space. Over time, technological advances in dentistry (Gordon, 2006) and higher social expectations for cosmetic outcomes (Khalid & Quiñonez, 2015) have elevated the standard of dental care and altered patient expectations and experiences. Further consideration of how this may further inequities in oral health and access to care is required. For example, employing microscopy in root canal procedures has become standard practice. However, the required microscopic equipment cost is prohibitive for a not-for-profit CDC. The absence of the latest technologies impacts patient options and care. For example, patients at the CDC who required a root canal were given the option of being referred to specialist offices with the tools to navigate these procedures but are much more costly or to have the tooth extracted. This CDC was designed to provide available, low-cost dental services to the community, but questions arise about the level of care available to the patrons of this clinic.

Limitations to this study exist. To thoroughly examine the dental clinic space as a social production meant examining everything, everywhere and all at once. This examination proved impossible. In retrospect, this study did not examine how the clientele perceived and

experienced the clinical space. Gathering input from the patient community would provide a fuller understanding of how all individuals experience the dental clinic. However, this form of engagement with similar communities has been used frequently and has left communities feeling victimized because they perceive a lack of control over the process and outcomes, and their local knowledge is exploited. Data appears to be misappropriated to serve the interests of the researcher or a privileged group (Tinglin & Joyette, 2020). Early in the study, one key informant from BMHC cautioned against interviewing the clients of BMHC, stating that BMHC patients have been interviewed many times in the past, and it would be difficult to find members of the patient community who would be willing to be interviewed.

Field observations took place exclusively on Wednesdays during the study. The work of dental students and their preceptors in the clinic on other days was not observed. Also, there were community dentists who were not scheduled to work on Wednesdays and were not observed. Therefore, the findings of this study do not reflect the experience and perspectives of the entire group of clinical providers and staff. Interviews and informal conversations with key informants and staff who work on other days of the week would address this limitation.

Finally, space is contextual (Shields, 1991, 2006, 2013, 2016). Therefore, the findings of this study are limited to a specific CDC and can't be generalized to other CDCs, other dental practice settings or other geographic locations. Moreover, observations were conducted during the COVID-19 pandemic between September 2020 and June 2022. COVID-19 regulations have been lifted since then, and it is expected that the CDC space would be experienced and perceived differently outside of this context.

Conclusion

Inequitable access to oral health and dental services is a global priority. However, the focus has been on alleviating the financial burden and increasing the availability of dental

services to socially marginalized communities. However, findings from this study suggest that the social and physical production of dental care spaces also impacts access. This study reveals the need for the dental community to turn a critical lens inward and assess the impacts of the dental care environments and systems it takes for granted. If we consider oral health a human right, it must also hold that this right belongs to all human beings. Therefore, care environments and organizational systems should be re-imagined to be universally inclusive, or specialized care spaces need to be created to accommodate the needs of each marginalized group. Further research into dental care spaces is needed.

CHAPTER 5: DISCUSSION

Reflections on Interdisciplinary Research and Studies

I preface this chapter with reflections on the interdisciplinary research and studies foundational to this thesis. This thesis was not a collaboration between dental disciplines. This thesis bridged the academic disciplines of the humanities and health sciences with different foundational knowledge, theories, and language. Choosing an interdisciplinary approach to this study was not an afterthought. Instead, an interdisciplinary approach aligned with the research topic and focus and limited the potential pitfall of simply reinforcing personal and professional biases. However, navigating interdisciplinarity presented both advantages and pitfalls.

Early in my discussions with my supervisors, we determined that a pan or transdisciplinary approach was relevant and necessary to provide a nuanced understanding of the phenomena I hoped to understand. Relying on a dental or health science perspective on healthcare spaces would have revealed nothing new and played to my professional biases. Without a broader understanding of space, this research would merely reproduce taken-for-granted assumptions held in dentistry about what a dental clinic space should be and how it should function. Sociology, the focus of my undergraduate degree, provided a theoretical and conceptual framework that facilitated a critical inquiry into inequity, marginalization and dental care space.

During my undergraduate studies, I became familiar with spatial theory, which could offer a different perspective and conceptualization of space than those traditionally posed by health sciences and dentistry. I wrote a student essay using Lefebvre's spatial theory as a framework for understanding racialized classrooms in movies (Arntson, 2020). Although my grasp of spatial theory was rudimentary and naive, I intuitively understood that spatial theory

offered a more nuanced conceptualization of space that would allow me to challenge likely assumptions and push understandings of dental spaces and inequitable care in a new direction.

My graduate program and this thesis are interdisciplinary, crossing the Arts and Sciences and the disciplines of Sociology and Dentistry. Interdisciplinarity offers its advantages and challenges. Crossing boundaries between disciplines draws on multiple epistemologies, ontologies, and methodologies, which can enrich and expand our understanding of complex shared concerns, such as inequitable access to dental care, among both disciplines. Barriers to interdisciplinarity included disparate values inherent in all inquiry forms, underlying assumptions, and differing epistemologies and methodologies. A critical realist perspective bridges science and sociology's positivist/objective and interpretive/subjective tendencies, respectively (Maxwell, 2012).

