Social prescription in dentistry: The perspective of community partners.

Maneet Kaur

Faculty of Dental Medicine and Oral Health Sciences

McGill University, Montreal, Quebec, Canada

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DEDICATION

To my parents, Devinder M. Singh and Varinder Khurana, my sister Geet Saluja and brother-in-law Manveer Saluja, my little nephew Bhavnoor, and my son Raveen Singh, for their continuous love and support. My family is my biggest strength; whatever I am today I owe it to them.

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English abstract

Background: A social prescription is a collaborative approach by which health professionals, when pertinent, connect patients to local community organizations. These organizations, in turn, provide patients with services that are non-medical but may contribute to better health and well-being. Social prescribing is pertinent in dentistry, considering the importance of the social determinants of oral health. Therefore, dentists are considering adopting this approach in their clinical practices. As social prescription involves partnerships between dentists and community organizations, for this scheme to succeed, it is essential to explore the perspectives of community organizations.

Objective: To understand how community organizations perceive the need for social prescription, and, more specifically, how they envision its implementation in partnership with dental professionals.

Methodology: I conducted a qualitative descriptive study based on the consolidated framework of implementation research (CFIR). Following a purposeful, maximum variation sampling, twelve Montreal-based organizations were selected and diversified based on several criteria, including their maturity, size, services they provide, and the population they serve, for instance, the black community, the elderly, and people living with HIV. Twelve semi-structured individual interviews with key informants of these organizations were conducted from April to September 2022. Interviews were audio-recorded, transcribed verbatim, and thematically analyzed using deductive and inductive coding.

Results: Participants perceived social prescription as an innovative holistic approach to improving patients' health by tackling their social determinants of health. They thought it would empower patients to take control of their health and promote equity. They considered that discussion, accompaniment, and follow-up were three important pillars of social prescription. They expressed their desire to work with dentists following several principles: dialogue, mutual understanding, consensus building, democratic decision-making, and a bilateral referral process. Participants further highlighted the importance of the existing functional referral system in community organizations and champions as facilitators in implementing social prescription.

Unfortunately, they also perceived several barriers to its implementation. First, they assumed that dentists were not used to exploring patients' social problems due to lack of time, lack of sensitivity

to people's social needs, and social distance. In brief, participants considered that dentists were not ready to be good social prescribers and even thought that, because of dentists' lack of sensitivity towards patients, they may lack trust in their clinician and be reluctant to share about their life. Second, participants shared challenges experienced by community organizations that may impede the implementation of social prescription. They deplored insufficient budgets, with employees overworked and underpaid, resulting in a high staff turnover and thus challenges to providing quality services to people referred by dentists.

Conclusion: As the social prescription is a holistic health approach, dentists should consider implementing it in dental health settings. For its effective execution, the perspectives of community organizations should be heard before implementing it, dentists should receive social prescription training in dental schools, and community organizations should be empowered.

French abstract

Résumé : La prescription sociale est une approche collaborative par laquelle les professionnels de la santé, lorsque cela est pertinent, mettent les patients en contact avec des organismes communautaires locaux. A leur tour, ces organisations fournissent aux patients des services non médicaux qui peuvent contribuer à une meilleure santé et bien-être. La prescription sociale est pertinente en dentisterie, compte tenu de l'importance des déterminants sociaux de la santé bucco-dentaire. Par conséquent, les dentistes envisagent d'adopter cette approche dans leurs cliniques. Comme la prescription sociale implique des partenariats entre les dentistes et les organismes communautaires, il est essentiel de comprendre les perspectives de ces dernières pour que cette initiative réussisse.

Objectif : Comprendre comment les organisations communautaires perçoivent la prescription sociale et, plus précisément, comment elles envisagent sa mise en œuvre en partenariat avec les professionnels dentaires.

Méthodologie : J'ai conduit une étude descriptive qualitative basée sur le *Consolidated framework of implementation research* (CFIR). À l'aide d'un échantillonnage par choix raisonné et à variation maximale, douze organismes montréalais ont été sélectionnés en fonction de plusieurs critères, notamment leur maturité, leur taille, leurs services, et les populations qu'ils desservent, comme la communauté noire, les personnes âgées et les personnes vivant avec le VIH. Douze entretiens semi-structurés avec des informateurs clés de ces organisations ont été menés d'avril à septembre 2022. Les entretiens ont été enregistrés de manière audio, retranscrits intégralement et analysés de manière thématique à l'aide d'un codage déductif et inductif.

Résultats : Les participants percevaient la prescription sociale comme une approche innovante pour améliorer la santé des patients en abordant les déterminants sociaux de la santé. Ils estimaient que cela permettrait aux patients de prendre le contrôle de leur santé et de promouvoir l'équité. Considérant que la discussion, l'accompagnement et le suivi étaient trois piliers importants de la prescription sociale, ils ont exprimé le désir de travailler avec les dentistes selon plusieurs principes : le dialogue, la compréhension mutuelle, l'établissement d'un consensus, la prise de décision démocratique et un processus de référence bilatéral. Les participants ont en outre souligné l'importance de champions en tant que facilitateurs de la mise en œuvre de la prescription sociale. Les participants ont également perçu plusieurs obstacles à sa mise en œuvre. Tout d'abord, ils assumaient que les dentistes n'étaient pas habitués à explorer les problèmes sociaux des patients

en raison d’un manque de temps, d’un manque de sensibilité aux besoins sociaux des individus et d'une grande distance sociale. En bref, les participants considéraient que les dentistes n'étaient pas prêts à être de bons prescripteurs sociaux et pensaient même que, en raison d'un manque de sensibilité envers les patients, ces derniers pourraient manquer de confiance en leur clinicien et être réticents à partager des informations sur leur vie. Par ailleurs, les participants ont partagé les défis auxquels sont confrontés les organismes communautaires qui peuvent entraver l'implantation de la prescription sociale. Ils ont déploré des budgets insuffisants, des employés surmenés et sous-rémunérés, entraînant un taux de rotation élevé du personnel et donc des défis pour fournir des services de qualité aux personnes référées par les dentistes.

Conclusion : La prescription sociale étant une approche holistique de la santé, les dentistes devraient envisager de la mettre en œuvre dans les établissements de santé dentaire. Pour une exécution efficace, les points de vue des organisations communautaires doivent être pris en compte avant sa mise en place, les dentistes devraient recevoir une formation sur la prescription sociale dans leurs écoles professionnelles, et les communautés devraient être soutenues et entendues.

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Contribution of authors

Dr. Christophe Bedos designed this study. The MSc candidate, Maneet Kaur, conducted the literature search, data collection, and data analysis and wrote all the sections of the thesis under the guidance and supervision of the thesis supervisor, Dr. Christophe Bedos, and co-supervisor, Dr. Pascaline Kengne Talla.

1. Introduction

Social determinants of health are conditions in which people are born, live, grow, work, and age (1). These conditions determine an individual's health and well-being (2). Research has consistently shown that people in lower social positions experience poorer health outcomes compared to those in higher social hierarchies (3). Given that disparities in oral health are similar to those in general health, to address the oral health disparities, it is pertinent to tackle the root causes of diseases, namely the social determinants of health and illness (4).

However, dentists are ill-equipped to address social determinants of oral health (2) as they are often entrenched in a reductionistic, disease-focused, biomedical approach (1,5). The biomedical approach emphasizes the proximal causes of diseases, such as dietary behaviors, rather than the distal causes that are social (6) and have been regarded as the primary etiology of diseases (7). As a result of the biomedical perspective, dentists have developed a paternalistic attitude while treating patients (5,8), assuming they have expert knowledge of patients' expectations (9). Therefore, patients are often not involved in the decision-making process during their treatment resulting in dissatisfaction (5). Additionally, with the emergence of biopsychosocial models, person-centered care is being accepted in medicine, but dentistry is hesitant to follow this path. Due to patient dissatisfaction and the difficulties for dentists in tackling social problems, researchers and dental educators have urged dentists to consider alternative approaches to treating patients (1,2,5,8). Consequently, Bedos et al. (8) proposed the *Montreal Toulouse model*, a person-centered, biopsychosocial model to address the psychosocial and biological factors of a disease. This model recommends social prescription as an approach in which dentists offer social support referrals to patients to address their social needs.

Social prescription is a relatively new approach (10) that is now widely practiced in the medical field in the England and gaining popularity in other parts of the world (11). Social prescription is defined as *"*a formal means of enabling primary care services to refer patients with social, emotional or practical needs to a variety of holistic, local non-clinical services" (12). The local "voluntary, community and social enterprise, and third sector" (12) provide non-medical support services to the people (13). Social prescription links patients in primary care to social support services provided by local community organizations (14). Moreover, it assists in overcoming barriers to accessing these activities, thereby promoting health equity and reducing health

disparities (15). It is a person-centered approach that primarily aims to provide holistic care to patients (16,17,18).

In this scheme, patients discuss their social problems with health professionals and community workers, aiming to identify the root causes of their problems, and develop the capacity to co-produce their own social prescription based on their social needs and activities available locally (19). It is specifically effective for individuals suffering from isolation, atypical symptoms, and psychosocial issues such as low confidence, mental illness, and drug abuse (12). Social prescriptions emphasize "what matters to patients" and advocate for the de-medicalization of psychosocial needs (6,17). Evidence suggests that social prescription reduces patients' visit to primary care providers by 28 percent and attendance to accident and emergencies by 24 percent after physician recommendations (20). Therefore, the social prescription is recognized as a practical approach to addressing social determinants of health (21).

Likewise, social workers have been employed in dental clinics at a few dental schools to address the psychosocial concerns of dental patients, such as helping patients to overcome barriers to accessing dental treatment, including transportation and arranging for financial help (16,18,22). Consequently, social workers can have a significant impact on patient involvement in their dental care (22).

However, inequalities in oral health persist, and inadequate attention has been given to tackle the psychosocial needs of dental patients. To address this issue, we propose that the oral healthcare sector adopt social prescription, as it provides holistic care to patients by tackling their social determinants. Given this scheme requires collaborations between dentists and local community organizations, for its effective execution, we need to explore the perspectives of local community organizations regarding the need for a social prescription in dentistry, their envisionment of implementing this scheme, and their principles to work with dentists.

2. Literature review

2.1 Social determinants of health

It has been documented that socioeconomic conditions affect peoples' health leading to health inequalities. People in the lower social hierarchy are at increased risk of severe illness and early death (3). However, these findings are not confined to low-income individuals. Even in the middle-income group, individuals in the lower strata of society experience a higher rate of sickness and premature death compared to those in the higher strata (3).

Therefore, in 2005, the World Health Organization (WHO) established the Commission on Social Determinants of Health (CSDH) to collect evidence on global health inequalities and develop methods to reduce these inequalities. The report highlighted unequal financial distribution, faulty policies, and strategies, and misgovernance as important causes of health disparities worldwide (23). To address this issue, it became essential to tackle the "causes of causes": the social determinants of health (23,24). The World Health Organization (WHO) defined *social determinants* of health as "the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life" (25). These determinants encompass conditions and circumstances such as finances, childcare, social support, stress, transportation, education, work conditions, housing, addiction, and food (3,26).

The evidence suggests that individuals living in poor psychosocial environments may experience chronic stress, leading to detrimental effect on their health. Feelings of loneliness, anxiousness, and low self-confidence are associated with these negative effects and prolonged accumulation of all these factors potentially result in mental problems and early mortality (3). Additionally, chronic stress leads to lowered immunity and disrupt hormonal and metabolic balances (27). Nevertheless, community involvement activities including participation in community programs, voluntary, and recreational activities have been shown to enhance social relationships among individuals suffering from poor mental health. Improved social relationships positively impacts both psychosocial and physical health (28).

Given social determinants of oral health mirror social determinants of health, the subsequent section will delve into social determinants influencing oral health.

2.2 Social determinants of oral health

Oral diseases, such as caries, periodontitis, and oral cancer, are influenced by various factors related to our living conditions. These conditions include social and financial status, education, job, and housing (29). In a systematic review and meta-analysis, a positive correlation was found between low educational attainment, mental illness, smoking, wearing prostheses, toothache, periodontitis, and low oral health-related quality of life among the senior population (30). Similarly, another systematic review and meta-analysis demonstrated a relationship between poor oral health, increased social isolation, and increased loneliness (31).

Researchers emphasized the influence of both oral and non-oral factors on the dental health of individuals across different age groups. For instance, Fisher-Owens et al. (32) highlighted multiple factors at the individual, familial, and community levels that impact the oral health of children. At the individual level, various factors such as somatic and genetic characteristics, racial and ethnic background (originating from sociodemographic ambiguity), physical activity, healthy food, oral hygiene behaviors, and use of oral health promotion activities like fluorides have been identified to influence oral health of children. As children are part of families, factors such as separated parents, and reorganized families, the educational and financial status of parents and their psychological health can have an impact on the oral health of children. Additionally, community factors, such as healthy neighborhoods, strong social support systems, and customs and traditions, influence oral health (32).

Experts believe that oral health strategies that empower individuals, families, and communities at socio-economic and environmental levels need to be developed. To achieve this, it is important for oral health providers to partner with various stakeholders in order to provide holistic care to patients and improve oral health outcomes. Additionally, allocating sufficient funding for the evaluation of these oral health approaches is crucial (33). However, medical and dental practitioners have been predominantly focusing on a biomedical model of health that is reductionist and may not prioritise holistic approaches.

2.3 The Biomedical model in medicine

From the ancient Greek period till the mid-19th century, *miasma theory* dominated health care which proposed that bad air entered the body and caused diseases (34). However, in the mid-19th

century the *germ theory* replaced the miasma theory (34) and stipulated that pathogenic microorganisms were the principal cause of infections (35). This resulted in a paradigm change in understanding the etiology of diseases. Subsequently, *Koch's postulates* were established in the late 19th century describing microbial etiology as cause of diseases (36).

Later, since the mid-20th century, the *biomedical model* monopolized the medical world (37). The biomedical model is centered around the study of molecular biology with a strong focus on reductionist and physicalistic principles (38). According to the reductionist principle, complex phenomena can be comprehended by investigating isolable basic components of the body (39). Meanwhile, the physicalistic principle proposes that biological phenomena are explained by physical and chemical processes (38). The biomedical model advocates the dualist concept that the mind and the body are separate (40,41) and social behaviors have no role in influencing the course of the disease. According to this model, the disease is a divergence from normal biological functioning (40).

The biomedical model operates on several key assumptions. It asserts that anomalies within the specific organ of the body, referred to as diseases, are the underlying cause of illness. A healthy body is the absence of physical disease and mental disorders are distinct from somatic abnormalities. Patients are not directly involved in the treatment, although their coordination is anticipated (42).

While the biomedical model has benefits, such as the use of antibiotics (43,35), antiseptics, and pasteurization, resulting in increased average life expectancy (44), it has limitations. The biomedical model claims that a condition cannot be characterized as a disease unless biochemical alterations exist (40). It led to the disbelief of patients presenting illness without any physical pathology, resulting in the medicalization of abnormal symptoms (42). The biomedical model confirms that all diseases, including mental diseases, stem from disorders in body functions. Moreover, the biomedical framework excludes the social, psychological, and behavioral aspects of a disease (40) disregarding the impact of people's emotional conditions on their physical state (40,42). Additionally, it overlooks the importance of health professionals' expertise to obtain and study the psychological, social, and cultural elements of patients' diseases.

Almost 150 years ago, Rudolf Virchow suggested that the cause of diseases can range from anatomical to social factors (45). The criteria of health and disease are ambiguous as they are

intermingled by psychological, social, and cultural variables (40). Therefore, an alternate *biopsychosocial model* was proposed, considering biological, psychological, social, and cultural factors. This model aims to humanize medicine and empower patients (37).

2.4 The Biomedical model in dentistry

Dentistry attained professional recognition in Europe during the 18th century and almost a century later in North America (46). For many decades, dentistry relied on discoveries in medical science, (47) and medicine heavily embraced the biomedical model of disease (40). Consequently, the dental healthcare sector accepted the dominant biomedical model (46,5). Discoveries such as Streptococcus mutans as an etiologic agent in dental caries further emphasized the reliance on the biomedical model in dentistry (48).

In recent years, the biomedical model has been criticized by dental researchers and practitioners for its reductionistic, disease-focused approach. Due to dentists' exclusive focus on disease, Monajem (49) highlighted that dentists often act as primary and "exclusive actors" in dental practice treating patients without involving them significantly. Patients, on the other hand, have indicated distrust and lack of communication with dentists. It was observed that anxious patients favored health professionals who communicated effectively with them as it reduces their anxiety and assured them of health professionals' duty to their welfare (50). Additionally, unsatisfied dental patients might prefer unconventional dental practices that do not adhere to the biomedical model (5). Patients who seeked alternative dental practices such as "holistic dentistry", might not prefer the paternalistic attitudes of the healthcare providers (51). Additionally, dentists' who prioritized alternative dentistry and disregarded the biomedical model and believed in providing the holistic care to patients (5,51).

Therefore, researchers emphasized the significance of the biopsychosocial approach in dentistry (2,1,8), resulting in creation of development of patient care models that consider patients' circumstances and favor patient engagement in the treatment.

2.5 The Biopsychosocial model

The term biopsychosocial was coined by R. Grinker in 1954 before Engel (52) used it in medical science in 1977 to emphasize the psychological component of illness (52). According to this

model, disease, and illnesses are determined by multiple systems, ranging hierarchically from cellular to biosphere level (53). With the emergence of the biopsychosocial model, medical science has slowly diverted from earlier cause-and-effect relationships (54) to patient-centered models that incorporate the patient's psychological and medical conditions (55). This model acknowledges the interplay between mind and body in determining that health and illness (37). Importantly, Carrio et al. (37) highlighted three critical components of the biopsychosocial model : firstly, it takes into account patient's subjective experience of illness; secondly, it considers biological, social, and psychological factors while evaluating health and disease; and thirdly, it gives more authority to the patients and regards them as active participants in their own healthcare rather than mere objects of examination.