Additionally, initial readings revealed that other researchers drew on sociological theory and concepts to understand inequitable access to oral health and dental care (Elaine Muirhead et al., 2020; Exley, 2009; Freeman et al., 2020; Vernazza et al., 2018). Initial literature searches revealed a gap in understanding dental clinics and the environments we create to provide oral health care. Spatial theory, its concepts and constructs facilitated this exploration.

Interdisciplinarity opens the graduate student to opportunities for expanding the student's knowledge base, academic networks, and experiences. In this case, the opportunity was to create an individualized master's program, the first of its kind in the School of Dentistry at the University of Alberta. I was able to personalize the course requirements to fill the gaps in my knowledge and gain new perspectives. Courses were handpicked with my graduate supervisors' guidance from various fields: sociological theory, nursing advocacy and leadership, and community engagement. The freedom to personalize a study program facilitated a broader knowledge

base and increased available resources that I could apply to my research. I also expanded my academic network to include students and professors in sociology, nursing, human ecology, criminology and native studies. These individuals graciously shared their research, experience, knowledge, and perspectives. This thesis benefitted immensely from the rich academic discussions that included their multiple perspectives.

There were also tensions between disciplines. Funding opportunities targeting interdisciplinary students and research were unavailable, and tapping into disciplinary-specific funding opportunities proved complicated. Grants and scholarships often target specific disciplines. For example, although the website for the Sociology department indicated that teaching assistantships and internal scholarships were available, the Sociology department only recognized me as a graduate student in the third year of my studies. The Sociology department informed me that funding opportunities, such as teaching and research assistantships, typically provided to graduate students in the department, were only available to sociology students. Therefore, having to declare or choose a 'home' department, in my case Dentistry, excluded me from accessing funding that would otherwise been available. Researching available funding opportunities took up valuable time. Creative reading of eligibility requirements and targeting research proposals to fit a research grant's parameters required familiarity with grant adjudication committee processes and evaluations that were well beyond the skills of a novice graduate student. If not for committed supervisors who were aware of funding opportunities and willing to guide me through what felt like a bureaucratic maze, getting academic and research funding could have been impossible.

Communicating unfamiliar theories, methods and concepts to another discipline was often challenging. Each discipline had its preferences for writing style, citation style, research methods and topics of study. Co-supervisors sometimes misunderstood concepts and constructs

outside their disciplines, had different expectations of their students and communicated differently. Interdisciplinary graduate students must develop their voice and be comfortable inhabiting a space and a perspective that is unique and possibly foreign to each of the disciplines in their program of study. Within the interdisciplinary space, a graduate student takes on an insider-outsider perspective (Humphrey, 2007; Watts, 2006), simultaneously feeling part of each group and set apart. I felt this insider-outsider situatedness as a researcher and clinician in this interdisciplinary research, which proved to have advantages and challenges.

As a researcher, I have been a practicing registered dental hygienist for over 35 years. Most of my experience has been in private practice. Although this experience lacked any community dental clinic context, the researcher had worked with marginalized populations as a volunteer dental professional. Thus, I entered this study with a firm foundational understanding of the professional knowledge and language that facilitated more casual, open conversations and easy exchange of information with key informants. This understanding facilitated a shared understanding of dental concepts and processes that could have otherwise taken a researcher outside of the dental profession several years to comprehend fully.

Like Watts (2006), at times, I found that my role as a Registered Dental Hygienist and academic preceptor often overshadowed my role as a researcher. Underpinning conversations with dental professionals was an assumption that the researcher was an ‘insider’ who understood and agreed with comments about the patient population and how a dental clinic operates. Once I presented findings that challenged these professional biases, the researcher encountered resistance and concern about implications for the reputations of the dental professionals and the community dental clinic under study. Upon reflection, I became increasingly aware that they also held many of these professional biases and needed to be vigilant to avoid allowing them to

influence their interpretation of the data. Reflexive journaling was a handy tool for assessing the influence of my beliefs on interpretations and findings. The summary and discussion of the findings contained in this thesis have been filtered and refined through this reflective process.

Discussion

The World Health Organization's Global Strategy on Oral Health highlights the need for research on upstream interventions that can reduce social and systemic barriers to dental services and oral health for socially marginalized populations (WHO, 2022). This thesis explored the decision-making behind designing and creating a community dental clinic space, the Boyle McCauley Dental Clinic, which aims to reduce barriers to oral health and essential dental services for an inner-city community. The research questions focused on how decision-makers defined and understood the root causes of inequitable access to care, the community dental clinic's target population, and how the dental clinic space reflects these assumptions. Guided by spatial theory and spatialization (Shields, 1991, 2006, 2013, 2016), my findings revealed a need for a unified definition of 'vulnerability,' the impact of how 'vulnerable' is defined and understood on the patient population and the design and architecture of the dental clinic, the discursive privileging and legitimization of dentistry's perspective in the space, and how the dental clinic design and architecture reflected and reinforced assumptions about the patient population. There is a need for a unified definition of 'vulnerability' and a mutual understanding of the social and systemic causes of inequitable access to care.