Additionally, this model highlights the health professionals' relationship with patients (37), providing them a with framework that influences their sensibilities, practices, and approaches towards patients (56). The model guides clinicians to have better understanding of the psychosocial challenges faced by patients and encourages a more holistic perspective in healthcare (56). Moreover, as prevalence of chronic diseases increases, with their multifaceted causes, it further underscores the need for a model that recognized the interplay between biological and social factors in disease (57).

However, some researchers voiced criticisms concerning the biopsychosocial model. One of the primary criticisms is that the model is deemed too vague and untestable. Some argue that it lacks specificity and practicality in addressing "behavioral" aspects of patients leading to its classification as an abstract theory, merely explaining the mind-body connection (58). Another criticism is that the model is too general and not applicable to every patient with limited guidance on extracting psychosocial information from patients (58,59). In addition, there is uncertainty among health professionals regarding which biopsychosocial factors, whether biological or psychosocial, contribute to illnesses in patients. It is generally observed that physicians opt for options most suitable for them (57).

Regardless of all criticism, the biopsychosocial model significantly influences clinical care by providing a framework for holistic treatment. Furthermore, contributes to health education by encouraging the incorporation of social determinants in curriculum, and is utilized in research through the applications of biopsychosocial models (59). Smith (54) called it a link between

science and humanity. Additionally, experts have emphasized the importance of patient-provider relationships and incorporating patients' opinions in treatment planning. Therefore, several patient-centered care models were proposed to address these considerations.

2.6 Patient-centered care and person-centered care

With evolving patient expectations for holistic care, there has been a transformation in healthcare towards patient-centered care, moving away from a paternalistic approach. Enid Balint (60) highlighted patient as "a unique human being." The committee for health and quality care in the US Institute of medicine, described patient-centered care as "providing care that is respectful of and responsive to individual patient preferences, needs, and values and ensuring that patient values guide all clinical decisions" (43,61). *Patient-centered care* has evolved as a practical implementation of the biopsychosocial model in clinical care. It highlights the psychosocial aspects of patient illness: their needs, doubts, concerns, feelings, beliefs, opinions, and queries, in addition to the health issues (54). Mead and Bower (62) recognized five key elements of the patient-centered approach, including the "patient-as-person; sharing power and responsibility; therapeutic alliance; and doctor-as-person" (62). However, as mentioned by Ekman et al., (63) the word patient usually diminishes a person to an object that merely receives medical services or "one who is acted on."

Person-centered care was first used in literature in 1968 and has been used routinely for the last ten years. Initially, there was no clear contrast between person and patient-centered care until Walji (64) reported the difference. Patient-centered care emphasizes patients' diseases, while person-centered care encompasses compassion and empathy, patients families, their professional careers, in addition to their treatment aspects (64).

Apelian et al. (5) proposed a person-centered care model based on uniform power sharing between dentists and patients focussing on concepts of understanding patients and involving them in decision-making (5). Building on this, Mills et al. (65) interviewed patients to understand their perspectives on person-centered care. The relational aspect of care emerged as a dominant component in person-centered care meaning, the "connection" of dentists with patients, the "attitude" of dental staff towards patients, effective "communication" between dentists and patients, the "empowerment" of patients in the decision-making process, and patients "feeling

valued" in the dental office (65). Communication between dentists and patients is the highlight of person-centered care. Nowak (66) emphasized the perception of dentists regarding interaction with patients in person-centered care. He mentioned that dentists regarded patients as "a whole" and considered the social conditions of patients rather than focusing solely on the disease. They aimed to provide emotional comfort to establish trust with their patients. Dentists acknowledged the significance of encouraging patients to ask questions and express their doubts and beliefs to maintain conversation. However, dentists also faced challenges in delivering patient-centered care due to time constraints and the anxiety of dental patients (66).

2.7 Social dentistry

In the 19th century, Rudolf Virchow stated that health professionals were "natural advocates for poor" (2). Bedos et al. (2) asserted that it was the responsibility of dentists to address social determinants of the health of their patients and thus practice social dentistry. This requires dentists to be educated in identifying patients' social determinants and forming alliances with multidisciplinary team members (2). Similarly, the American Board of Dental Public Health identified the role of dental professionals as "promoting dental health through organized community efforts." The board mentioned that dental public health practitioners were responsible for acknowledging the limits of their clinical practice and referring patients to different organizations for different needs (67).

Likewise, Watt (4) asserted that dental public health researchers and dentists have crucial role to play in engaging in dialogues and taking actions to improve dental health. He advocated collaboration among different dental and public organizations to ensure that dental health receives greater public attention and fulfills the nonmedical needs of the people. He called upon dentists for a transition from the biomedical model also referred to as the "downstream" approach to the "upstream" approach emphasizing social determinants of oral health (4). Moreover, an extensive body of literature urged health professionals to be attentive, open-minded, and unbiased to understand patients' illnesses and diseases. Corah et al. (68,69) discussed how the positive attitude of dentists toward patients reduced treatment-related anxiety and increased patients' confidence. Similarly, Rankin and Harris (50) highlighted that patients favored dentists who provided detailed treatment procedures and appreciated patients' involvement.

Dentists have been called upon to tackle social determinants of oral health, but until recently, there was a lack of practical model to guide dentists in this approach. Bedos et al. (8) proposed *Montreal Toulouse model* for dental practitioners, researchers, and students to address social determinants of oral health; this was based on person-centered care and social dentistry (1). The model suggested actions for dentists at three levels: understanding, decision-making, and intervening in each three overlapping levels. At the individual level, dentists understand the social determinants of patients' health. At the decision-making level, dentists involve patients in their treatment planning. At the intervening level, dentists perform the treatment and engage in upstream actions. *Social prescription* is suggested as one of the upstream actions where patients are referred to community organizations to receive support services. At the community level, dentists strive to understand the community, and its demographic profile; establish and maintains links with medical and non-profit organizations contributing to decision-making actions related to local health plans and programs. At the societal level, dentists evaluate the social, political, and financial aspects of the society that affects the population's oral health. They can advocate for laws favoring public oral health by contacting the lawmakers or agencies involved in these activities (8). The primary aim of this model was the care of a patient as a person (70).

Despite healthcare providers appreciating the holistic needs of patients and various patient care models being proposed, that there was little they could do to address the social needs of the patients that influenced their overall health as they were ill-equipped to tackle patients' social determinants' (71). This limitation has led to emergence of innovative approaches such as social prescription. The social prescription, a relatively new scheme, has been used in England for a few years to address patients' overall needs. In this scheme, the health professional partners with local community organizations to meet the social needs of patients.

2.8 Social prescription

Socioeconomic factors such as housing, food, job, childcare, and mental health conditions have significant impact on health practices of people, and their overall wellbeing (21). A report published by the Social Prescribing Network, an organization supporting social prescribing globally, highlights that 20 percent of patients visit physicians for non-medical problems (72). However, health professionals fail to address these non-medical problems due to insufficient

training in addressing non-clinical issues, inadequate knowledge of local resources, and time constraints (71).

Further, it was observed that community organizations function by assessing the social needs of the local population and providing services based on those needs. However, community services may be underutilized due to minimal links between the community and the health sector. Providing this missing link, social prescription can be explained as health professionals referring patients to local community organizations to help them receive services that are non-medical and improve the overall well-being of patients (10). It has been defined as an approach for "enabling health care professionals to refer people to a range of local non-clinical services" (73). Social prescription improves social determinants of health and consequently decreases primary care workload and expenditure. This approach promotes a shift for patients from hospital-based care to community-based care with focus on people as persons rather than diseases or cases. It empowers them to co-produce their own social prescription based on their needs and activities available locally. It is a diversion from a "reactive, disease-focused, fragmented model of care towards one that is more proactive, holistic and preventive" (74).

Social prescription addresses the root cause of health problems and improves overall well-being (73) by enabling the service users to participate in social prescription activities that improve mental and physical conditions by reducing social isolation and increasing social contacts (10). To describe briefly, it emphasizes the de-medicalization of social problems (6). Some examples of services provided by social prescription are programs, services, and counseling on housing, job, physical exercises, social connections, financial advice, childcare, and legal advice (73).

Although social prescribing is being practiced informally globally, the term social prescription originated in England (73). Besides, most of the social prescription schemes in England use a *link worker*. A link worker mediates between the health practitioner and the community organizations. He receives patients from health professionals and refers them to voluntary organizations (75). Pescheny et al. (17) described the role of a link worker as someone who has detailed communications with patients, recognizes their social needs, helps to navigate social prescription services, and provides continual support to the patients.

2.9 History of social prescription

The Bromley by Bow Center in England, established in1984 is regarded as one of the first practices of social prescription (76). Predominantly, most social prescription schemes in England evolved from the 1990s to the 2010s (77). In 1999, the article "Saving Lives: Our Healthier Nation" was published, reporting that the National Health Service (NHS) should utilize the services of local community organizations (78). In 2006, the Department of Health endorsed social prescribing for individuals suffering from long-term conditions, and it was identified among the ten high-impact actions of the NHS General Practice Forward Review (77). A National Social Prescribing Network was then formed in 2016, with the objective "to share knowledge and best practice, to support social prescribing at a local and national level, and to inform good-quality research and evaluation into the practice" (13).

It has been demonstrated that social prescription increases social interactions, decreasing isolation and loneliness (79). The British Red Cross Society calculated that approximately nine million people were "lonely" in 2016. Subsequently, Jo Cox Commission on loneliness was launched in 2017 by British MPs. To fight loneliness an amount of $4.5 million was released by the British Health Secretary to provide access to social prescription to all physicians by 2023. Clinicians reported that social prescribing has potential to decrease their workload by 59 %. By 2018, 25 % of the physicians were already participating in social prescribing initiatives (77). In 2019, a long-term plan for NHS was released, emphasizing social prescribing (77). Universal Personalized Care (UPC) was introduced as a comprehensive approach to addressing the physical and mental health of people with social prescription as one of its key components (80). To support the implementation of social prescribing, one thousand social prescribing link workers were assigned to primary care setting by 2021 (77). The NHS's long-term plan aims to engage million people in social prescribing scheme by 2023-2024 (21).

While social prescription terminology is commonly used in England, this scheme runs worldwide with informal names (81). One example is social prescribing scheme in America as reported by Alderwick et al. (75) which has been functioning over twenty years. In this scheme, a nonprofit organization called *Health Leads* trains volunteers to offer support services to the people. Health professionals screen patients for their social needs, then refer patients to volunteers sharing workspace with them. These volunteers guide patients to connect to the community services

specific to their needs (75). *Kaiser Permanente*, another nonprofit organization in America, collaborated with healthcare to provide local support services (82).

Subsequently, a social prescription pilot project, "Rx: Community – Social Prescribing in Ontario," was launched in community health centers (CHCs) (77,15). Social prescription is also practiced informally by some health professionals in Australia (83). In Europe, government-funded social prescription projects on arts and culture were launched in Sweden to support the elderly. Primary health care workers referred patients with long-term conditions to these programs (84). A parallel example is "Welzijn op Recept," a social prescription scheme started in Nieuwegein, a town in the Netherlands. Patients with psychological problems were referred to community services (85). In Lisbon, a social prescription scheme was initiated in primary health care units in collaboration with the social workers and local community resources (86). In Singapore, the social prescription is provided by the organization "Lifeweavers integrative rehab therapy team," a government-licensed allied team of health professionals; an occupational therapist replaces the role of a link worker. After a complete evaluation of the client, the occupational therapist refers and helps in accessing the required social activities for the client (87).

As social prescription is practiced in different countries, different schemes have been suggested, as shown below.

2.10 Different models of social prescription

In the following section, three different types of social prescription classifications will be described. The first was proposed in a workshop at Bromley Primary Care Trust, (12) the second given by Kimberlee, (74) the third by Sara Calderon-Larranaga et al (88).

The first classification, proposed in a workshop organized by the Bromley Primary Care Trust, includes six models of social prescription: information service, information service and telephone line, primary care referral, practice-based generic referral worker, practice-based specialist referral worker, and non-primary care-based referral (12) (Table 1).

Table 1: Social prescription model proposed in a workshop at Bromley Primary Care Trust (12)

Models	**Description**
Information service	Information about social prescription is offered in form of ads and directories to patients in the general practitioner's office.
Information service and telephone line	The social prescription service is provided to patients on "leaflets and notice boards" in the primary health care setting. Patients may call the social prescription provider on their own.
Primary care referral	The health professional evaluates patients and refers them to social prescription services depending on their needs.
Practice-based generic referral worker	A general practice-based referral worker offers triage and signposting.
Practice-based specialist referral worker	A specialist worker functions at the general practice setup. He advises directly to the patient or provides a referral or signposting.
Non-primary care-based referral	The health professional refers the patient to service set up in the community.

The second classification, from Kimberlee, (74) is based on interviews conducted with general practitioners, social prescription providers, and clients of social prescription services; it comprises four types of social prescription models: signposting, light, medium, and heavy.

Signposting: Physicians signpost their patients to local agencies or networks that help people with their social needs. Health professionals may directly refer patients, but often patients are left unaccompanied to contact these agencies. Patients access these services usually through an app or a website. Social prescription service providers may exist in the primary care building but may not have direct contact with physicians. Consequently, there may be no follow-up of such patients by physicians (74).

Light: It is a popular form of social prescription. This intervention is the collaboration of primary care and community organizations. Health professionals refer patients to a particular service to serve a particular need. For example, prescription for physical activities, arts, and learning (74).

Medium: This social prescription scheme involves the recruitment of a health facilitator from the physician's practice. The health facilitator evaluates patients referred by physicians and councils on exercise, nourishment, or other specific needs of a patient. Patients are then signposted to a specific organization providing services directed to the needs of the patient or to self-support groups helping with specific diseases, for example, groups like creative writing and literature reading. However, this scheme does not provide holistic care for patients. It helps only with the needs pointed out by the physicians (74).

Holistic: This form of social prescription approach is uncommon. The approach involves collaboration between physicians, the social prescription provider, and local community organizations. Physicians refer patients to a social prescription provider who usually works within the physicians building. Referrals are sent through letters, online forms, and sometimes phone calls. The referred patients predominantly suffer from long-term conditions. The social prescription providers have an essential role to play in this scheme. They know about local social services and directs the patients to these support services according to their necessities. For instance, patients may be referred for their diet by their physicians. Social prescription provider talks with patients and assesses their problems. They may then be referred to other services, such as yoga classes, and support groups, in addition to food banks, according to the patients' requirements. Patients' necessities determine the limits of the sessions. Thus, health is addressed in a holistic and preventive manner. This scheme is not limited to psychological problems, but these issues may be addressed once the social prescription provider identifies the underlying social conditions of patients. Patients are engaged in improving their health (74).

The third classification was explained by Sara Calderon-Larranaga et al., (88) describing three different types of social prescription practices based in three different settings: general practice- 'holistic' versus 'fragmental' social prescription type, link workers- 'relational' versus 'transactional' type, and the voluntary and community sector- 'redistributive' versus 'non-redistributive' type.

General practice: 'holistic' versus 'fragmental' social prescription type

In the holistic model, regarded by the authors as the best social prescription model, the physicians or their team members comprehend patients' social requirements and refer them to a voluntary organization in partnership with a link worker. In the fragmented model, the physicians are not attentive to patients' needs. They refer patients to a link worker for further referral. This approach can result in a lack of comprehensive care for patients (88).

Link workers: 'relational' versus 'transactional' social prescription type

In the relational model, the link workers have discussions with patients. They evaluate and react repeatedly to the changeable needs of patients. There is no fixed limit of sessions between the patients and the link workers. The patients co-produce their treatment plan with link workers. In the transactional model, the patients have a restricted number of sessions with link workers. Therefore, this model is not effective and is not adjustable to patients' needs. Consequently, the relational model was reviewed as the best (88).

The voluntary and community sector: 'redistributive' versus 'non-redistributive' social prescription type

In the redistributive model of the local community sector, local community organizations address the different needs of patients. Whereas in the non-redistributive model, the voluntary organizations provide services that are inversely proportional to the needs of the people, (88) such interventions risk exacerbating health inequalities as people in a higher socioeconomic hierarchy may have increased access to these services (89). Therefore, the redistributive model was regarded as the best (88).

As social prescription is emerging globally, we must evaluate its effectiveness in clinical practice.

2.11 Evidence for effectiveness of social prescription in medicine

Social prescription, which is widely practiced in England, is gaining acceptance worldwide due to its potential to improve the overall health and well-being of patients (14). It serves as an approach to address social isolation and loneliness by promoting social connections and interactions through community activities (79,90).

Studies have documented the beneficial effect of social prescription. Grant et al. (91) observed improvements in anxiety levels, capacity to perform routine work, perception of overall health, and life quality in patients with psychological problems who were referred to a voluntary organization by health professionals (91). Another pilot project was conducted in the town of Rotherham, England, to assess the health effects and financial implications of social prescription. Improved health and well-being of patients were reported due to reduced hospital appointments and thereby reducing cost implications (81).

Additionally, an observational study was conducted to assess the impact of social prescription services on mental health. The study aimed to evaluate the effects on the use of health care and ensuing monetary and environmental implications. Although the results were non-significant due to the small sample size, there was a reduction in the use of primary healthcare due to reduced secondary care visits. Moreover, the social prescription programs were potentially financially independent; consequently, it was suggested that this would lessen the health care expenditure with time. Therefore, the carbon footprints of these services were low, and they were more effective compared to medications and other medical treatments (92).

Likewise, a study was carried out to assess whether social prescription decreased the demand of primary care and was cost-efficient. Results showed a 28 percent decrease in demand for primary care services after social prescription referral and a 24 percent reduced attendance to accident and emergency care after referral. However, a “higher cost of care per patient in the intervention group than the control” was found (20).

Indeed, the existing body of systematic reviews on social prescription lack evidence to provide definite results. For instance, a systematic review by Bickerdike (78) aimed to investigate the effectiveness of social prescription but encountered challenges due to the lack of standardized design and accurate assessment tools. The inclusion of biased studies, absence of confounders and

control groups, limited follow-up period, and incomplete data further compromised the results (78). Similarly, another systematic review evaluating the effect of social prescription on "loneliness, social isolation, well-being, and connectedness" highlighted the lack of differentiation between these terms in the literature. Moreover, unclear comparison standards between pre- and post-situations, lack of clarity of concepts led to the results of these studies being provisional (90). Similarly, another systematic review was conducted to explore the influence of social prescription on loneliness. Although social prescription was beneficial, the number of studies included in the review were few, so concrete evidence could not be deduced (80).

2.12 Facilitators for implementation of social prescription

In the literature, a few facilitators to implement social prescription schemes have been identified. These include: the involvement of health professionals, establishing a strong partnership between stakeholders, the involvement of champions to advocate for social prescription, and availability of reliable support services.

Clarity of the referral process: A simple, well-defined referral process by health professionals to community organizations makes the social prescription easier resulting in more engagement of health professionals in the scheme. Providing workshops and training sessions on social prescriptions for doctors and community workers can have positive results, enhancing their understanding of the concept and improving the implementation in clinical practice (71).

A strong partnership between stakeholders: Fluent communication and collaboration are crucial for the smooth functioning of social prescription. Regular meetings among the partners should be held to discuss their plans, provide feedback and report their progress. It is beneficial for partners to formally sign a consent agreement outlining the terms and conditions of their participation. Additionally, for the favorable implementation of this scheme a link worker could be allotted a space within the health professionals' building to have direct contact with patients and physicians. This will build the foundation of trust and a strong partnership among the members (71).

Champions: The presence of social prescription champions in the health practitioner's office can be beneficial for partners and patients. Champions could be health professionals or community workers who would garner assistance and encourage social prescription referrals (71).

Support services: Reliable and continuous provision of different social prescription services that are easy to access and navigate by service users may act as a facilitator for the social prescription scheme (71).

2.13 Barriers for implementation of social prescription

Despite facilitators, the delivery of social prescription scheme faces certain challenges. These include: the entrenchment of general practitioners and patients in the biomedical model, limited funding for voluntary organizations, complexity arising from multiple, lack of evidence for the social prescription scheme, and a lack of clarity of procedure.

The entrenchment of general practitioners and patients in the biomedical model: Dentists usually perform the acts they are paid for (74) which may limit their time and resources to engage in social prescription practices that are not financially rewarded ,93). Moreover, health professionals generally more accustomed to providing medical solutions to psychosocial problems and may lack expertise in handling such problems. This can be attributed to a lack of training (71) in "patient- centered" healthcare approaches in their education (94). Additionally, the unrelenting belief of patients in traditional biomedical practices may cause patients to disengage from social prescription services (71).

Lack of funds for voluntary organizations is another significant barrier to the implementation of social prescription: The funding of the voluntary sector is mostly minimal (12), which leads to high turnovers in the staff and difficulty to recruit skilled workers. It could result in the discontinuation social prescription activities and inconveniences for service users (71,73).

Evidence for the success of the social prescription scheme is insufficient: It becomes challenging to assess the benefits patients derive from this scheme because of the lack of validated assessment tools and insufficient sample size in many studies. It is important to consider that certain outcomes such as sense of social security could take a considerable time to develop. Therefore, the evidence for the effectiveness of social prescription is mostly provisional (78).

Lack of clarity of steps: Given the collaborative nature of this approach, it is crucial to establish the formal guidelines and liability to avoid confusion. Firstly, it is essential to decide the kind of services provided through social prescription to ensure the availability of services in community

organizations. Lack of appropriate services may hinder the implementation of social prescription. Secondly, the role of a link worker and supervision of link workers must be specified otherwise, it may add up to the confusion. Thirdly, according to Islam (73) a protocol must be set up regarding the handling of the medical history of the patient, whether it should remain with the health professionals or voluntary organizations to ensure patient privacy is protected. Fourthly, setting the standard for social prescription services is essential. Otherwise, the health professionals may not feel confident in transferring patients to them (73).

2.14 Evidence of effectiveness of social prescription in dentistry

Although the evidence about the use and effectiveness of the social prescription in dentistry is lacking to date, a collaboration of social workers and dentists is apparent in a few dental schools.

In one example, Zittel-Palamara et al. (16) described the case management, advocacy, referrals, education, and services (CARES) program which operated for three years in the dental clinic of the University of Buffalo School of Dental Medicine (SDM). Masters' dental students assessed the biopsychosocial barriers of patients to accessing dental treatment which were subsequently addressed by social workers. As a result, over a three year period, 80 percent of patients encountering challenges to access were able to continue receiving dental treatment (16). In a similar context, Flick (22) highlighted the importance of social workers in the treatment of patients experiencing caries to achieve better results. Social workers can assist patients in navigating issues, such as economic challenges, transportation to the dental office, childcare assistance, dental insurance, and addressing complex barriers such as language issues, domestic abuse, psychological issues, drug dependence, or child abuse (95).

In a subsequent report, Petrosky (18) discussed partnership between Eastman Dental Center and the Social Work Department at the University of Rochester Medical Center. The involvement of social workers in this collaboration increased awareness of the dental faculty on psychosocial issues, assisted the faculty in executing projects reducing oral health inequalities, and participated in multidisciplinary research initiatives (18). Consequently, the hiring social workers in dental hospitals may positively affect patients, the dental team, and the community at large. For instance, it can involve bringing people from the community with dental needs to dental clinics, facilitating the access of already existing dental patients to the dental clinics, educating about oral hygiene to

the carers of special needs patients (96). Likewise, Sabato et al. (97) supported the idea of a partnership between dental school and the Social Work Faculty in academics and clinical settings. They mentioned this as a "creative approach" resulting in increased utilization of social support services and, in turn, improvement of the patient's health. Furthermore, the presence of dentists at community centers can have encouraging results for the population served. "Dentists of Columbia University College of Dental Medicine, under the Elder Smile clinical program, provided oral and general health screening for minority older adults." Leveraging of local community resources enhanced the quality of life for the elderly (98).

2.15 Summary of the literature review

Based on the literature review, it is evident that the predominant model in oral health care sector is still the Biomedical model. However, it has been widely demonstrated that social determinants of health play a significant role in the disease development. Therefore, there is a need to shift the focus to biopsychosocial models, which address the social determinants of health of patients. Bedos et al. (8) described social prescription as a part of their biopsychosocial model, the Montreal Toulouse model.

Social prescription is an integrated, comprehensive health approach where health professionals refer patients to local community organizations for their social needs. Considering the importance of social determinants of oral health, it is pertinent that we incorporate social prescription in dentistry. As social prescription in dentistry would involve collaboration between dentists and local community organizations, for this collaboration to succeed, we need to explore the perspectives of the local community organizations. Specifically, understanding their perception of the need for social prescription in dentistry, and how they envision its implementation in partnership with dentists.

3. Aims and Objectives

Aims: Given that social prescription involves providing holistic care to patients, we aim to explore the perceptions of local community organizations about social prescription in dentistry, with the goal to implement it in dental schools and dental clinics.

Objectives: As social prescription involves collaboration between dentists and local community organizations, for this scheme to succeed, it is pertinent to understand the perspectives of community organizations regarding the necessity of social prescription in dentistry, the barriers and facilitators to implement it, and the principles according to which these organizations envision to collaborate with dentists.

4. Methodology

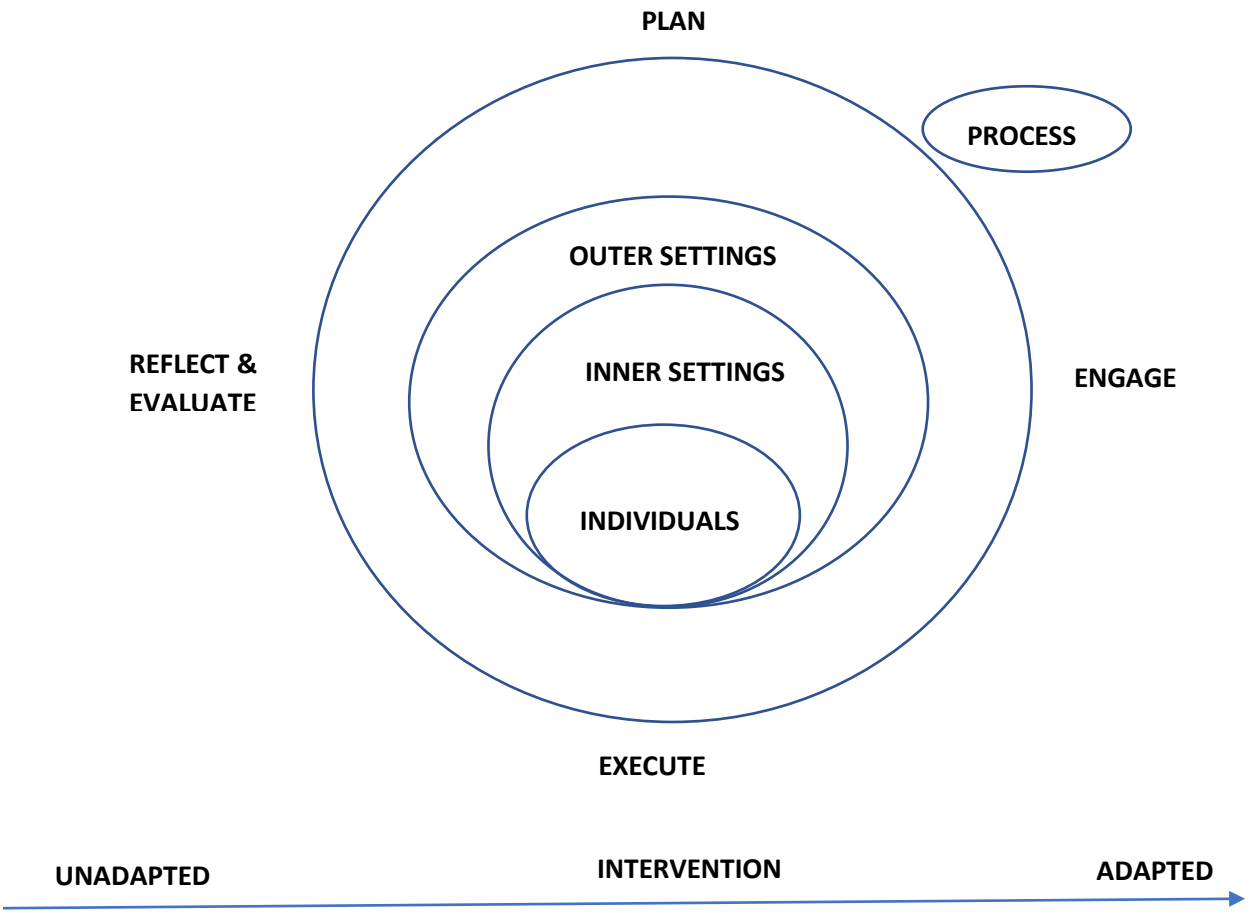
4.1 Design

We used an exploratory and descriptive qualitative methodology to conduct this study. Stebbins (99) defined exploratory qualitative methodology as "a broad-ranging, purposive, systematic, prearranged undertaking designed to maximize the discovery of generalizations leading to description and understanding of an area of social or psychological life." This approach enables the investigator to gather information from participants in the field where published literature is lacking. It also allows participants to provide information about a phenomena that is poorly understood or known. (100) We considered this approach pertinent for our project because, to the best our knowledge, no research had been conducted on this topic, and it largely remained unexplored.

Additionally, the descriptive qualitative methodology (101) aims at describing participants' perspectives and experiences of events or phenomena and can be used in cases of "intervention development or refinement" (102). Since this study was based on the implementation of an intervention, social prescription; we considered this methodology was appropriate to obtain a rich, straight description of the experiences (101) of people working in community organizations. Furthermore, we utilized a framework to gather data from participants.

4.2 Framework

Figure 1-Diagram inspired by the Consolidated Framework of Implementation Research. (103)



We used the Consolidated Framework of Implementation Research (CFIR), developed by Damschroder (103) and is one of the most common models used in implementation science. CFIR is a determinant implementation framework that explains the factors that impact the "implementation outcome" (104), It assists in generating findings that may lead to the refinement of an intervention and its implementation. It is a comprehensive framework with multiple levels and dimensions, and is based on several theories and frameworks (105). This framework has five domains and thirty-nine constructs (103). Literature suggests that researchers could select the constructs suitable to their settings and thereby adapting the CFIR according to their research objective (106). Accordingly, we chose specific domains and constructs pertinent to our study and

thus modifying the framework according to the local community organizations requirements. In the following paragraphs I will describe domains of the CFIR that were used in this research.

Domain 1: Intervention: The first important domain of the CFIR is the intervention implemented in a particular setting. The intervention is mostly "complex and multifacet." If not adapted, the intervention becomes unsuitable for the setting and the people working in the setting. Therefore, the intervention may be modified according to the setting (103).

In this study, the intervention was the social prescription. In the domain Intervention, we chose to focus on the construct *complexity*, thereby adapting it to needs of local community organizations. It helped us to explore the problems related to the implementation of the social prescription at the local community organizations.

- Complexity: It refers to the difficulties associated with implementing social prescription at local community organizations, illustrated by "duration, scope," radicality and disruption associated with social prescription (103). We aimed at investigating the facilitators and barriers of community organizations for implementing social prescription in terms of financial, human and non-human resources.

Domain 2: Inner setting: It included "features of structural, political, and cultural contexts through which the implementation process will proceed" (103). In this study the inner settings were local community organizations planning to implement social prescription, and we included the constructs mentioned below.

- Structural characteristics: It included the overall description of the local community organizations, for instance, their mandate, services, staff, target population, and funds they received (103).
- Implementation climate: It referred to the willingness of the local community organizations to implement social prescription (103). It further included,
    - Organizational incentives and rewards: It involved benefits the community members expected in exchange for their services in social prescription. Benefits could be monetary or nonmonetary (103).

Domain 3: Individuals: It referred to people associated with intervention and or its implementation (103). In our research, this pertains to staff members of local community organizations. It included,

- Knowledge and beliefs about the intervention: It indicated perceptions of the staff members of local community organizations about social prescription, partnership with dentists, and challenges related to implementation of social prescription (103).

Domain 4: Outer settings: "The outer setting included the economic, political, and social context within which an organization resides" (103). These are external factors that impact social prescription. In this study, it refers to service users—dental patients—using the services in local community organizations. The construct chosen was,

- Patients' needs and resources: It concerns challenges that patients may face while using social prescription as perceived by participants (103,105).

Domain 5: Process: This domain included procedures and steps required to implement the intervention, social prescription. It is possible for the stakeholders to "revisit, expand, refine, and re-evaluate" (103) the process as implementation proceeds. As we were in the initial stages of the implementation, therefore we limited our study to the planning stage of the process.

Planning: It involves the extent to which the strategy to implement the intervention is planned in advanced, and quality of the planning. It depends on the needs and understanding of partners about the social prescription. Planning would include how and when the partners would like to initiate the implementation, identify, and plan steps and strategies for implementation, their opinion on trial run, the budget and manpower required (103).

4.3 Data Collection

4.3.1 Population, sampling, and recruitment

Our objective was to understand the perspectives of Montreal-located community organizations– and of their employees – with respect to social prescribing.

We employed a purposeful sampling strategy to select such organizations, before inviting a key informant in each of them to be part of a semi-structured interview. Our sampling of community organizations was based on maximum variation technique, which Patton (107) describes as "purposefully picking a wide range of cases to get variation on dimension of interest." More

specifically, we wanted to diversify our sample of organizations in terms of their mandate, size, services they provided, and the population they served.

I compiled the list of several community organizations from internet, that fit the sampling strategy and did not consider the organizations whose websites were not updated. Initially, I got the contact numbers of the community organizations through their websites and called them. However, most of my calls went unanswered and, in the case, someone responded, they would mostly speak in French, a language I did not understand. In the rare occurrences someone spoke English, I had difficulties to reach key informants of these organizations. I thus changed my approach and decided to email the community organizations at the address mentioned on their websites. But again, most of the time, no one responded to my message. I then attempted to meet the members of the organization by visiting them in person. I could meet only a few of them in person. Most of them mentioned that they would meet only through a prior appointment.

Later, I changed my strategy. I obtained the email addresses of the key informants from websites and emailed them directly. I emailed several key informants of the same local community organizations for the interview. Most of the times at least one of them responded. Otherwise, I would send them a reminder email. The inclusion criteria for the selection of key informants were:

- to work in the organization
- to have a good knowledge of the organization
- to be part of the decision-making processes within the organization
- to be able to speak English

When the key informants showed interest in my topic, I emailed them a brochure containing theoretical and diagrammatic information about social prescription. In this email, I inquired whether they would be interested in sharing their opinion regarding social prescription and would like to participate in an interview. Once the key informants responded positively, we fixed a date, time, and place of the interview that was convenient to them. I then emailed them the consent form, so that they had sufficient time to read and sign it before the interview.

4.3.2 Data collection

The interviews were semi-structured, based on open-ended questions and were conducted after we received McGill's Institutional Review Board (IRB) approval. Although everything was clearly mentioned in the consent form, before all interviews, I informed the participants that their opinion mattered the most, and that I would anonymize all the identifying information. They were given the freedom to reserve their answers or withdraw from the interview at any time. To conduct the interviews, I used a guide based on the domains of the Consolidated Framework of Implementation Research (CFIR) described in the previous section. The main questions were continued by follow-up questions and probes to extract more relevant data (108). Even though I had emailed the brochure containing information about social prescription, I again showed them the hard copy of the brochure before starting the interview. At the end of the interviews, I took permission from the key informants to contact them in case of further queries and thanked them for their time and the information they shared with me.