Despite BMDC being an interdisciplinary collaboration, my findings strongly suggested that the key stakeholders from dentistry and the not-for-profit had different definitions of and perceptions of the patient population. Literature acknowledges that the lack of a unified definition for 'vulnerable' is problematic within the health sciences (Brown, 2011; Clark &

Preto, 2018; de Groot et al., 2019; Grabovschi et al., 2013; Hurst, 2008; Katz et al., 2020). Dentistry and oral health sciences would benefit from having a shared understanding of 'vulnerability' and its causes if we wish to address inequitable access to care.

'Vulnerable' is often a heuristic label to cover complex, compounded inequities and risks in the intersections of multiple identities, power, and privilege (McDonald et al., 2020). Those in power create and use these labels to determine "which groups are 'vulnerable enough' to warrant services" (McDonald et al., 2020: p.3). Despite semantic differences, the terms 'vulnerable population' and 'vulnerability' are often used indeterminately and interchangeably with "marginalized" and "underserved" (Clark & Preto, 2018; de Groot et al., 2019; Katz et al., 2020) "Vulnerable" infers that internal causation factors whereas "marginalized" and "underserved" direct the focus on external factors such as social determinants of health, policies, and organizational structures.

Definitions and understandings of 'vulnerability' are consequential (Brown, 2011, p. 313). How dentistry defines and understands 'vulnerability' as a profession impacts which groups we prioritize to receive preventive interventions and dental services, where we locate services and allocate resources, and how we define our role in the social contract (Moeller & Quiñonez, 2020). The dental profession must continue to reflect upon how it defines 'vulnerable,' the characteristics of the population it applies 'vulnerable' to, and the consequences of defining 'vulnerable' in this way.

Communicating the dental perspective to peers and colleagues is only the beginning. This interdisciplinary project involved collaborators from different academic and professional traditions. These disciplines came to the table with different ontologies, epistemologies, and perspectives. One must consider possible power dynamics when relating with other disciplines outside the health sciences that privilege and prioritize one perspective over those of another.

Power dynamics privileged and legitimized dental knowledge and experience because the community dental clinic was conceived, perceived and discussed exclusively as a dental space by all stakeholders. Privileging the dental perspective created a particular type of dental subject and a clinic design that prioritized the needs of dental providers over those of the patient.

Nettleton (1989) postulates that dentistry created a particular dental subject suited to evolving dental technologies and procedures. Modern dental systems and procedures do have performative requirements. Patients must be capable of scheduling and keeping appointments, demonstrate the cognitive ability to consent to treatment reliably, submit to dental procedures while placed in a vulnerable supine position, and give their trust and control over the situation to a dental professional. However, these requirements are problematic for some marginalized groups, notably those facing mental health challenges, substance use disorder and homelessness, because they restrict their access to oral health and dental services. In essence, the dental space is a social construction that produces a dental subject and creates, reflects and reinforces the social stigma and exclusion experienced by marginalized groups that do not fit the clinic's needs and requirements. The dental clinic space sorts and categorizes bodies and behaviours, prioritizing and accommodating the needs of dentistry and its dental subject, and becomes exclusionary. Dentistry must consider and continue to explore other perspectives to create more inclusive dental spaces that reduce inequitable access.

The literature does explore the benefits that dentistry could derive from embracing sociological theories, concepts and constructs to understand the social and systemic determinants of inequitable access to oral health and dental services and the lived experiences of marginalized populations (Elaine Muirhead et al., 2020; Exley, 2009; Freeman et al., 2020; Vernazza et al., 2018). Freeman et al. (2020) point out that the sociological concepts of social exclusion, intersectionality and othering can facilitate a more nuanced appreciation of marginalized

populations' multifactorial and intersectoral social identities and lived experiences and dentistry's complicity in creating barriers to access. The authors propose a framework for inclusive oral health policy, research and practice focused on "developing innovative inter-sectoral solutions to tackle the inequities of people enduring extreme oral health" to promote inclusion (Freeman et al., 2020, p. 4). Our current research demonstrates the value of using spatial theory as a framework for further understanding the complex relational nature of dental clinic spaces. These findings have implications for interdisciplinary collaboration, community engagement, policy and program development, dentistry's social contract and the creation of inclusive dental care as we advance.

Other sociological theories have yet to be explored in the dental context. They may prove valuable as we continue to explore and attempt to address inequitable access to oral health care. An inclusive approach would involve policy and program design that authentically engages marginalized groups, elevating their voices and needs in projects, such as developing community dental clinics, through community participation. This participatory approach aligns with the fourth principle outlined in WHO's (2022) *Global Strategy on Oral Health*, people-centred oral health care. This principle requires dentistry to consciously seek out and engage with individual and community perspectives and participation. Alternatively, dental clinics prioritizing dental perspectives risk becoming less a community outreach and more a colonizing outpost imposing a model of care, a dental subject and a dental clinic space that is ill-suited to the community's needs and not utilized.