I interviewed twelve key informants from April 7, 2022, to September 7, 2022. One interview was done on an electronic platform, Zoom, whereas the eleven others were conducted in person in a space where they could freely express their opinion about challenges they could face while implementing social prescription., either in a vacant room of their community organization (nine interviews), at McGill library (one interview), or in a public café (one interview). After the twelfth interview, we considered that we had attained data saturation (107) as no new codes and themes could be obtained from the last interviews. All the interviews were in English and lasted approximately fifty minutes, except two that were almost 2 hours long. Interviews were audio-recorded on a laptop, and on a mobile as a back-up. The interview conducted on Zoom was audio-recorded on the Zoom application itself. Further, debriefing sessions were held among the research team members after the analysis of each interview to validate the findings (109).

4.3.3 Semi-structured interviews

The interview guide was based on domains of the CFIR described earlier. We changed the order of domains corresponding to the questions that we perceived were relatively easy for the key informants to answer initially. For instance, the first domain included in the interview guide was inner settings where I asked questions about the structural characteristics of the organization. The

second domain was characteristics of individuals where I explored about knowledge and beliefs of key informants of community organization about the social prescription. More specifically, their perception about the need of social prescription, their envisionment of a partnership with dentists. Later I introduced the domain intervention where I asked questions based on the domain complexity, such as barriers and facilitators to implementing social prescription in the community organization. Sometimes, I prioritized questions based on interests of participants. For example, one participant wanted to talk about intervention first, so we discussed that in priority.

4.4 Data analysis

I transcribed interviews verbatim using punctuations and symbols. This helped me in transmitting participants feelings to transcripts and to facilitate future reading of the data. (Table 2)

Table 2: Symbols used in the transcripts.

Symbols and signs	**Description**
Words in capital letters	the indication of the passionate or emotional statements of the participants
……..	the indication that the participant left the statement incomplete
???	the indication of the uncertainty of the word
[ ]	the indication of nonverbal action by the participant
( )	the indication of the word added by me to make the data more meaningful
“ “	the indication that participant quoted others

Simultaneous to the data collection process, I conducted analyses using a thematic content approach, which Braun and Clarke describe as "an accessible and theoretically flexible approach to analysing qualitative data" (110). The objective of the analysis was to identify themes, "and use these themes to address the research or say something about an issue." (111) For thematic content analysis, I employed six steps proposed by Braun and Clarke (110) (Table 3).

Table 3: Phases of thematic analysis described by Braun and Clarke. (110)

Phase	**Description of the phase**
Familiarizing with the data	Transcription of the data, reading the transcripts repeatedly, writing the initial thoughts.
Obtaining initial codes	Code the important aspects of the entire data in a structured manner, collecting data pertinent to each code. The initial codes were deductively derived from the CFIR followed by inductive codes derived from the interview.
Searching themes	Assembling codes into possible themes, collecting all data pertinent to each theme.
Reviewing themes	Evaluate if themes match the codes and the data, producing a thematic map.
Define and name themes	Refining and defining themes.
Report	The final step of the analysis

I read and re-read the transcripts. This helped me familiarize with the data (108). Later, we coded the data using the software MAXQDA. “Codes are tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes usually are attached to “chunks of varying size - words, phrases, sentences, or whole paragraphs connected or unconnected to a specific setting” (112). The initial codes were deductive based on CFIR framework, but inductive codes emerged after further analysis of the data (108). The research team organized codes into larger categories and then assembled them into themes. “Themes are recurrent concepts which can be used to summarize and organize the range of topics, views, experiences or beliefs voiced by participants” (108). Subsequently, all the research team members discussed, reviewed, and validated themes in several meetings. Finally, we deduced the results.

To support the credibility of codes, we employed a technique named “disconfirming or negative evidence” used by Miles and Huberman 1994 (112). Initially, we identified the themes. Then the data was investigated for evidence that confirmed or disconfirmed these established themes. The confirming evidence was found in abundance (109). This further emphasized the credibility of the findings and results. Moreover, several quotations from participants were added to results. This would help the reader match facts with interpretations and would enhance the credibility of the results (108).

4.5 Reflexivity

I was a practicing dentist in my home country India and even though I treated patients for dental pain, I could clearly perceive their distress due to social problems. However, there was nothing much I could do due to a lack of time, further, I was not skilled enough to handle their social challenges. Nevertheless, it made me sensitive to the problems faced by patients, and the helplessness of dentists. Social prescription project in master’s program at McGill university provided me an opportunity to find a solution to this problem as it addressed the social needs of patients and provided dentists with the opportunity to emphasize social determinants of health of their patients. Further, interviewing community organizations, and being familiar with the societal problems, made me realize their challenges. To my surprise I found that despite being busy, and working with little funds, these organizations were always ready to serve the needs of the people. Therefore, I believe that if community people were willing to help dental patients with their social problems, dentists should also initiate to partner with community organizations to solve the social

problems of their patients and thus improving their wellbeing. The discussions with my research team members further helped me understand the perspectives of local community organizations.

4.6 Ethical considerations

Approval of the study was taken from the Institutional Review Board (IRB) of McGill. The participants were given consent forms before every interview so that they had enough time to study the form before the interview. Forms contained the summary of the research, the protocol of the interview, steps to maintain the confidentiality of the participants and the data, and the contact information of the research team and the IRB members. Participants were reminded that they could withdraw from the interview at any time prior to every interview.

For the confidentiality of participants, I anonymized the names of participants, and their organizations. The quotes that could reveal their identity were not used. The recording of the interview was stored on my computer which is password protected. All the recordings of the interview, transcripts, consent forms, and the analysis were stored in my McGill one-drive account which is password protected. It can only be accessed by the research team members. This is in accordance with McGill's IRB recommendations. The data will be passed on to Dr. Christophe Bedos' (Principal Investigator) McGill's one-drive account. Eventually, it will be destroyed after seven years according to the guidelines of McGill.

5. Findings

5.1 Description of participants

The size of community organizations we selected ranged from one staff member to more than one hundred (Table 4). The services they provided were numerous, some of them are mentioned here: programs for the elderly: free meal delivery at home, home visits, transportation of elderly people for medical appointments, tax clinics; programs for the youth: collaboration with high schools for credit completion of students, educational support to mentally handicapped youth by partnering with the school, farming related programs; programs for community engagement: library, café, dialogue exchange clubs; programs for medical support: free medications to HIV community, non-insured immigrants. A few community organizations informally use social prescription. For example, a community organization has developed an app encompassing the services provided by local community organizations and the social determinants of health these services address (113).

Table 4: Description of Montreal-based community organizations.

Year of establishment	**No. of community organizations**
Before 1900	2
1900-2000	8
After 2000	1
Mandate: Motivation and support to	
Whole community	6
Seniors	2

HIV community	2
Black community	1
Alzheimer's patients and their carers	1
Staff members	
Less than 10	4
Between 10 to 20	6
Between 20 to 100	0
Between 100 to 200	2
Funding source (Total superior to 12 due to multiple fundings of the organizations)	
Provincial	10
Federal	12
Private grants	4
Alzheimer's society of Canada	1

Key informants included seven females and five males. Their educational background ranged from high school to post-doctoral studies. Their positions in the present organization varied from being a researcher, and program coordinator, to the executive director of the organization (Table 5).

Table 5: Description of key informants

Gender	**Frequency**
Female	7
Male	5
Position	
Program Coordinator	6
Researcher	2
Director	2
Executive Director	1
Lawyer	1
Educational background	
Masters	5
Bachelors	4
Ph.D., Post-doc	1
CEGEP honors/major	1
High School	1

Experience	
Less than 5 years	4
5 to 10 years	5
11 to 15	0
16 to 20	1
More than 20 years	2

5.2 Perceived need for social prescription

In the following paragraphs, I will describe how participants perceived social prescription as an improvement of current health practices, especially how it may respond to the needs of patients, promote equity, and empower people. I will end with examples of groups of people who, according to the participants, could benefit from social prescription.

Participants were concerned that the current healthcare delivery was sectoral, deploring that health professionals focused narrowly on their area of specialization. For instance, they remarked that dentists focused on the oral cavity, as cardiologists focused on heart diseases, without addressing more general aspects of their patients' health and their social determinants of health.

They perceived social prescription as an innovative approach to address health in a holistic manner. According to them, health was not only influenced by biological factors but also by various aspects of their environment that social prescription could tackle. Concretely, they envisioned dentists connecting their patients with community organizations that provide services addressing the social conditions that impact their health. Participants considered that dentists were well placed to tackle societal challenges because they were in direct contact with patients requiring social support.

> *The only thing I [health professional] can do to improve your [patients] health is what my skill set is. I [dentists] have my skill set, I can help you in this way, but there are other things you can do that have nothing to do with dentistry that can still have a positive impact on your health, and we should also encourage those kinds of behaviors or those kinds of practices as well. (Participant 1)*

Participants mentioned that, unfortunately patients in "huge need" of social support were generally unaware of the existing free or low-cost services provided by community organizations. According to them, social prescription would be an excellent way to promote these services within the population and make them accessible to those who need them.

> *I think it's a way to make the service known…Because a lot of person that is calling me don't necessarily know that they have rights… (Participant 4)*

Participants added that social prescription promoted equity, arguing that patients would receive assistance in accordance with their specific needs. Acknowledging it would mainly help people from disadvantaged backgrounds, they mentioned it may also benefit people from higher social positions who may have difficulties to identify and connect to resources they lack knowledge about.

> *Even for me who had so much privilege… if I myself I'm struggling to get find access to the resources I need…then it's so much more so for people who have less privilege than myself… the more access that we can bring to people to put them in touch with the people who know the best is, what to do, like being the middle man is such an essential thing… (Participant 3)*

Participants perceived another benefit of social prescription: enabling patients to take control of their health. According to them, social prescription implied that patients would discuss their social problems and specific needs with health professionals and community workers. Furthermore, it would allow them to be active in finding ways to address their problems. In brief, the social prescription would make patients engaged in their health and gain control over their lives.

> *The thing that they [patients] are invested into their own health. If by that social prescription they become more aware of the organization that exists, of their own strength, and what they can do to take a bit of control on their own person…(Participant 2)*

Participants added that social prescription could also be recreational. In opposition to traditional dental services, which were often associated to fear, a social prescription may include creative and entertaining community activities. According to them, a social prescription could be a prescription for "social interaction" that could be joyful and effortless for patients.

> *... because it's [social prescription] recreation. It's social…there's a very different association to coming to recreation than going to the dentist. (Participant 5)*

Participants further provided examples of groups of people who could benefit from social prescription, such as people using drugs, senior citizens, isolated people, and single parents.

Participants stated that for patients experiencing substance abuse, such as drug addiction, social prescription would be helpful because community organizations had resources and programs to help them at "opportune moments," for instance, by initiating meaningful conversations and providing accompaniment when they are most vulnerable.

> *So, let's say in the morning if someone (drug addicts) has access to a place to go and certain experts to work with them. But during the entire day, let's say they're alone, then what happens? This is when they fall back into the same habits. So, organizations like us can provide programs for them to be surrounded at opportune moments to make sure that they actually get better… So, programs like this, I think indeed beneficial. (Participant 7)*

Participants believed that the senior population could benefit much from social prescription. They felt that seniors offered both time and experience to society, but when isolated and vulnerable, needed support. According to participants, seniors generally would not seek social support services, as they generally would not realize that they need help.

> *... it's hard sometimes for people to have that self-awareness that, hey, I'm really lonely. It's hard for people to say that and sometimes, especially with older populations or more vulnerable populations, they don't even know where to start. (Participant 5)*

Participants anticipated that post-pandemic social prescription would become a necessity, particularly when people had been living in isolation. They explained that the social prescription could be the only opportunity for people to talk about their social problems with someone, for instance, dentists offering support services. A social connection could greatly relieve people disconnected from the community during the pandemic.

I find it a necessary thing given the circumstances of getting through a pandemic… that I'm so glad will exist now because…if you've been in isolation, this is the first person… and you make the small talk. (Participant 5)

Participants felt that the social prescription would support people facing challenges such as single parents. Balancing essential tasks and the care of children could be challenging for single parents. The social prescription would allow them to perform their tasks, grocery shopping for instance, while community organizations would involve their children in activities and programs available to them.

It's hard to be a single mom right now. I actually know of this resource for you that will take your kids to take care of them on Friday night. And you can go grocery shopping. (Participant 5)

5.3. Barriers

5.3.1 Barriers related to dentists

Participants considered that discussion, accompaniment, and follow-up were three important pillars of social prescription, requiring dentists to have detailed, private discussions with patients about their social problems, facilitate their accompaniment to community organizations, and follow-up with patients after the referral. In this perspective, they expressed doubts about dental professionals' readiness and ability to implement social prescription. They explained that dentists were not used to explore the social problems experienced by their patients and provided several arguments described in the next paragraphs: lack of time, poor sensitivity or interest in people, and social distance.

Participants explained that, because of time constraints in a private profession, dentists prioritized treatments they were paid for, leaving little time to discuss patients' social needs. Participants further stated that dental appointments were usually short, making it difficult for dentists to listen or talk to patients, especially about subjects not directly related to oral health. According to them, dentists would also lack time to become familiar with community resources they could refer patients to and may thus prescribe services without guiding or accompanying their patients.

I don't think it's a realistic expectation to think that the dentist has the time to memorize all these different programs and resources off the top of their head and give all this information at the time of the social prescription. (Participant 5)

Participants also felt that dentists may lack sensitivity, a necessary quality to understand the living conditions of their patients, which could make the latter feel unheard and poorly understood. Based on her own experience, one participant considered that dental hygienists were warmer and more friendly than dentists, making them more prone to understand people's lives. They consequently advised dentists to receive a "sensitivity training" to facilitate their communication with patients and help them recognize their needs.

So, I think that, like the sensitivity of the dentist and the awareness of an issue and of how they're talking to a client and how they're perceived to a client, and that might limit how effective their prescription will be, yeah. (Participant 3)

Participants perceived dentists' insensitive communication as a consequence of the *"power dynamics"* between dentists and patients. They described dentists' approach as paternalistic, with patients implicitly asked to remain passive during clinical encounters. One participant illustrated this by deploring the use of patient history forms before the consultation, observing that dentists inquired about patients' HIV status in these forms without guaranteeing the confidentiality of the information, and arguing that dentists should address such subjects verbally instead.

Some dentists in that form ask if the people are living with HIV, you know. And people often think that it's mandatory that they answer that question which is not. (Participant 4)

According to participants, one of the challenges experienced by dentists to understand their patients may be attributed to a higher social distance. They assumed that, because dentists belonged to a high social milieu and enjoyed a comfortable life, they were unaware of the social problems that less privileged people may experience. They also thought that dentists were oblivious of local community organizations and were disconnected from the community.

Before the doctors used to be part of the community, was the doctor of the town…They [dentists] have this, it's a bit elitist sector, and sometimes, I think. You live maybe in another social group and it can be difficult for you to connect with people from other different, social different groups. (Participant 8)

Consequently, participants did not imagine dentists as good social prescribers, and compared them with physicians and pharmacists. For instance, they thought that people visited their family physicians more frequently and discussed more easily about their social problems with them.

> *Like maybe if you [patient] have a problem you will go for a period of time, but maybe if you don't have a problem you will go maybe once a year twice a year [to dentists], but a family doctor will follow up with a patient. Especially a senior regularly. (Participant 8)*

Participants recognized that introducing social prescription in dental schools would help future clinicians be sensitive to the psychosocial problems of their patients and acquire knowledge beyond the traditional model of health care. Dentists, then, would be trained to offer social prescriptions in their private practices and be more sensitive to people's problems.

> *I'm hoping actually that the social prescription will be [taught] or tried when the dentists are at the university, but what I'm wishing with this project is that they kind of keep it when they go in their private practice after and that if they see a problem in their private practice, they can be they can still have the tools that they learned or that they tried in their university to be able to do it in their private practice. (Participant 4)*

5.3.2 Barriers related to patients

In the following paragraphs, I will describe the challenges that, according to the participants, may be related to patients: entrenchment of patients in biomedical approach, exaggerated expectations, lack of follow-up with community organizations, and capability to pay for services provided by community organizations.

Participants believed that as a response to dentists' time constraints and paternalistic approaches, patients may not “trust” them much and be reluctant to share about their lives. Social prescribing may thus be challenging because patients may not feel connected with dentists and would not “really want to talk” openly about their social needs. Participants further anticipated that patients may feel judged because of their social problems and may perceive social prescribing negatively if not explained properly by dentists. Participants added that some people feared dentists and dental treatments to the point they simply wanted their treatment to be over as soon as possible, leaving little space to express their needs and share personal aspects of their life.

What does it say about me if I need a social prescription? Am I being judged? you know the sort of internal barriers that people set for themselves. (Participant 5)

Participants also acknowledged that patients might be skeptical about the role of local community organizations to ameliorate their health. According to them, people were used to doctor-based treatment of their oral problems and may lack faith in this new intersectoral approach. Accordingly, participants thought that social prescription would require patients to not only have confidence in their dentists but also in local community organizations in order to share about their psychosocial problems and various aspects of their health.

It's a structural change that even then they [patients] would have to adapt to. And be willing or expect that even other people that are not necessarily in the mental health will talk about them about their mental health. (Participant 2)

Participants further believed that patients may have false expectations from these services. They may expect instant improvements in their oral health whereas social prescription may have a gradual rather than an immediate effect. They feared that if patients' expectations were not fulfilled or at least carefully discussed with community workers, people may lose trust in this scheme.

Expectations must be very clear of what it can and cannot do, because if they have a huge expectation of it, then it doesn't pan out...Then they do not follow through with any of it or just lose trust in that system. (Participant 2)

Accordingly, participants were apprehensive that patients may not be willing to have follow-up appointments with community workers for their social problems. Indeed, because patients may find the programs provided by community organizations as pleasant community activities, they may not take them seriously and continue.

More or less you go in and you [community organizations] expect to have to follow-up but and do they [patients] expect the same for the community? (Participant 2)

In addition, participants emphasized that patients should have basic resources to participate in the services provided by community organizations. Although services were free or provided at minimal costs, the patients should have the capacity to pay for these services, if applicable, or for transportation to these organizations.

… transportation could be a barrier… And like I mentioned our are very low fees, but the ability to afford to do it. (Participant 6)

5.3.3 Barriers related to local community organizations

Participants described various challenges that community organizations may face in implementing social prescription: insufficient resources, increased workload resulting from incorrect referrals, and minor problems such as the resumption of services post-pandemic, and difficulties related to the use of technology in social prescription.

Most importantly, they deplored that local community organizations' budget was generally insufficient and often led to financial struggles. They even feared not being able to renew their funding and being obliged to abruptly stop their services to the community. Sudden discontinuation of services led participants and community workers to a state of confusion.

… often in community, once you start something the funding is for a year and you start something and you put your heart into it and the clients need it and the clients are participating. And then money is gone. That's the end of it. (Participant 6)

Due to their limited budget and financial instability, participants explained that community organizations may underpay their employees, rendering the recruitment of skilled workers difficult and increasing the risk of losing them for a more lucrative job. Furthermore, community organizations would often be understaffed, with the consequence of having employees overworked. The resulting high turnover of employees had important consequences, especially in terms of the continuity of the programs and the quality of the services provided to people. Participants mentioned that new hires would have to re-establish networks and collaborations, a process that would require time and may slow down the organizations' programs. Considering these structural issues, participants feared that being part of new social prescription schemes may lead to an overwhelming number of demands that they may not be able to respond to.

Like my staff you know 5, 4 staff. They're at the top of what they can handle and what they can do. If all of a sudden, we're getting 30 referrals a week, we're going to be overloaded overrun, so that's a concern because I know that there's a huge need out there. (Participant 6)

Participants also feared that dentists, due to their lack of knowledge of community organizations, may do inappropriate referrals that would further increase their employees' workload; it would also waste their time, by forcing them to reassess clients' needs and reorient them to more appropriate organizations. Some participants mentioned that this would include accompanying clients and even provide transportation.

> *… to make the proper referrals. And it's not wasted time on your part or our part so that if someone is referred to us and it's not really appropriate… I don't want to have my staff rerefer them somewhere else. (Participant 6)*

Another issue related to limited funding was the competition between community organizations to obtain financial resources from the government or private sources. According to the participants, because they had to outperform each other, organizations may not lean to develop strong partnerships and collaborate efficiently, which they perceived as important factors to the success of social prescription. Overall, considering that social prescription was a new scheme, participants felt unsure about the budget, manpower, and resources it would require, and about their own readiness for such an endeavor.

> *And it doesn't necessarily help in terms of encouraging collaboration when organizations are competing for a limited amount of funding… You work within a community, but you don't necessarily work with each other, so we're different entities going towards the same goal, but not necessarily helping each other out which shouldn't be the case… (Participant 1)*

Some minor barriers identified by participants were resuming work post-pandemic and dealing with technology.

Participants expressed that community organizations were in a "transition period" after the Covid-19 pandemic and were reassessing their work, for example, programs that would be functional and those that had to be ceased. It resulted in a lack of clarity in their work, and they perceived it as a limitation in the implementation of social prescription.

Another barrier stated by participants was handling the technology. According to them, the young employees of local community organizations preferred online marketing of social prescription to increase its reach, whereas elder employees found it difficult the use of such technologies.

5.4 Facilitators for community organizations to implement social prescription

Participants identified several facilitators for the implementation of social prescription, including having a functional referral system, promoting social prescription, having champions, and increased heterogeneous clientele due to social prescription, thus more demand for services and more funding from donors, and feedback from dentists and patients.

All Participants revealed that they already had an existing functional referral system in their own community organization. They referred their clients to other resources depending on their needs and the availability of programs. Participants considered that social prescription in dentistry would be based on the same principles: dentists would just be another group of service providers offering referrals.

> *So, social prescription exists without a title…it's not as widespread outside of the community sector, so it's just a matter of implementing, that's already happening on a larger scale. (Participant 5)*

Participants explained that a referral system required collaborations between diverse organizations. Therefore, having a supportive team of community workers within and between the organizations that would help build these collaborations would facilitate the successful implementation of social prescription. These collaborations would subsequently help community organizations build long-term relationships with other organizations, and work with them on other projects, solving broader social issues. Thus, community organizations would be extensively awareof social problems. They considered it an indirect facilitator of the implementation of social prescription as their mandate is to solve social issues.

> *Nothing great happens without a team…I think also just the social connections I think are very important because I think the more organizations and more work you're connected to, the more you're in touch with what else is going on in the city…we will be able to work together outside the social prescription if we have other needs, another project in the future. (Participant 3)*

Participants also considered that advertising social prescription would facilitate its implementation. They proposed that a definite name should be allocated to any scheme, and that the names of all the participating organizations should be available to the public through an online

portal connecting all the resources. The portal would list all partners, describe the services they provide, and the social determinants of the health they address. Participants perceived that this online promotion would help them develop an identity and draw people's attention to their work and help patients access services.

> *Again, I think it's [social prescription] a great idea, but I still don't think it's going to take root if we don't work on marketing it that's something that is useful for everyone, even for medical professionals or whoever is working. (Participant 2)*

Participants also highlighted the importance of champions as facilitators in the implementation of social prescription. Champions could be people of any profession who could communicate and convey its usefulness to other professions and various sectors of society. They would help bring more partners and service users into this scheme.

> *Champions… if they spread the word then and communicate with other medical professionals, then at least the idea is there and they're more willing to try than if somebody that knows nothing about their world comes in and tries to tell them… (Participant 2)*

Participants perceived that receiving more clients through social prescription could facilitate the implementation of social prescription in the long term. It would require more staff though, but organizations could approach their donors to request more funds, eventually resulting in the growth of the organizations. Moreover, participants thought that receiving more clients would give credibility and popularity to their work and create a virtuous circle. Participants further believed that referrals from dentists would diversify their clientele. Generally, community organizations relied on word of mouth to receive referrals resulting in a similar population pool of clients. They speculated that with referrals coming from dentists, their clientele would expand. This in turn would align with their mandate to serve as many needs as they can.

> *Adding new members to our organization can also be an opportunity for us to expand our services and think about other projects and go to funders and say like that, hey we would like to do this we detect this needs people come to us with this need. We would like to help them… serving more people, making sure that the people just, it really facilitates that mission statement of having that positive social impact on people. So, the more people we can reach, the better, and this is a means to reach people. (Participant 8)*

Participants explained that witnessing people benefiting from the social prescription program, with improved quality of life, would promote satisfaction and optimism among community workers, and further motivate them to implement social prescription.

> *And just like also joy, I don't know because you're seeing that people are helped and you're seeing that. Their quality of life has improved in some way… If we get increase in people using our services. That provides us with more proof. That what we're doing is valuable… (Participant 3)*

Participants considered receiving feedback from dentists and patients as an important enabler in the implementation of social prescription. Firstly, participants observed that receiving reports and feedback from dentists about patients would facilitate providing services to patients. This could make them aware of the problems of patients and would help them in delivering the needs of the service users authentically and accurately. Further, to evaluate the effective implementation of the social prescription it was important for participants to learn whether the community services were meeting the needs of patients. Therefore, feedback from patients was important for them.

> *To ask for feedback from them from the people that have used it, to see what was the strength you've seen in it, what helped you, what kind of things were lacking for you to get on board with that... (Participant 2)*

5.5 Principles of partnership between local community organizations and dentists

Participants were extremely interested and excited about partnering with dentists, but expressed the importance to follow several important principles that we will describe in the next paragraphs: consistently committed dialogue, mutual understanding, consensus building, democratic decision-making, and a bilateral referral process.

Participants emphasized consistently committed dialogue as an essential step to initiate a partnership. They believed that permanent and clear communication channels should be established between partners such that information would not be misinterpreted or missed. They expected that if community organizations needed information about a patient, their waiting time should be minimal. However, participants were concerned that dentists and community members had a different vocabulary, which may create misunderstandings. For instance, one of the

participants reported that, when asked by a dentist about her education, she replied that she was studying recreation, but the dentist could not comprehend recreation as a subject.

> *So, the communication should be fluid as well. Should be like a direct communication and no too long waiting times you know for community organizations to get responses if we have question about member about potential member. (Participant 8)*

Participants further expected that dialogue would result in a mutual understanding between partners. They perceived that dentists and local community organizations had different ways of functioning: community organizations were non-profit with the mandate to serve people, whereas dental care was commercial, hence poorly accessible to vulnerable populations. Participants added that even though both dentists and community organizations worked on appointments, community organizations were always confronted with unexpected tasks and challenges, leading them to be constantly overworked.

> *... we're not working the same way as a private, let's say a private office of a dentist, you know, we're really working, different ways... You know it's so I think a barrier is just such a different nature of work… (Participant 4)*

Participants emphasized the importance of mutual understanding, explaining that whereas dentists had expertise in treating the disease, community organizations were experienced in tackling people's social determinants of health. Therefore, for partnerships to succeed, it was important for community organizations and dentists to have greater insight into each other's work. Participants further expressed their desire to understand dentists' perception of the social prescription and the troubles they could face in its implementation.

> *I want to know what would make it useful for them, as, how do they envision the social prescription model in their settings? How can we help them out? What kind of troubles have they been having for them to be interested in the social prescription? (Participant 2)*

Participants subsequently hoped to reach a common consensus. By consensus building, they meant sharing opinions, respecting differences, accepting constructive criticism, working together on practically effective solutions, and taking decisions prioritizing patients' interests. They explained that building a new scheme meant that everyone had to learn from each other.

That means that if we have two different visions, we have to have a process to discuss both of them, discuss the merits and limitations, of both of them. And kind of commit to trying and finding at least a middle ground. Right, that's what consensus building is about. (Participant 1)

The penultimate principle according to participants was democratic decision-making. This meant equal power sharing among stakeholders, being transparent about the decisions, and inviting people from community organizations to participate in the entire process of social prescription implementation.

It means that power is shared amongst decision-making amongst the different sectors represented. It means that people are informed to the fullest about the pros and cons of that, they take a decision or what the facts are and so on. (Participant 1)

Nevertheless, participants had contrasting views on sharing responsibilities about patients. Some participants thought that community organizations should be more responsible in the social prescription as this scheme was new for dentists. They thought that like a pharmacist's responsibility to hand out medications to patients in medical prescription, it was the community organization's responsibility to take care of patients' social needs in cases of social prescription.

If you are writing a prescription for an antibiotic, it's going to a pharmacist and the pharmacist takes that and does their job and takes care of it. I view it in kind of the same way. If you're writing a prescription for social interaction. If I received that, then I would sort of we would take that, you know and go with the client, I don't think that there's a lot of responsibility or expectation that has to land on the dentist side. (Participant 5)

Participants finally expected bilateral referral: While community organizations should accept referrals from dentists, dentists should also accept referrals from community organizations. Participants desired free or affordable dental care and workshops on dental care for their vulnerable clients, for instance, seniors living on pensions, and people having no dental insurance.

It could be good if they can provide some workshop, maybe for our members, or they can also letting us know like where we can refer members who they have these financial difficulties like how they can access to affordable dental care or free dental care… (Participant 8)

Participants proposed specifications for working on social prescription: Participants expressed a need to sign a contract among all partners, use an assessment tool by dentists, and test run a social prescription scheme.

Participants wanted a formal agreement to be signed among all the stakeholders of social prescription, outlining their roles and responsibilities, anticipated target, and the steps for conflict resolution. This agreement should clarify the details about sharing patients' information with community organizations. Participants proposed that dentists should obtain patients' consent before sharing information about them with community organizations. They wanted the contract to have no ambiguity in sharing data about the social prescription scheme, such as the number of referrals, the kind of referrals, and the information about the community organizations and their services. This transparency would help community organizations to track their progress and evaluate the results.

Participants further recommended that dentists use an assessment tool to accurately diagnose the social needs of patients, as they highlighted that dentists were not professionally trained in identifying the social problems of patients and could offer incorrect social prescription.

> *... yeah, a very short assessment tool to see what they really need. Unless you are comfortable when you are is super 100% sure that that is what they need. (Participant 2)*

Participants wanted to test run the social prescription initially for 3 to 6 months to know the feasibility of implementation of social prescription.

Organizational incentives and rewards: In exchange for services provided by community organizations, the participants desired dentists to allot budgets for patients using social prescription services, participate in community meetings and their health programs, and dental treatment subsidies for members of community organizations.

Some participants wanted dentists to bear the expenses associated with the patients using the social prescription. These expenses encompass transportation to community organizations and the services community organizations would offer, despite the services being almost free.

They also expected dentists to be a part of community tables and meetings and inform community members of the kind of services desired by patients using a social prescription. This would help community organizations improve their services according to the needs of the population. Participants also wished that at least one dentist should participate in the oral health programs

organized by community organizations to make their programs effective and credible to the audience. They intended to collaborate with dentists in writing grants concerning oral health issues. They believed that by doing so, they could present a united front in raising a critical issue in the community and strengthen their advocacy.

> *And let's say they're on the top topic of health care delivery come together, so it's not that the faculty comes with their interests, we come with our interests, no, but we come together. We've been working together you have now trying to build a shared understanding about what the issues are. (Participant 1)*

Most participants did not expect any personal benefit in exchange for the partnership with dentists. However, on repeated probing and hinting, some participants expressed a desire to receive the benefits of dental treatment for community workers.

6. Discussion

6.1 Summary of objectives and findings

Our study presents the perspectives of community workers employed in community organizations regarding: the need for a social prescription in the dental care sector, the challenges they anticipate and the facilitators they envision in implementing the social prescription scheme in dentistry, the partnership they would expect to develop with dentists.

Our study revealed that community workers considered social prescription essential as it is an innovative, comprehensive, and intersectoral health approach. However, when envisioning its implementation, they perceived specific barriers related to dentists, patients, and community organizations. With respect to dentists, participants perceived them as having paternalistic attitudes, belonging to a higher social milieu, and lacking time to participate in social prescription. At the patient level, they believed that people might not be open to share with dentists about their social issues and may even doubt the credibility of social prescription. At the level of community organizations, participants revealed that these organizations had limited financial and human resources. Therefore, it might be difficult for them to offer quality services and respond adequately to an increased demand for services.

To overcome some of these barriers, community workers identified several facilitators, including an existing functional referral system in community organizations, champions of social prescription, and a website for social prescription to make it easily identifiable and accessible for service users. Moreover, community workers desired to work on principles of consensus-building, democratic decision-making, and a bilateral referral process with dentists.

6.2 The need for a social prescription in the dental care sector.

Community workers value social prescription for several reasons: a) it is a holistic and collaborative approach addressing social determinants of health, b) it links the health sector with social support services, c) it empowers patients, d) it promotes health equity, e) it could be recreational; f) and it is particularly beneficial in specific situations, for instance for isolated people, elders, people with substance abuse, and single parents.

Community workers perceived that the current healthcare system is sectoral, where health professionals work within their specialties, for instance, dentists limiting their focus to dental diseases. On the opposite, social prescription is a collaborative health approach where health professionals connect patients to community services. This opinion has been supported by Watt (113), who mentioned that healthcare providers can achieve desired oral health improvements by working in partnership with different organizations.

Community workers furthermore perceived that dentists could contribute to social change by helping patients access social support services by connecting with local community organizations. Relating to this context, Giddon et al. (114) mentioned that since there is shortage of primary care providers, dentists can act as primary care providers and assist in screening patients' chronic diseases. Given that a relationship exists between oral and systemic diseases, dental practitioners could contemplate integrating approaches that enhance the general health of the people, (115) social prescribing in particular (116).

According to participants, social prescription is pertinent because it is a holistic health approach, wherein dentists' partner with local community organizations to tackle the social determinants of their patient's health. Their perspective is corroborated by Kimberlee, (117) who studied holistic social prescription services between physicians and community or voluntary organizations in England. Their study showed that it comprehensively addressed patients' social concerns such as diet issues and transportation assistance (113). The same author reported that, although community organizations had financial difficulties maintaining their services, they firmly believed their clients benefitted from this approach (117). Similarly, the Alliance for Healthier Communities, in Ontario, after piloting social prescription in 11 community health centers, produced a report indicating that social prescription created a collaboration of health professionals and community leaders, resulting in patients experiencing greater social inclusion and improved mental health (77).

Furthermore, it has been investigated that "social isolation and loneliness" are linked with decline in health whereas social assistance from various sources is linked with improvement in health (118). Community workers believed that individuals seeking welfare services were unaware of local community organizations providing these services (119). Therefore, by linking healthcare with community organizations (10), social prescription would facilitate access (73) and make these services known among the people who need social support.

Participants also considered that social prescription would empower patients and help them taking control of their health: they would be more engaged in discussing, selecting, and participating in community activities and thus be more involved in their health and well-being. Accordingly, Polley et al. (13) mentioned that patients benefitting from social prescription became more autonomous by exploring and co-creating treatment options with experts. Similarly, the effects of the Rotherham Social Prescribing Pilot project demonstrated that patients were engaged in social prescription programs with less dependence on outside support, developed resilience, and were more capable of handling their chronic health conditions (120). Likewise, a review of evidence evaluated the effect of social prescribing on primary care "demand" and "costs." Social prescription led to a 28% decline in patients visits to medical practices, making them more independent in managing their health (20).