Research examining inclusive dental clinic spaces and models of care that accommodate the needs of the most severely marginalized is limited. Wallace (2012) found that not-for-profit CDCs were the most successful if they "integrated dental services with a range of community and other health services." Models of care, such as the integrated model described in Wallace

(2012), provide a template to imagine a more holistic approach to health care acceptable to marginalized populations and accommodate their unique needs. One wonders if dentistry may also benefit from working in an interdisciplinary healthcare space. The benefits of collaborating with pharmacists, social workers and physicians to address complex medical histories, higher risks of medical emergencies or drug interactions would be invaluable.

Findings from this study also have implications for the social contract of dentistry (Moeller & Quiñonez, 2020). One is left to question the limits of dentistry's responsibility to meet the oral health needs of the public end. Findings from our study point to a concern for the safety of the clinic's staff and patients. This safety concern was embedded in the dental clinic space and may deter some dental professionals from working with stigmatized populations. However, Wallace's (2012) study exploring dental professionals' perceptions of serving marginalized populations reveals that the financial burden of accepting public dental insurance's lower reimbursement for dental services and their perception that marginalized individuals were unreliable were more often cited as deterrents. Wallace (2012) found that some CDC staff believe that their services provide an excuse for private dental clinics to avoid serving the needs of marginalized populations by referring these individuals to the CDC (p. 64). This belief was echoed in our research during interviews with members of the CDC staff and administration. Concerns arose about creating a two-tier system that offers reduced care to marginalized members of society and absolves private dental clinics and dentists from the responsibility to provide quality care to all members of society.

Limitations

The scope of this research was limited to an upstream exploration of how decision-makers and those involved with the planning and design of a community dental clinic understood the target patient population and their considerations and decisions about how the dental clinic

was designed.

As this research focused upstream, the marginalized population's perceptions and experiences of the Boyle McCauley Dental Clinic were not considered. Early on in this study, key informants who worked with the marginalized population cautioned against interviewing this population because these individuals were interviewed frequently by other researchers in the past, and they perceived that nothing positive had come out of participating. Research fatigue is common in marginalized communities (Tinglin & Joyette, 2020). In further research, exploring marginalized perspectives and lived experiences of dental care spaces and their perceived dental needs will provide a better understanding of how dental care environments contribute to inequitable access.

This research focussed on one not-for-profit community dental clinic, the Boyle McCauley Dental Clinic. A focused subject of study facilitated a more comprehensive exploration and a more nuanced understanding of the dental clinic space. Wallace (2012) described other community dental clinic organizational and care models which were not considered. Additionally, CDCs are only one type of dental care space. Private dental clinics, long-term care facilities, prisons, and independent dental hygiene clinics are possible spaces that could be examined. Therefore, the findings from our research are not generalizable. However, using spatial theory and spatialization as a framework for understanding dental care environments could prove valuable in addressing inequitable access in other clinics. Future studies could explore other CDCs and models of care targeting marginalized populations.

Conclusion

This thesis explored a CDC as a relational space socially produced as a clinical environment with a specific patient subpopulation in mind. Lefebvre's (1991) trialectic theory of the production of space provided a framework for the study. Findings revealed that dental

practices, discourses, and ways of being and knowing dominated the spatialization of the dental care space and decisions about which patient group to target and how to design the processes and physical architecture of the CDC. Representations of space - overwhelming perspectives and discourses about the CDC space and its inhabitants - laid the groundwork for the CDC. These abstract conceptualizations of the CDC space and its inhabitants had implications on the architectural design and processes in the clinic, which patient groups were included and accommodated versus those groups that were deterred or excluded from the clinic, and who's and which processes and needs were prioritized. It becomes apparent that the taken-for-granted space of representation, the subaltern way of being and knowing held by the clients of the Boyle McCauley Health Clinic, does not match the reality of the clinic. The dental understandings of patients and clinical practices of space are misaligned with the characteristics and needs of some patient groups facing multiple levels of stigma and structural marginalization.
Further, because the clinic's patients are a more heterogenous group than the stereotype of the unhoused and drug-addicted transient, the research reveals contradictions between the actual operation of the CDC in terms of practices of the clinical space, staff and patients and how the space was represented in the design process which tended to stress defensive architecture.

Implications for these findings go beyond the CDC studied in this thesis. There is an apparent need for dentistry to be more self-reflexive about how our professional knowledge, discourses and taken-for-granted dental care spaces are implicated in inequitable access to oral health and dental services for some groups. If we hold that oral health is a fundamental right, it should be afforded to everyone. Future research is required to determine how to create more inclusive dental care spaces and alternative care models for groups facing extreme social marginalization.

Tables and Figures

Table 1

Patient population

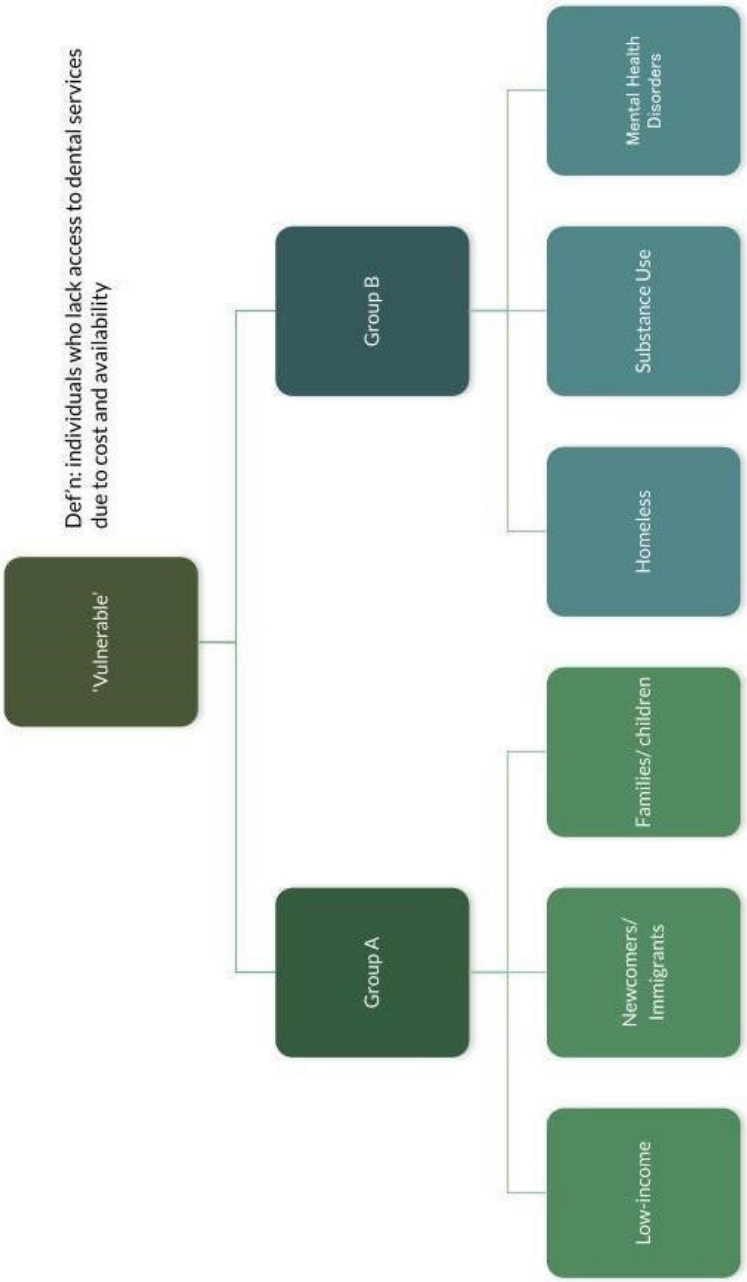


Table 2

Perceived Patient Characteristics

		Group A	Group B
Intrinsic characteristics*	Age	• Children/Families[a] • Seniors[a] • Young Adults[a]	• Street Youth[a]
	Gender	• Female	• Transgender[a] • Female[a,b] • Male homeless
	Race	• None Specified	• Indigenous[a,b]
Personal characteristics*	Behavior	• Schedules and attends appointments • Sobriety - "Clean"[a], Former Drug Use[a] • "Fussy" children[a]	• Difficulty scheduling/keeping appointments • Threatening/intimidating - Loitering[a], Physical/verbal violence, Criminal (drug use) • Destructive (can't sit still, kicking[a])
	Appearance	• Good personal hygiene - Clean[a], "Smells good"[a] • "Well dressed"[a]	• Poor personal hygiene -Dirty[a], "Smells bad"[a] • Poorly dressed[a]
Medical characteristics*	Medical	• Pregnancy[a] • Mobility issues • Recovery [substance use]	• Substance use/Addiction[a] • Mental illness • Trauma - Childhood[a], Domestic abuse[a], Street violence[a]
	Dental	• Comprehensive/preventive dental treatment[a] • Regular scheduled care[a]	• Emergency treatment[a] • Emergent care[a]
Cultural characteristics*		• Low literacy[a] - English as a second language[a] • Immigrants[a] - Multicultural[a], Newcomers[a] • Indigenous (housed) - Metis[a], First Nations[a], Inuit[a]	• Loitering[a] (social activity)
Social characteristics*	Legal Status	• Canadian citizenship - Immigrant/refugee[a] • Insurance - Public dental insurance - No insurance[a]	• Public insurance[a] • Clients of BMHC[a]
	SES**	• Income - Low-income[a], High-income[a,c] • Employment status - Employed[a], Unemployed[a] • Housed[a]/residents[a]	• Poverty[a] • Unemployed[a] • Unhoused[a]/transient[a]

Note. Adapted from Sossauer et al. (2019)