Additionally, community workers thought that social prescription would promote equity, facilitating access to resources according to patients' needs. This is corroborated by the literature, which identifies health equity as a critical component of social prescription. Authors consider that social prescription is more than just referring service users to community programs and activities. It is also assists people in overcoming challenges, whether financial, personal, or emotional, they may encounter in accessing these activities (15). Further, attainment of health equity through social prescription can be corroborated by a study in Brazil where a group of physicians, nurses, and community workers made approximately 100 to 200 house visits per month, serving almost 4000 homes. They emphasized improving long term conditions, disseminating healthy behaviors, and tackling social determinants of health of people by offering referrals through social prescription. It resulted in reduced "infant mortality" and hospital admission rates, as well as better health equity (121).

Community workers also thought that for some patients, dental treatments were stressful, contrary to social prescription activities, which might be recreational and pleasant. Therefore, people might be interested in participating in social prescription activities and open to community staff members about their social issues. A two-year longitudinal study in London, England, corroborates people's interest in and adherence to such community activities: the study evaluated social prescription projects in five recreation centers. During 26 weeks, general practitioners referred 1315 patients

having “cardiovascular, orthopedic, and metabolic” diseases. The project was finished by 57% of the patients, 49% had decreased blood pressure levels and 33% a lower body mass (122).

Finally, community workers thought that social prescription would be particularly suitable for individuals such as isolated people, elders, people with substance abuse, and single parents. Similarly, researchers considered social prescription advantageous for people with psychosocial problems, having unconventional symptoms or indecisive diagnoses, frequent physician visits, and multiple disorders (117). Likewise, a randomized controlled trial investigated patients with psychosocial problems referred from medical practices to voluntary organizations. In the intervention group, patients experienced a decrease in anxiety and a greater sense of well-being after one and four months (10).

6.3 The challenges community workers anticipate in implementing social prescription schemes in dentistry.

As mentioned previously, participants suspected barriers at the level of dentists, patients, and community organizations.

The first barrier is identified at the level of dentists. Community workers consider that dentists might not adopt social prescription because they poorly understand their patients' social conditions, a) as they belong to upper social classes and b) tend to have paternalistic attitudes, c) also because they face time constraints in their clinical practice and d) have little or no knowledge about local community organizations.

Community workers thought that dentists may lack sensitivity to talk to patients about their social problems and may not even be interested in their social needs. These findings echo Dharamsi et al.’s (123) observations that, in a privatized and fee for service system, dentists are considered entrepreneur health professionals. These authors reported that dentists prioritized treating dental problems and were unconcerned by their social and professional commitments in reducing oral health inequalities. Similarly, Bertolami (124) concluded that dentists mostly practiced in affluent neighborhoods, prioritized their benefits, and were reluctant to serve the underprivileged such as people on social assistance. In agreement with Bertolami, Bedos et al. (125) revealed that dentists might poorly comprehend social issues, such as poverty.

Community workers also perceived that dentists had paternalistic attitudes and therefore made treatment decisions without consulting their patients. Likewise, it has been corroborated that medical students in their final years adopt condescending behavior with their patients (126). One of the reasons mentioned by Hurley et al. (127) is the focus of medical education on the biomedical component of health. Similar to medicine, dental practice is traditionally paternalistic with patients relying on their dentists for treatment decisions; although the practice may be technology driven, the dentist's attitude tend to be authoritarian (128). Accordingly, Apelian et al. (5) noted that overreliance on the biomedical, disease-focused health models result dentists in endorsing paternalistic attitudes and underestimating the importance of providing holistic care. Moreover, patients' perception of health professionals' behavior towards them greatly determines their reactions to their treatment, as patients seem to react unfavorably to dentists who are critical of them (50). Additionally, patients' dissatisfaction with dentists is as a result of dentists poor communication skills, for instance, using professional jargon, providing inadequate information, and lacking empathy towards them (65,129).

Participants further believed that dentists have time constraints because they are busy performing the treatments they are paid for, therefore they would not have time to provide social prescriptions to their patients. It has been corroborated in the literature that health professionals spend less time with patients to accommodate more patients per visit (130). Conforming to this, Bedos et al. (131) mentioned that dentists who perceived themselves as business professionals found it difficult to give sufficient time to patients. However, dentists acknowledge that to form a secure relationship with patients, it is essential to give them sufficient time (68).

Finally, community workers emphasized that dentists are unaware of local community resources, therefore, referring people to community organization could be challenging for dentists, thus they are perceived as poor social prescribers. The perception of the community workers has been supported by the study conducted by Fathi et al. (116) as they mention that since dentists are not taught to tackle social determinants of health, to offer social prescribing services in dental schools, have time constraints in their clinical practice, are ignorant about social support services, therefore, offering social prescription to their patients would be difficult for them.

Gramsci, a Marxist philosopher, described that individuals come to terms with their subjugation when the prevalent beliefs cause them to lose sight of what they want and make them embrace the

genuineness of elitism and authority (132). Likewise, community workers, while identifying barriers at the level of patients, believe that patients may not trust their dentists to disclose their social issues; however, are entrenched in the biomedical approach. In addition, they may not have faith in community organizations.

Participants felt that because of the dentists' above-mentioned attitudes, such as dentists belonging to a privileged class, having paternalistic attitudes and lacking time, patients might not be open with them and thus lack confidence in discussing their social problems. In parallel, the literature points out that poor relationships between dentists and patients may undermine patients' faith in dentists, resulting in unmet patients' needs and expectancies. Nevertheless, patients have more faith in dentists having good interpersonal skills and are sympathetic and considerate towards them (133).

Moreover, due to patients believing in conventional health practice (134), participants thought it would be challenging for them to trust the capability of community organizations to improve their oral health. This can be validated by a study that explored patients' perspectives about social prescription in Keynham, England. One of the barriers anticipated by a patient participant was that people would find it intimidating to seek out new or different resources for their health. For instance, relying on community organizations, for their social problems that would ultimately impact their health (12).

The third barrier was associated with the local community organizations, which lacked funds and human resources, resulting in a high turnover of employees, a shortage of human resources, and an unpredictability in the continuity of their services. The issue of insufficient resources is highlighted in several reports published on social prescription. For instance, a report published about the stakeholders' perspectives on the initiation of the social prescription project in Keynsham, England, revealed that insufficient funds could affect the delivery of social prescription programs by the third sector (12). Kimberlee (117) concurred about the funding of the community organizations stating that third-sector organizations competed among themselves for funds. It is to be noted that due to limited funds, community organizations that benefitted the social prescription service users were dissolving (135).

6.4 The facilitators community workers envisioned implementing this scheme.

Further to my previous comments, participants envision a few facilitators. They believe that an existing functional referral system in community organizations, champions of social prescription, and a website for the social prescription might work as facilitators for the implementation of this scheme.

Community workers reveal that all the community organizations function through a referral system, referring their clients to the relevant institutions depending on their requirements and the availability of programs in different institutions (136,137). According to them, the social prescription is based on the same referral principles with dentists referring patients to community organizations for specific services. Therefore, community people found implementing social prescription easy.

Community workers further highlight the role of champions in the implementation of social prescription. Champions could be based in dental practices or community organizations; they would be supporters of social prescription and voluntarily spread the message of social prescription in society and garner more support and referrals for this scheme. Miech et al. (138) defined champions as individuals who are "(1) are internal to an organization; (2) generally have an intrinsic interest and commitment to implementing a change (3); work diligently and relentlessly to drive implementation forward, even if those efforts receive no formal recognition or compensation (4); are enthusiastic, dynamic, energetic, personable, and persistent; (5) and have strength of conviction." Peschany et al. (71) regarded champions as facilitators for the social prescription scheme. The presence of champions in clinical practice reinforces social prescription referrals to community groups by health professionals. It also increases the clinician's awareness and appreciation for social prescriptions (71). Moreover, physicians who referred more clients to social prescription services could be used as champions and encourage or inspire other physicians to do the same (139).

Participants are particularly interested in the online promotion of social prescription and viewed it as a facilitator. They mentioned that an online portal with the information of all the stakeholders and the social prescription services would help patients access the services, draw peoples' attention to their work and thus would make this scheme more identifiable. In a similar context, the report

on social prescription pilot project in Yorkshire and Humber mentioned that this scheme could be promoted through the website of clinical practices and pamphlets in the waiting rooms (140).

6.5 The kind of partnership community workers would expect with dentists.

Participants expressed the desire to work with dentists on the principles of consistent communication, mutual understanding, the consensus in opinions, democratic decision-making, and bilateral referral processes, whereby not only dentists but community workers too could refer their clients for dental services.

Literature corroborates that the challenges of partnership between physicians and community organizations were uncertainty, incognizance of duties, a lack of accountability of both the stakeholders, and use of professional language (141). Regarding language, for instance, the literature suggests that physicians might refer to the individuals referred to social prescription services as “patients” and community organizations as “people” (135), which could result in confusions in the referral process. “Cultural differences” between general practitioners and community organizations were regarded as a significant point of conflict and were clearly visible at the time of implementation (117). If left unresolved, community workers may feel secluded and may undervalue social prescription. Interestingly, as a part of “community health project” to reduce health disparities in clinical practice, a community staff member noted that physicians were unfamiliar with community development strategies, whereas the community member was not completely aware of the medical model (141). The report on a social prescription pilot project in Brighton and Hove, England, shows that strong partnerships between health professionals and community organizations should be based on mutual cognizance and appreciation of each other's work and contribution to the scheme (139). Keenaghan et al. (142) suggested that the participation of all the stakeholders in the initial stages would lead to clarity in referral routes, roles, and responsibilities of all stakeholders.

6.6 Limitations

Social prescription is a collaborative approach with dentists, patients and community organizations as the primary stakeholders. Because our study is limited to exploring the perspectives of community organizations, we still need to determine the perspectives of the dental staff and

patients for the effective implementation of this scheme. Besides, although our research included a relatively small number of participants, we consider that our sample size was sufficient given our qualitative nature of our approach (143). It is important to remind that we attained data saturation after 10 interviews (144).

Furthermore, we reported the experiences and perspectives of community organization members working in a specific context. These community organizations are situated in Montreal, a multicultural city located in the province of Quebec, Canada, which is considered a high-income country. Consequently, the results may not be transferable to other community organizations working in rural, low-income countries, as they may face their own distinct challenges. The size of community organizations varied, ranging from one to more than a hundred members. The organizations serving the French speaking populations received more funding and attention from the authorities. In addition, the organizations providing welfare services and catering the overall community received greater support from the officials than the organizations service a particular group of people and providing services tailored to their needs. While a few community organizations worked in isolation, others were a part of a larger, well networked organizations.

6.7 Strengths

The strengths of our study are at two levels: scientific and clinical practice level.

At the scientific level, to the best of our knowledge, we conducted the first research on social prescription in dentistry. The CFIR framework helped us to develop questionnaire on important aspects of implementation; moreover, using a qualitative observatory descriptive methodology helped us understand the perspectives of community organizations about social prescription and its implementation in the healthcare system (102). Furthermore, most of the interviews were in person, in the local community organizations, which helped me become acquainted with the working of community organizations, for instance, the empathetic behavior of the staff with their clients, dedication toward their work despite low salaries. It helped me report the data more authentically. After each interview, I completed an interview summary form, which was reviewed by the research team. This helped in the initial analysis and reflective overview of the interview (112). Further, the interviews were transcribed soon after they were conducted. A debriefing session with the research team followed each interview. It helped identify the gaps in data

collection (145), address potential biases (146), and to prepare for further interviews. Moreover, the emerging codes and themes were finalized through discussion and concept mapping in several rounds of meetings with the research team (147). It made the coding process rigorous.

At the level of clinical practice, we provide guidance and recommendations (see next section) for dental professionals planning to implement social prescription, such as dental schools, private dental clinics, medical schools, but also medical schools and clinics.

6.8 Recommendations

Even though our study occurred in a specific context, we propose the following recommendations for successfully implementing social prescription. The recommendations related to 1) all stakeholders; 2) patients; 3) dentists and dental professionals' institutions; 4) community organizations; and 5) policy makers (table 6).

Table 6: Recommendations for the successful implementation of social prescription

A) Recommendations related to all stakeholders
1. Meeting of all stakeholders.
2. Deciding the type of patients that would benefit from this scheme.
3. Using screening tools to assess the social needs of the patients.
4. Allowing sufficient time for the implementation of social prescription.
5. Involving volunteers and citizens in the process.
B) Recommendations related to patients
1. Informing patients about social prescription and its benefits.
2. Involving patients and acquiring their feedback.

3. Providing patients with accompaniment (from dental clinics to community organizations).
C) Recommendations related to dentists and dental institutions
1. Increasing the representation of dental students from minorities in dental schools.
2. Incorporating social determinants of health, cultural competency, and cultural humility skills in the dental curriculum.
3. Encouraging dentists to follow person-centered approaches with patients.
4. Receiving training in social prescription.
5. Requiring dentists to have information about local community organizations.
6. Increasing payments to dentists for treating patients on social assistance.
D) Recommendations related to local community organizations
• Better funding and support to community organizations.

6.8.1 A) Recommendations related to all stakeholders

Recommendation 1: To begin with, all the stakeholder, dentists, community organizations and the patients should meet and establish well-defined goals, tasks, accountability and anticipate results for the implementation of social prescription (142).

Recommendation 2: The stakeholders should establish clear guidelines for the type of patients that could benefit from social prescription (117).

Recommendation 3: Specific screening tools could be utilized by stakeholders to assess the social conditions of patients, such as the University of California, Los Angeles, loneliness (UCLA) scale

(148), the Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences (PRAPARE) (149) to determine social needs, or other questionnaires exploring people's social problems (150).

Recommendation 4: Further, sufficient time should be allowed for this process because forming alliances with stakeholders, meetings, and preparing for implementing the social prescription can take time (140).

Recommendation 5: Lastly, volunteers' role in planning and implementing social prescription is relevant, as most of the community organizations I interviewed had several volunteers working for them. It can solve the problem of a shortage of human and financial resources (136) in community organizations to a significant extent. Tasks, such as connecting and accompanying patients to community organizations can be delegated to volunteers. A report on social prescription project in England mentioned that volunteers were integral part of their project and were regarded as important stake holders. Their role was to connect patients and community organizations. The report further suggested that the role of volunteers could be increased by providing them with better training (135). Similarly, in America, a nonprofit organization named *Health Leads*, takes help of volunteers to provide low-level assistance to the people referred by general practitioners (75).

It is important to note that voluntary acts are beneficial both for community organizations and the volunteers (12). It had been shown that senior volunteers had higher quality of life scores compared to their colleagues who did not volunteer (142).

6.8.2 B) Recommendations related to patients

Recommendation 1: We ought to inform patients about social prescription, which could be achieved, for example, by disseminating the positive impacts of social prescription. A report on social prescription project in Yorkshire and Humber, England, recommends that patients can become more familiar with this scheme by distributing its pamphlets in the waiting rooms of dental clinics (140).

Recommendation 2: Importantly, patients should participate in deciding what kind of social prescription services they need (117). Their feedback is essential to evaluate whether social prescription services meet their expectations (140).

Recommendation 3: Finally, a person should accompany an anxious, elderly or a vulnerable patient to community organizations. This person could be a member of dental staff, maybe a dental receptionist, dental hygienist, or a dental assistant (151).

6.8.3 C) Recommendations related to dentists and dental institutions

Dentists should acquire theoretical and practical knowledge about social determinants of health and be trained about person-centered approaches, social prescription, and local networks of community organizations.

Recommendation 1: Firstly, it is critical that dentists understand the social problems of their patients in addition to their dental problems. However, it has been reported that there is a reduction in "empathy levels" as the interaction of dental and medical students increase with their patients (152,153). Although, there is a greater representation of students from privileged backgrounds in medical schools (153), dentists from minority populations treat a substantially greater number of patients from lower social classes as compared to their affluent counterparts (154). Therefore, we recommend that there is greater representation of students from minority communities in healthcare sector (149,94), as done in American dental schools with pipeline projects aiming at recruiting dental students from underprivileged backgrounds (155).

Recommendation 2: Further, social determinants of health should be incorporated in dental curricula and continuing education courses. It should include students gaining practical experiences in social determinants of health through internships in rural areas where people have restricted access to oral health care (97). Moreover, dental students should acquire cultural competency and cultural humility skills to respectfully manage patients with diverse cultural backgrounds. It needs to be noted that cultural competence was incorporated in dental academic programs by the Commission on Dental Accreditation and the American Dental Education Association in 2010 (156).

Recommendation 3: Additionally, dentists should follow person-centered approaches with their patients, such as the *Montreal-Toulouse model* proposed by Bedos et al. (8), which involves holistic care. This model recommends that dentists understand, respect, give time, and share treatment plans with patients. It also advocates dentists to participate in the social prescription for their patients.

Recommendation 4: Dental staff members such as dentist, dental assistants, dental hygienists, receptionists should receive training in social prescription. Beynon et al. (151) while reporting social prescription initiatives in Bristol, England, recommended that to overcome challenges and remove cultural barriers, it was essential that all the stakeholders received training on social prescription.

Recommendation 5: Dental staff should be familiar with local community organizations to provide correct referrals to patients. Williams et al. (157) mentioned that dentists should collaborate with communities to comprehend and address social, financial, and contextual factors that affect oral health and exaggerate health disparities.

Recommendation 6: Given dentists are busy performing the acts they are paid for, Bedos et al. (158) proposed that by increasing the payment to an appropriate level for the treatment of people on social assistance, the limitation of time constraints of dentists for schemes such as social prescription can be managed.

6.8.4 D) Recommendations related to local community organizations

Recommendation: It is important to strengthen and support community organizations, which should receive better funding from the government. Having said that, some solutions can be worked out within community organizations to overcome financial challenges. For instance, in the City and Hackney, England, social prescription project, a nominal fee was charged for the services provided by the third sector to the service users. Moreover, Newham social prescribing formulated another approach: “payment by result,” to help community organizations with funding (135). In other situations, some social prescription schemes were financed by “public health money,” whereas few others used “social impact bonds” (13).