**Socioeconomic status, [a]in vivo codes; [b]modified with the word marginalized; [c]outlier

Figure 1

Map of the Clinic Space and Guide to Dental Office Tour

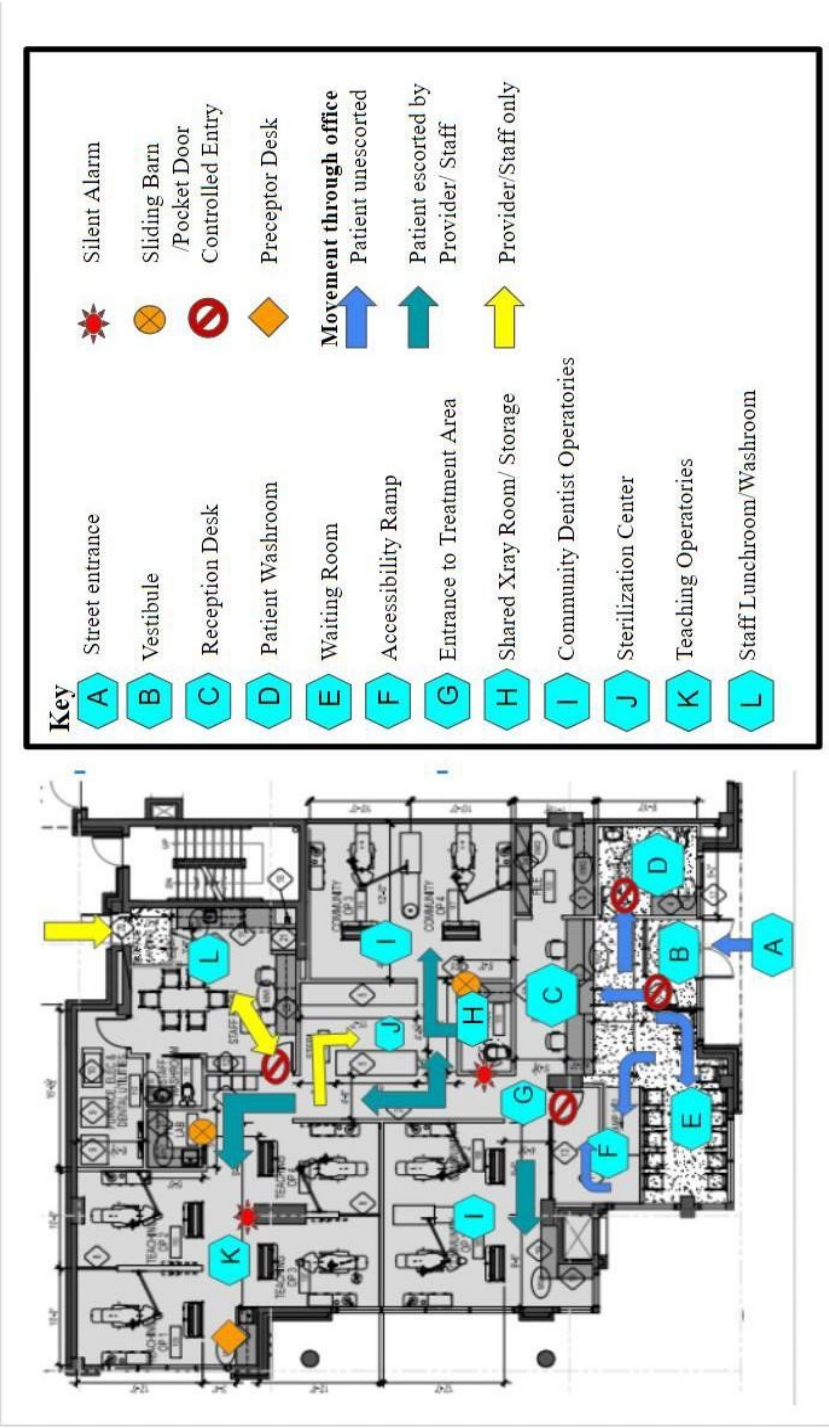
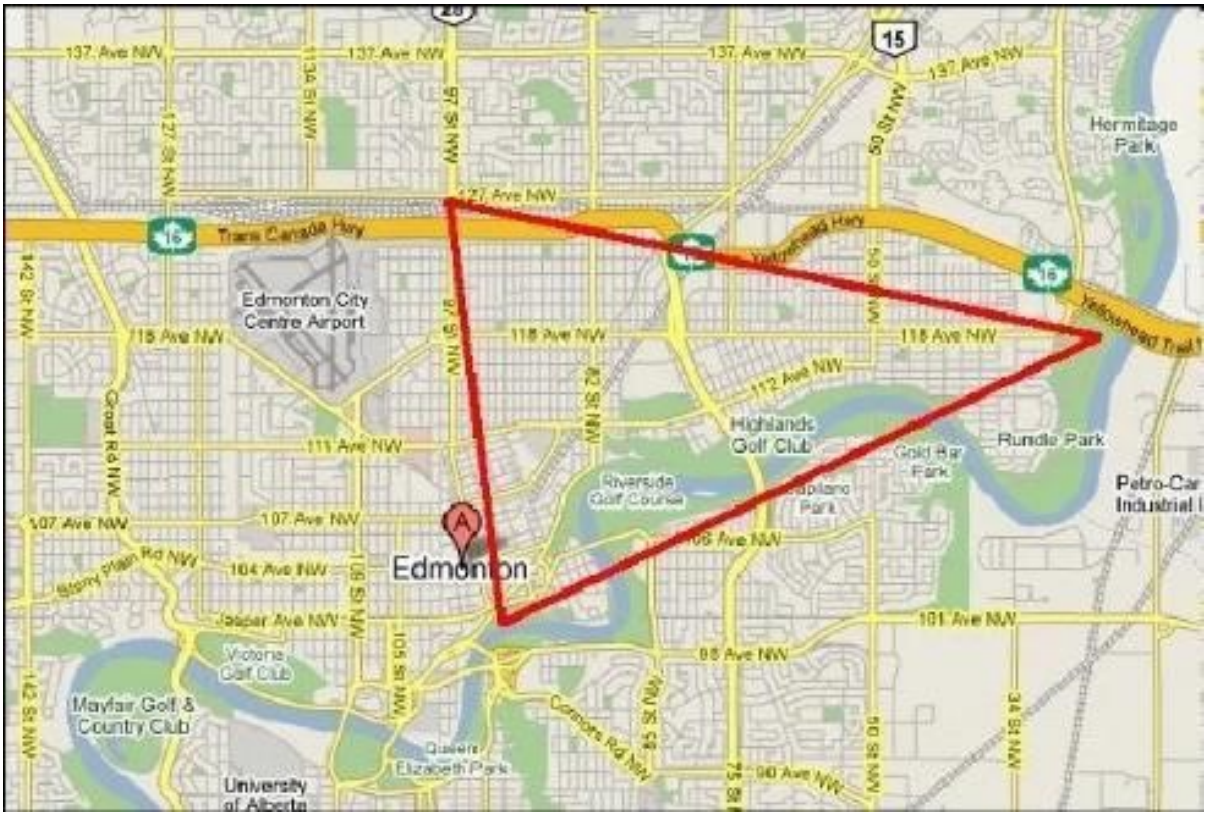


Figure 2

Geographical boundaries of the "Black Triangle



(https://www.slideshare.net/chris_d/edmontons-black-triangle). In the public domain.

Figure 3

Street view of the building housing the CDC

(https://www.metishousing.ca/uploads/source/Photos_/RT_-_crop.jpg) In the public domain.

Figure 4

Street view of clinic entrance (location A)

(https://lh3.googleusercontent.com/p/AF1QipMSy5hr8eR2lq50XwUpzKsbCKutm8L-DP4KP04o=s680-w680-h510) In public domain.

Figure 5

Photo of the vestibule (location B)

Note. This photo is taken from the ramp in the waiting room, entryway (A) background right; door to patient washroom (D) background center, reception desk (C) background left; waiting room (E) s on the right (http://www.bmhc.net/uploads/4/5/0/9/45096779/published/img-0652_1.jpg?1551548248) In the public domain.

Figure 6

The reception area (location C)

Figure 7

Photos of patient-donated objects adorning the reception area (location C).

Figure 8

Waiting room area (location E)

Note: glass railing of ramp (F) on the right (http://www.bmhc.net/uploads/4/5/0/9/45096779/published/img-1883_1.jpg?1551548261) In the public domain.

Figure 9

Silent alarm (location G) entrance to treatment area)

Note: poster indicating patient behaviours that will not be tolerated

Figure 10

Sliding barn door separating two community dentist operatories (Location I)

Figure 11

Operatories (Location K)

Image on the right (https://lh3.googleusercontent.com/p/AF1QipMEDsKkBHXJcOidA_ukeTjVHSwFnCsY0saamYd4=s1360-w1360-h1020) In the public domain.

Figure 12

Sterilization area (location J)

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Appendix A

Key Informant Interview Guide

1. I would like you to take a moment and introduce yourself and how you are connected to the Boyle McCauley Dental Clinic.
2. In your own words how would you describe the Boyle McCauley Dental Clinic?
    a. How would you describe the clinic to someone else?
    b. What have patients said to you about the clinic?
3. Can you tell me about the neighborhood, and the patients the clinic serves?
    a. What were you told about the clinic, the patients, the neighborhood?
    b. Who are the patients that come to the clinic? How would you describe them?
4. Were you involved in planning or designing the clinic?
5. Who else was involved in the design process?
    c. Was there an interior designer?
    d. Who had input into the decisions?
    e. Were you consulted about the plans or design of the clinic?
6. Why was it important to have a new clinic space for the BMDC?
7. What needed to be considered for the "new" BMDC?
    a. Did you need to consider who would use the room?
    b. The purpose of the room?
    c. Professional needs/wants?
    d. Local regulations/codes? What were some of the things you considered important to have in the dental clinic?
    e. Why did you include these?
    f. Who was this for?
8. Was there anything you did not want in the space? Why?
    a. Were there features you wanted to avoid? Why?
    b. Would these features be found in other dental offices? Why not here?
9. How would you describe the atmosphere of the space?
    a. How did you create that mood?
    b. Compared to the old BMDC?
    c. Was there a mood or atmosphere you were trying to create? For whom?
    d. Is there anything else you would like me to know about the space?
10. Has there been a shift in who is attending the BMDC since the expansion?
    a. How is it different?
    b. Are some patients no longer attending the clinic? Who?