7. Conclusion

Social prescription requires the collaboration of dentists and local community organizations; therefore, our study was designed to recognize the perspectives of local community organizations about the necessity of social prescription in dentistry, their barriers and facilitators to implementing this scheme, and their principles of working with dentists.

The study revealed that community workers value social prescription in dentistry as it is a holistic, collaborative health approach that empowers people to take control of their health and tackle social determinants of health. They perceived it as particularly beneficial for specific groups of people, such as people using drugs, senior citizens, isolated people, and single parents. Community workers, however, perceived several barriers to its implementation, including dentists' lack of time, skills, and interest, patients' lack of belief in community organizations, and community organizations' lack of resources. Therefore, community workers expressed uncertainty in providing quality social prescription services to patients referred by dentists. Nevertheless, they envisioned a few facilitators, such as the existence of a functional referral system in community organizations, champions of the scheme, and a website to promote this scheme. They desired to work with dentists on the principles of mutual dialogue, democratic decision-making, consensus building, and a bilateral referral process whereby not only dentists could refer their patients to community organizations, but the latter too could refer their clients to dental clinics.

Our study revealed that since social prescription is a holistic health approach, and community partners are ready to partner in this scheme, we should consider implementing social prescription in dental and medical healthcare settings. To successfully implement it, though, we need to train dentists well but also inform and prepare patients to receive social prescriptions. We should also advocate for better funding of community organizations. Lastly, since social prescription requires collaboration of multiple stakeholders, further investigation is necessary from dentists and patients' perspectives for the successful implementation of social prescription in dental settings.

8. References

1. Bedos C, Apelian N, Vergnes JN. Social dentistry: an old heritage for a new professional approach. Br Dent J. 2018 Aug;225(4):357–62.

2. Bedos C, Apelian N, Vergnes JN. Time to Develop Social Dentistry. JDR Clin Transl Res. 2018 Jan;3(1):109–10.

3. Wilkinson R, Marmot M, Academic Search C. Social Determinants of Health: The Solid Facts. Geneva, Herndon: World Health Organization, Stylus Pub., LLC [distributor]; 2003.

4. Watt RG. From victim blaming to upstream action: tackling the social determinants of oral health inequalities. Community Dent Oral Epidemiol. 2007 Feb;35(1):1–11.

5. Apelian N, Vergnes JN, Bedos C. Humanizing clinical dentistry through a person-centred model. Int J Whole Pers Care. 2014;1(2).

6. Nowak DA, Mulligan K. Social prescribing: A call to action. Can Fam Physician Med Fam Can. 2021 Feb;67(2):88–91.

7. Link BG, Phelan J. Social Conditions As Fundamental Causes of Disease. J Health Soc Behav. 1995;80–94.

8. Bedos C, Apelian N, Vergnes JN. Towards a biopsychosocial approach in dentistry: the Montreal-Toulouse Model. Br Dent J. 2020 Mar;228(6):465–8.

9. Newsome PR, Wright GH. A review of patient satisfaction: 2. Dental patient satisfaction: an appraisal of recent literature. Br Dent J. 1999 Feb 27;186(4 Spec No):166–70.

10. South J, Higgins TJ, Woodall J, White SM. Can social prescribing provide the missing link? Prim Health Care Res Dev. 2008 Oct;9(04):310.

11. Morse DF, Sandhu S, Mulligan K, Tierney S, Polley M, Chiva Giurca B, et al. Global developments in social prescribing. BMJ Glob Health. 2022 May;7(5): e008524.

12. Brandling J, House W. Investigation into the feasibility of a social prescribing service in primary care: a pilot project. Bath UK Univ Bath Bath North East Somerset NHS Prim Care Trust. 2007.

13. Polley MJ, Fleming J, Anfilogoff T, Carpenter A. Making sense of social prescribing. University of Westminster; 2017.

14. Pescheny JV, Randhawa G, Pappas Y. The impact of social prescribing services on service users: a systematic review of the evidence. Eur J Public Health. 2020 Aug 1;30(4):664–73.

15. Mulligan K, Hsiung S, Bhatti S, Rehel J, Rayner J. Social prescribing in Ontario, final report. Toronto: Alliance for Healthier Communities. 2020.

16. Zittel-Palamara K, Fabiano JA, Davis EL, Waldrop DP, Wysocki JA, Goldberg LJ. Improving Patient Retention and Access to Oral Health Care: The CARES Program. J Dent Educ. 2005 Aug;69(8):912–8.

17. Pescheny J, Randhawa G, Pappas Y. Patient uptake and adherence to social prescribing: a qualitative study. BJGP open. 2018 Oct 1;2(3).

18. Petrosky M, Colaruotolo LA, Billings RJ, Meyerowitz C. The Integration of Social Work into a Postgraduate Dental Training Program: A Fifteen-Year Perspective. J Dent Educ. 2009 Jun;73(6):656–64.

19. Bertotti M, Frostick C, Hutt P, Sohanpal R, Carnes D. A realist evaluation of social prescribing: an exploration into the context and mechanisms underpinning a pathway linking primary care with the voluntary sector. Prim Health Care Res Dev. 2018 May;19(3):232–45.

20. Polley (Nee Lucey) M, Bertotti M, Kimberlee [2], Pilkington K, Refsum C. A review of the evidence assessing impact of social prescribing on healthcare demand and cost implications. 2017.

21. Drinkwater C, Wildman J, Moffatt S. Social prescribing. BMJ. 2019 Mar 28;364: l1285.

22. Flick K, Marchini L. The Interprofessional Role in Dental Caries Management. Dent Clin North Am. 2019 Oct;63(4):663–8.

23. Marmot M, Bell R. Social determinants and dental health. Adv Dent Res. 2011 May;23(2):201–6.

24. Andermann A. Taking action on the social determinants of health in clinical practice: a framework for health professionals. CMAJ. 2016 Dec 6;188(17–18): E474–83.

25. Penman-Aguilar A, Talih M, Huang D, Moonesinghe R, Bouye K, Beckles G. Measurement of Health Disparities, Health Inequities, and Social Determinants of Health to Support the Advancement of Health Equity. J Public Health Manag Pract JPHMP. 2016 Feb;22 Suppl 1: S33-42.

26. Marmot M. Fair society, healthy lives. Fair Soc Healthy Lives. 2013;1–74.

27. Mikkonen J, Raphael D. The Canadian facts. Toronto, ON: York University School of Health Policy and Management. 2010.

28. Webber M, Fendt-Newlin M. A review of social participation interventions for people with mental health problems. Soc Psychiatry Psychiatr Epidemiol. 2017; 52:369–80.

29. Tellez M, Zini A, Estupiñan-Day S. Social Determinants and Oral Health: An Update. Curr Oral Health Rep. 2014 Sep 1;1(3):148–52.

30. Baniasadi K, Armoon B, Higgs P, Bayat AH, Mohammadi Gharehghani MA, Hemmat M, et al. The Association of Oral Health Status and socio-economic determinants with Oral Health-

Related Quality of Life among the elderly: A systematic review and meta-analysis. Int J Dent Hyg. 2021;19(2):153–65.

31. Hajek A, Kretzler B, König HH. Oral Health, Loneliness and Social Isolation. A Systematic Review and Meta-Analysis. J Nutr Health Aging. 2022 ;26(7):675–80.

32. Fisher-Owens SA, Gansky SA, Platt LJ, Weintraub JA, Soobader MJ, Bramlett MD, et al. Influences on Children's Oral Health: A Conceptual Model. Pediatrics. 2007 Sep 1;120(3): e510–20.

33. Watt RG. Strategies and approaches in oral disease prevention and health promotion. Bull World Health Organ. 2005; 83:711–8.

34. Bingham P, Verlander NQ, Cheal MJ. John Snow, William Farr and the 1849 outbreak of cholera that affected London: a reworking of the data highlights the importance of the water supply. Public Health. 2004 Sep;118(6):387–94.

35. Egger G. Peer reviewed: in search of a germ theory equivalent for chronic disease. Preventing chronic disease. 2012;9.

36. Stineman MG, Streim JE. The Biopsycho-ecological Paradigm: A Foundational Theory for Medicine. PM&R. 2010 Nov;2(11):1035–45.

37. Borrell-Carrio F. The Biopsychosocial Model 25 Years Later: Principles, Practice, and Scientific Inquiry. Ann Fam Med. 2004 Nov 1;2(6):576–82.

38. George E, Engel L. The clinical application of the biopsychosocial model. American Journal of Psychiatry. 1980 May 5;137(5):535-44.

39. Anjum RL, Copeland S, Rocca E. Rethinking causality, complexity and evidence for the unique patient: a cause health resource for healthcare professionals and the clinical encounter. Springer Nature; 2020.

40. Engel GL. The Need for a New Medical Model: A Challenge for Biomedicine. 1977; 196:9.

41. Engebretsen KM. Suffering without a medical diagnosis. A critical view on the biomedical attitudes towards persons suffering from burnout and the implications for medical care. J Eval Clin Pract. 2018 Oct;24(5):1150–7.

42. Wade DT, Halligan PW. Do biomedical models of illness make for good healthcare systems? BMJ. 2004 Dec 11;329(7479):1398–401.

43. Rosenbaum P, Stewart D. The world health organization international classification of functioning, disability, and health: a model to guide clinical thinking, practice and research in the field of cerebral palsy. Semin Pediatr Neurol. 2004 Mar;11(1):5–10.

44. McKeown RE. The Epidemiologic Transition: Changing Patterns of Mortality and Population Dynamics. Am J Lifestyle Med. 2009 Jul;3(1_suppl):19S-26S.

45. Loomis D, Wing S. Is Molecular Epidemiology a Germ Theory for the End of the Twentieth Century? Int J Epidemiol. 1990;19(1):1–3.

46. Khatami S, MacEntee MI. Evolution of Clinical Reasoning in Dental Education. J Dent Educ. 2011 Mar;75(3):321–8.

47. Adams T. Dentistry and medical dominance. Soc Sci Med. 1999 Feb;48(3):407–20.

48. Clarke JK. On the bacterial factor in the etiology of dental caries. British Journal of experimental pathology. 1924 Jun;5(3):141.

49. Monajem S. Integration of oral health into primary health care: the role of dental hygienists and the WHO stewardship: Integration of oral health into primary health care. Int J Dent Hyg. 2006 Feb 1;4(1):47–51.

50. Mataki S. Patient-dentist relationship. Journal of Medical and dental sciences. 2000;47(4):209-14.

51. Goldstein BH. Unconventional Dentistry: Part II. Practitioners and Patients. J Can Dent Assoc. 2000;66(7):3.

52. Ghaemi SN. The rise and fall of the biopsychosocial model. Br J Psychiatry. 2009 Jul;195(1):3–4.

53. Fiocco AJ, Mallya S. Biopsychosocial Model. The Encyclopedia of Clinical Psychology. 2014 Dec 29:1-9.

54. Smith RC. The biopsychosocial revolution: Interviewing and provider-patient relationships becoming key issues for primary care. J Gen Intern Med. 2002 Apr;17(4):309–10.

55. Fava GA, Sonino N. The Biopsychosocial Model Thirty Years Later. Psychother Psychosom. 2008;77(1):1–2.

56. Engel GL. The clinical application of the biopsychosocial model. In: The Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine. Oxford University Press; 1981. p. 101–24.

57. Bolton D, Gillett G. The biopsychosocial model 40 years on. The biopsychosocial model of health and disease: New philosophical and scientific developments. 2019:1-43.

58. Smith RC, Fortin AH, Dwamena F, Frankel RM. An evidence-based patient-centered method makes the biopsychosocial model scientific. Patient Educ Couns. 2013 Jun;91(3):265–70.

59. Farre A, Rapley T. The New Old (and Old New) Medical Model: Four Decades Navigating the Biomedical and Psychosocial Understandings of Health and Illness. Healthcare. 2017 Nov 18;5(4):88.

60. Balint E. The possibilities of patient-centered medicine. The Journal of the Royal College of General Practitioners. 1969 May;17(82):269.

61. Wolfe A. Institute of Medicine Report: Crossing the Quality Chasm: A New Health Care System for the 21st Century. Policy Polit Nurs Pract. 2001 Aug;2(3):233–5.

62. Mead N, Bower P. Patient-centredness: a conceptual framework and review of the empirical literature. Soc Sci Med. 2000 Oct;51(7):1087–110.

63. Ekman I, Swedberg K, Taft C, Lindseth A, Norberg A, Brink E, et al. Person-Centered Care — Ready for Prime Time. Eur J Cardiovasc Nurs. 2011 Dec;10(4):248–51.

64. Walji MF, Karimbux NY, Spielman AI. Person-Centered Care: Opportunities and Challenges for Academic Dental Institutions and Programs. J Dent Educ. 2017 Nov;81(11):1265–72.

65. Mills I, Frost J, Kay E, Moles DR. Person-centred care in dentistry-the patients' perspective. Br Dent J. 2015;218(7):407–13.

66. Nowak MJ, Buchanan H, Asimakopoulou K. 'You have to treat the person, not the mouth only': UK dentists' perceptions of communication in patient consultations. Psychology, Health & Medicine. 2018 Jul 3;23(6):752-61.

67. Code of Ethics and Standards of Professional Conduct. J Public Health Dent. 1998;58(s1):123–4.

68. Corah NL, O'Shea RM, Ayer WA. Dentists' management of patients' fear and anxiety. J Am Dent Assoc 1939. 1985 May;110(5):734–6.

69. Corah NL, O'Shea RM, Bissell GD, Thines TJ, Mendola P. The dentist-patient relationship: perceived dentist behaviors that reduce patient anxiety and increase satisfaction. J Am Dent Assoc 1939. 1988 Jan 1;116(1):73–6.

70. Entwistle VA, Watt IS. Treating Patients as Persons: A Capabilities Approach to Support Delivery of Person-Centered Care. Am J Bioeth. 2013 Aug;13(8):29–39.

71. Pescheny JV, Pappas Y, Randhawa G. Facilitators and barriers of implementing and delivering social prescribing services: a systematic review. BMC Health Serv Res. 2018 Feb 7;18(1):86.

72. Torjesen I. Social prescribing could help alleviate pressure on GPs. BMJ. 2016 Mar 10;352:i1436.

73. Islam MM. Social Prescribing—An Effort to Apply a Common Knowledge: Impelling Forces and Challenges. Front Public Health. 2020 Nov 27; 8:515469.

74. Kimberlee R. What is social prescribing? Advances in Social Sciences Research Journal. 2015 Jan 1;2(1).

75. Alderwick HAJ, Gottlieb LM, Fichtenberg CM, Adler NE. Social Prescribing in the U.S. and England: Emerging Interventions to Address Patients' Social Needs. Am J Prev Med. 2018 May 1;54(5):715–8.

76. The King's Fund. What is social prescribing? [Internet]. 2020 [cited 2023 Jan 30]. Available from: https://www.kingsfund.org.uk/publications/social-prescribing.

77. Mulligan K, Hsiung S, Bhatti S, Rehel J, Rayner J, Armstrong S, Wong M. Rx: Community – Social Prescribing in Ontario, Progress Report: Alliance for Healthier Communities. 2019.

78. Bickerdike L, Booth A, Wilson PM, Farley K, Wright K. Social prescribing: less rhetoric and more reality. A systematic review of the evidence. BMJ Open. 2017 Apr;7(4): e013384.

79. Todd C, Camic PM, Lockyer B, Thomson LJM, Chatterjee HJ. Museum-based programs for socially isolated older adults: Understanding what works. Health Place. 2017 Nov; 48:47–55.

80. Reinhardt GY, Vidovic D, Hammerton C. Understanding loneliness: a systematic review of the impact of social prescribing initiatives on loneliness. Perspect Public Health. 2021 Jul;141(4):204–13.

81. EClinicalMedicine. Social prescribing: addressing societies holistic health-care needs. eClinicalMedicine. 2021 Dec; 42:101243.

82. Permanente K. Kaiser Permanente Launches Social Health Network to Address Social Needs on a Broad Scale [Internet]. [cited 2022 Aug 17]. Available from: https://www.prnewswire.com/news-releases/kaiser-permanente-launches-social-healthnetwork- to-address-social-needs-on-a-broad-scale-300844069.html.

83. NewsGP. Social prescribing: Has the time come for this idea? [Internet]. [cited 2022 Aug 17] Available from: https://www1.racgp.org.au/newsgp/clinical/social-prescribing-has-the-timecome-for-this-idea.

84. Jensen A, Stickley T, Torrissen W, Stigmar K. Arts on prescription in Scandinavia: a review of current practice and future possibilities. Perspect Public Health. 2017 Sep;137(5):268–74.

85. Heijnders ML, Meijs JJ. "Welzijn op Recept" (Social Prescribing): a helping hand in re-establishing social contacts - an explorative qualitative study. Prim Health Care Res Dev. 2018 May;19(3):223–31.

86. Hoffmeister LV, Nunes MF, Figueiredo CEM, Coelho A, Oliveira MFF, Massano P, et al. Evaluation of the Impact and Implementation of Social Prescribing in Primary Healthcare Units in Lisbon: A Mixed-Methods Study Protocol. Int J Integr Care. 2021 Jun 21;21(2):26.

87. Social Prescribing - What Is That? Lifeweavers Integrated Therapy Co. 2020 [Internet] [cited 2022 Aug 17]. Available from: https://lifeweavers.org/what-is-social-prescribing/

88. Calderón-Larrañaga S, Milner Y, Clinch M, Greenhalgh T, Finer S. Tensions and opportunities in social prescribing. Developing a framework to facilitate its implementation and evaluation in primary care: a realist review. BJGP open. 2021 Jun 1;5(3).