Appendix B

Information and Consent Form

UNIVERSITY OF ALBERTA
FACULTY OF ARTS
Department of Sociology

INFORMATION LETTER and CONSENT FORM

Study Title: Under Construction:
Exploring How Dental Clinic Space Constructs Patient Identity

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Background

This study seeks to analyze how the material and structural design of an inner-city community dental clinic reflects hidden understandings about the marginalized and vulnerable populations it was designed to serve. The aim is to reveal those bodies which may be perceived as the clinic's dental patients and, in the process, reveal if other bodies may be excluded or discouraged from accessing care.

You have been asked to participate in this study because you were actively involved in the design process of the Boyle McCauley Dental Clinic and can speak to the planning and design process, or because you have experienced working in the current and previous Boyle McCauley Dental Clinic.

This interview will inform my thesis work for my MSc (dental hygiene) and Sociology. Furthermore, the information you provide will expand on current understanding of access to dental care for vulnerable and marginalized groups.

Purpose

It is not understood how the design of dental clinics and the placement and choice of objects is informed by who the dental patients are understood to be. It is assumed that all dental clinics are designed the same. However, community dental clinics, like the Boyle McCauley Dental Clinic, are meant to serve a population whose needs are not met by private dental clinics. This study seeks to explore the dental clinic space and the design elements of the Boyle McCauley Dental Clinic and the possible implications these may have on who the clinic serves.

Interview Procedures

Given the Covid19 restrictions for face-to-face interactions, I will be contacting you to schedule an online interview.

Participants have been chosen based on their experience with the plan and design of the Boyle McCauley Dental Clinic or on their experience with both the previous and current Boyle McCauley dental clinics. Yours will be one of the interviews that will be conducted. I will be recruiting and interviewing other participants with similar experiences.

The interview will be conducted and recorded using Zoom an online meeting site.

The interviews will last approximately one hour and will require that you have access to a computer, iPad, or smartphone that will permit you to participate via audio and video recording. If you do not have access to this type of equipment, please advise me and I will find something for you to use temporarily for the interview.

Please note that I may need to contact you after the interview if I need to clarify my findings or check my interpretation of data with you.

The format of the interview is meant to be conversational and does not require any preparation. However, if during the interview we determine that you need access documents or refer to previous notes, we can arrange to follow up on this interview.

Upon your request, I can provide transcripts from the interview for your verification and approval.

Benefits

It is my hope that participation in this research will provide you with an opportunity to reflect on your experiences with the Boyle McCauley Dental Clinic. These reflections may provide insight into your contribution to creating access to dental care for vulnerable populations.

Furthermore, the information you provide will expand the dentistry's current understanding of inequitable access to oral health services and provide insight into possible future solutions.

Your participation in this study will help me better understand how dental clinic spaces and design features reflect and impact the patients they are intended to serve.

Risk

Some risks of participating in this study may arise.

Conducting and recording interviews online present the problem of maintaining confidentiality and anonymity. Participants may be concerned about the security of their employment or position if they

reveal issues or information that would be problematic to the Boyle McCauley Dental Clinic, Boyle McCauley Health Clinic, the Metis Nation, Alberta Health Services, or the University of Alberta.

As with any interview process, there is the risk that you may feel stressed or uncomfortable with being recorded. Participants may also encounter discomfort revisiting stressful events or encounters.

There may be risks to being in this study that are not known. If we learn anything during the research that may affect your willingness to continue being in the study, we will tell you right away.

Voluntary Participation

You are under no obligation to participate in this study. The participation is completely voluntary. Nor are you obliged to answer any specific questions even while participating in the study.

Please be assured that you can opt out of participating at any time.

Even if you agree to be in the study, you can change your mind and withdraw at any time. You can have your data removed from the study by contacting me within two weeks after the interview.

If you withdraw prior to that date, all data collected during your interview will be removed from my data base and any data included in my paper will be removed.

Confidentiality & Anonymity

This study and its findings are intended for the purposes of my graduate thesis and may also result in publications in academic journals, presentation of findings to academic and professional audiences, and presentation of findings to stakeholders and funding agencies of the Boyle McCauley Dental Clinic. Access to data from this research will only be available to myself, Dr. Minn-Nyoung Yoon, and Dr. Rob Shields. Every effort will be made to ensure that all data and findings will remain anonymous. Your name and any identifying features from your interview will be removed from the data and findings.

All information collected during the interview will remain confidential.

To ensure the security of data from your interview, data will be saved to a private computer with an encrypted password accessible only by me.

Further Information

If you have any further questions regarding this study, please do not hesitate to contact the lead researcher, Cheryl Arntson (780)886-3993 or at carntson@ualberta.ca

The plan for this study has been reviewed for its adherence to ethical guidelines by a Research Ethics Board at the University of Alberta. For questions regarding participant rights and ethical conduct of research, contact the Research Ethics Office at (780) 492-2615.

Consent Statement

I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I

have been told whom to contact. I agree to participate in the research study described above and will receive a copy of this consent form. I will receive a copy of this consent form after I sign it.

Participant's Name (printed) and Signature Date

Name (printed) and Signature of Person Obtaining Consent Date