89. Frohlich KL, Potvin L. Transcending the Known in Public Health Practice: The Inequality Paradox: The Population Approach and Vulnerable Populations. Am J Public Health. 2008 Feb;98(2):216–21.

90. Vidovic D, Reinhardt GY, Hammerton C. Can Social Prescribing Foster Individual and Community Well-Being? A Systematic Review of the Evidence. Int J Environ Res Public Health. 2021 May 15;18(10):5276.

91. Grant C. A randomised controlled trial and economic evaluation of a referrals facilitator between primary care and the voluntary sector. BMJ. 2000 Feb 12;320(7232):419–23.

92. Maughan DL, Patel A, Parveen T, Braithwaite I, Cook J, Lillywhite R, et al. Primary-care-based social prescribing for mental health: an analysis of financial and environmental sustainability. Prim Health Care Res Dev. 2016 Mar;17(2):114–21.

93. Bloch G, Rozmovits L. Implementing social interventions in primary care. CMAJ. 2021 Nov 8;193(44): E1696–701.

94. Loignon C, Landry A, Allison P, Richard L, Bedos C. How Do Dentists Perceive Poverty and People on Social Assistance? A Qualitative Study Conducted in Montreal, Canada. J Dent Educ. 2012 May;76(5):545–52.

95. Lyons S, Schrader S, Galyean E, Romito L, Everidge C, Smith M, et al. A Collaborative Assessment of Barriers to Oral Health Care: Are Social Workers Needed? Adv Soc Work. 2021 Jun 14;21(1):115–34.

96. Classman P, Brody H, Olvarado J, Haikalis S. The role of a social worker in a hospital dental department. Spec Care Dentist. 1987 Nov;7(6):264–6.

97. Sabato E, Owens J, Mauro AM, Findley P, Lamba S, Fenesy K. Integrating social determinants of health into dental curricula: an interprofessional approach. Journal of dental education. 2018 Mar;82(3):237-45.

98. Marshall SE, Cheng B, Northridge ME, Kunzel C, Huang C, Lamster IB. Integrating Oral and General Health Screening at Senior Centers for Minority Elders. Am J Public Health. 2013 Jun;103(6):1022–5.

99. Stebbins RA. Exploratory research in the social sciences. Sage; 2001 May 14.

100. Reid-Searl K, Happell B. Supervising nursing students administering medication: a perspective from registered nurses. J Clin Nurs. 2012 Jul;21(13–14):1998–2005.

101. Sandelowski M. Whatever happened to qualitative description? Res Nurs Health. 2000 Aug;23(4):334–40.

102. Neergaard MA, Olesen F, Andersen RS, Sondergaard J. Qualitative description – the poor cousin of health research? BMC Med Res Methodol. 2009 Jul 16;9(1):52.

103. Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. Implement Sci. 2009 Aug 7;4(1):50.

104. Nilsen P. Making sense of implementation theories, models and frameworks. Implement Sci. 2015 Apr 21;10(1):53.

105. Keith RE, Crosson JC, O'Malley AS, Cromp D, Taylor EF. Using the Consolidated Framework for Implementation Research (CFIR) to produce actionable findings: a rapid-cycle evaluation approach to improving implementation. Implement Sci. 2017 Feb 10;12(1):15.

106. Agulnik A, Ferrara G, Puerto-Torres M, Gillipelli SR, Elish P, Muniz-Talavera H, et al. Assessment of Barriers and Enablers to Implementation of a Pediatric Early Warning System in Resource-Limited Settings. JAMA Netw Open. 2022 Mar 1;5(3):e221547.

107. Patton MQ. Qualitative research & evaluation methods: Integrating theory and practice. Sage publications; 2014 Oct 29. 108. Thorogood N, Green J. Qualitative methods for health research. 2018:1-440.

109. Creswell JW, Miller DL. Determining Validity in Qualitative Inquiry. Theory Pract. 2000 Aug 1;39(3):124–30.

110. Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006 Jan 1;3(2):77–101.

111. Maguire M, Delahunt B. Doing a thematic analysis: A practical, step-by-step guide for learning and teaching scholars. All Ireland Journal of Higher Education. 2017 Oct 31;9(3).

112. Miles MB, Huberman AM. Qualitative data analysis: An expanded sourcebook. sage; 1994.

113. Community Development – Eva Marsden Centre [Internet]. [cited 2023 Aug 11]. Available from: https://emcmtl.org/community-development/

114. Giddon DB, Swann B, Donoff RB, Hertzman-Miller R. Dentists as oral physicians: the overlooked primary health care resource. J Prim Prev. 2013; 34:279–91.

115. Lamster IB, Wolf DL. Primary health care assessment and intervention in the dental office. J Periodontol. 2008;79(10):1825–32.

116. Homa F, Jacqueline R, Christophe B. Moving towards social dentistry: How do dentists perceive the Montreal-Toulouse model? Community Dentistry and Oral Epidemiology. 2023 Apr 12.

117. Kimberlee R. Developing a social prescribing approach for Bristol. Bristol CCG. 2013 Oct 1.

118. Tomaka J, Thompson S, Palacios R. The relation of social isolation, loneliness, and social support to disease outcomes among the elderly. J Aging Health. 2006;18(3):359–84.

119. Promoting the role of voluntary organizations and foundations in Europe. 2006. [Internet]. [cited 2023 May 20] Available from: https://eur-lex.europa.eu/EN/legalcontent/summary/promoting-the-role-of-voluntary-organisations-and-foundations-ineurope. html.

120. Dayson C, Bashir N, Pearson S. From dependence to independence: emerging lessons from the Rotherham Social Prescribing Pilot. 2013.

121. Younan HC, Junghans C, Harris M, Majeed A, Gnani S. Maximising the impact of social prescribing on population health in the era of COVID-19. J R Soc Med. 2020 Oct 1;113(10):377–82.

122. Chatterjee HJ, Camic PM, Lockyer B, Thomson LJM. Non-clinical community interventions: a systematised review of social prescribing schemes. Arts Health. 2018 May 4;10(2):97–123.

123. Dharamsi S, Pratt D, MacEntee M. How Dentists Account for Social Responsibility: Economic Imperatives and Professional Obligations. J Dent Educ. 2008 Jan 1; 71:1583–92.

124. Bertolami CN. Why Our Ethics Curricula Don't Work. J Dent Educ. 2004;68(4):414–25.

125. Pegon-Machat E, Tubert-Jeannin S, Loignon C, Landry A, Bedos C. Dentists' experience with low-income patients benefiting from a public insurance program. Eur J Oral Sci. 2009;117(4):398–406.

126. Lee M, Ihm J. Empathy and attitude toward communication skill learning as a predictor of patient-centered attitude: a cross-sectional study of dental students in Korea. BMC Med Educ. 2021 Apr 21;21(1):225.

127. Hurley EA, Doumbia S, Kennedy CE, Winch PJ, Roter DL, Murray SM, et al. Patient-centred attitudes among medical students in Mali, West Africa: a cross-sectional study. BMJ Open. 2018 Jan 23;8(1): e019224.

128. Eriksen HM, Bergdahl J, Bergdahl M. A patient-centred approach to teaching and learning in dental student clinical practice. Eur J Dent Educ. 2008 ;12(3) :170–5.

129. Bedos C, Apelian N, Vergnes JN. What should people expect from person-centred dental visits? The Montreal-Toulouse Wheel of expectations. Br Dent J. 2021 Aug;231(4):249–53.

130. Gross DA, Zyzanski SJ, Borawski EA, Cebul RD, Stange KC. Patient satisfaction with time spent with their physician. Journal of Family Practice. 1998 Aug 1;47(2):133-8.

131. Apelian N, Vergnes JN, Bedos C. Is the dental profession ready for person-centred care? Br Dent J. 2020 Jul;229(2):133–7.

132. Kaufman C. Ideas for Action: Relevant Theory for Radical Change. PM Press; 2016. 440 p.

133. Jacquot J. Trust in the dentist-patient relationship: a review. Journal of young investigators. 2005 Jun 1.

134. Drossman DA. Functional GI Disorders: What's in a Name? Gastroenterology. 2005 Jun;128(7):1771–2.

135. Bertotti M, Frostick C, Findlay G, Harden A, Netuveli G, Renton A, Carnes D, Sohanpal R, Hull S. Shine 2014 Final Report: Social Prescribing: integrating GP and Community Assets for Health. The Health Foundation. 2015.

136. Grabowski L, Neher C, Crim T, Mathiassen L. Competing Values Framework Application to Organizational Effectiveness in Voluntary Organizations: A Case Study. Nonprofit Volunt Sect Q. 2015 Oct 1;44(5):908–23.

137. Schneider JA. Organizational Social Capital and Nonprofits. Nonprofit Volunt Sect Q. 2009 Aug 1;38(4):643–62.

138. Miech EJ, Rattray NA, Flanagan ME, Damschroder L, Schmid AA, Damush TM. Inside help: an integrative review of champions in healthcare-related implementation. SAGE Open Med. 2018; 6:2050312118773261.

139. Farenden C, Mitchell C, Feast S, Verdenicci S. Community navigation in Brighton & Hove. Evaluation of a social prescribing pilot. Brighton & Hove Impetus. 2015 Nov.

140. Age UK. Social prescribing. A model for partnership working between primary care and the voluntary sector. Age Concern Yorks Humber Bradf. 2011.

141. Edmonds N. Communities on prescription? Primary care and the voluntary sector working together in practice. J Public Ment Health. 2003 Dec 1; 2:11–3.

142. Keenaghan C, Sweeney J, McGowan B. The development of best practice information and guidance on Social Prescribing for Primary Care Teams. 2012.

143. Lesaffre E. Statistical and methodological aspects of oral health research. John Wiley & Sons; 2009 Mar 9.

144. Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. Qual Quant. 2018 Jul;52(4):1893–907.

145. Raemer D, Anderson M, Cheng A, Fanning R, Nadkarni V, Savoldelli G. Research Regarding Debriefing as Part of the Learning Process. Simul Healthc. 2011 Aug;6(7): S52.

146. Spall S. Peer Debriefing in Qualitative Research: Emerging Operational Models. Qual Inq. 1998 Jun 1;4(2):280–92.

147. Daley BJ. Using concept maps in qualitative research. 2004.

148. Ohta R, Maiguma K, Yata A, Sano C. A solution for loneliness in rural populations: The effects of Osekkai Conferences during the COVID-19 pandemic. Int J Environ Res Public Health. 2022;19(9):5054.

149. Gottlieb L, Cottrell EK, Park B, Clark KD, Gold R, Fichtenberg C. Advancing social prescribing with implementation science. J Am Board Fam Med. 2018;31(3):315–21.

150. Anderst A, Hunter K, Andersen M, Walker N, Coombes J, Raman S, et al. Screening and social prescribing in healthcare and social services to address housing issues among children and families: a systematic review. BMJ Open. 2022;12(4): e054338.

151. Beynon P, Burdis G, Hoadley J, Jensen A, Beardmore A, Jones M. Bristol Ageing Better Community Navigators Service: Final Evaluation Report of a Social Prescribing Initiative Addressing Loneliness and Social Isolation Amongst Older People. Bristol Ageing Better Community Bristol UK. 2020.

152. Sherman JJ, Cramer A. Measurement of Changes in Empathy During Dental School. J Dent Educ. 2005;69(3):338–45.

153. Wear D, Kuczewski MG. Perspective: Medical Students' Perceptions of the Poor: What Impact Can Medical Education Have? Acad Med. 2008 Jul;83(7):639.

154. Mitchell DA, Lassiter SL. Addressing Health Care Disparities and Increasing Workforce Diversity: The Next Step for the Dental, Medical, and Public Health Professions. Am J Public Health. 2006 Dec;96(12):2093–7.

155. Andersen RM, Davidson PL. Introduction to the Evaluating the Dental Pipeline Program Report. J Dent Educ. 2009 Feb;73: S10–4.

156. Goodman XY, Nugent RL. Teaching cultural competence and cultural humility in dental medicine. Med Ref Serv Q. 2020;39(4):309–22.

157. Institute of Health Equity [Internet]. [cited 2023 Jun 3]. Working for Health Equity: The Role of Health Professionals. Available from: https://www.instituteofhealthequity.org/resources-reports/working-for-health-equity-the-role-of-health-professionals

158. Bedos C, Loignon C, Landry A, Richard L, Allison PJ. Providing care to people on social assistance: how dentists in Montreal, Canada, respond to organisational, biomedical, and financial challenges. BMC Health Serv Res. 2014 Oct 10;14:472.

9. Appendices

9.1 Appendix 1: The interview guide

(Virtual interview)

Hello, my name is Maneet Kaur, and I am a graduate student at McGill University, Faculty of Dentistry. I would like to thank you for taking the time to meet and discuss with me online today. As you know, my goal is to know what people of local community organizations think about the implementation of social prescription at the undergraduate dental clinic of McGill. I need to confirm a few things with you before we get started. I know you have read the consent form and agreed to participate in the interview, yet, if you have any questions regarding the research or the interview, please feel free to ask me. I will be happy to explain it to you.

(In- person interview)

Hello, my name is Maneet Kaur, and I am a graduate student at McGill University, Faculty of Dentistry. I would like to thank you for taking the time to meet and discuss with me. As you know, my goal is to know what people of local community organizations think about the implementation of social prescription at the undergraduate dental clinic of McGill. I need to confirm a few things with you before we get started. I know you have read the consent form and agreed to participate in the interview, yet, if you have any questions regarding the research or the interview, please feel free to ask me. I will be happy to explain it to you.

INNER SETTING: Can you please describe your organization?		
Structural characteristics	The process of working/management in the local voluntary organization.	1. Could you please tell me briefly about the history of your organization? 2. What is the mandate and the vision of your organization? What kinds of services does it offer? (And to whom?)

		3. How does your organization function? (Who works here? Who takes the decisions?) 4. Could you please tell me about the resources you have, to run your organization? (How is it funded?)
Thank you very much. Now, I would like to discuss about social prescription, and about our project (and the way it may fit with your organization)		
CHARACTERISTICS OF INDIVIDUALS		
Knowledge & beliefs about the intervention	Knowledge and approach of people of the organization towards social prescription.	Could you introduce yourself and tell me about your role in this organization?
		Could you please tell me what you know about social prescription?
		What do you think of the initiative of McGill faculty of dentistry developing a social prescription model? (Why do you think McGill wants to implement this?)
		How do you envision a partnership with McGill faculty of dentistry related to Social Prescription?

		(According to you, would this be pertinent?)
INTERVENTION CHARACTERISTICS		
Complexity	This can be measured by "lengths"- number of steps involved and "breadth"- number of options given at decision points. Complexity increases with increase in number of stakeholders and kind of people (patients, doctors) targeted by social prescription. Type of services users Referral system Type of services	Concretely, according to you, how would social prescription function in your organization? Follow-up questions: a. Which people/beneficiaries? b. Which steps? What kind of procedures? (Who would be involved with the patients and the dentists?) c. What kind of services? d. Communications. e. Outcomes?
		What do you think would be the main barriers of your organization in delivering the service? Follow-up questions: - in terms of financial resources? - in terms of human resources? - in terms of your organization?

		What barriers will the service do you think the users may face while using social prescription service?
INNER SETTING		
Implementation Climate	The extend of receptivity, encouragement, support for social prescription by the people within the organization.	Have you talked to other people in your organization about social prescription? What was their reaction?
		How does social prescription fit with the values of your organization?
		What could be the benefits of this partnership for your organizations?
INTERVENTION CHARACTERISTICS		
Adaptability	The level to which the social prescription model can be adapted or modified to meet the organization's characteristics.	Would you like to introduce other modifications to make social prescription more suitable for your organization?
PROCESS		

Planning	The strategy to implement social prescription is planned.	Could you please tell, what is your plan of action to implement social prescription in your organization?

- As we wrap up the interview, do you have any suggestions for the project in itself? Advice about how to implement social prescription in dental schools in general.
- Do you have anything to add? Anything that I have not addressed and that you find important? If you want to add something even after few days, you can contact me.
- Am I allowed to contact you again in the future if I need further clarification or have problem with transcription?
- Would you like me to send you a summary of what we have discussed today to check if I got it right?
- If you would like to add anything in the future, please feel free to contact me. Thank you once again, for participating in this interview.

9.2 Appendix 2: Informed consent form

Faculty of Dental medicine and oral health sciences **McGill University** **2001 McGill college Ave, Rm 529 Montreal, QC, CANADA H3A 1G1**	**Tel. # (514) 398-7203 Ext.0129** **Fax # (514) 398-8242** **E-mail: christophe.bedos@mcgill.ca**	**Faculté de médecine dentaire et des sciences de la santé buccodentaire** **Université McGill** **2001, av. McGill college, bureau 529 Montréal, QC, CANADA H3A 1G1**

Title of the study: Social prescription in dentistry: the perspective of potential community partners.

Researchers:

Principal Investigator: Dr. Christophe Bedos, DDS, PhD, Associate Professor, Faculty of Dental Medicine and Oral Health Sciences, McGill University.

Student Investigator: Dr. Maneet Kaur, DDS, Faculty of Dental Medicine and Oral Health Sciences, McGill University.

Introduction:

I (Maneet Kaur) invite you to take part in the research project. Before you decide, please read this consent form carefully: it describes the purpose of this study, the nature of your participation and highlights your rights. If you have any additional questions, please discuss with one of our researchers. You can also discuss with your friends and family members to get their advice.

Participation in this study is voluntary. You can withdraw your consent at any time. If you decide to take part in this study, you will be asked to sign this consent form. You will receive a copy of this consent form to keep.

Purpose of the Research:

The objective of my research is to explore the perspectives of local community organizations with respect to the implementation of a social prescribing scheme in the undergraduate dental clinic of McGill University.

Study procedures:

I anticipate conducting individual interviews with 10-15 members of local community organizations from the Montreal. Upon your agreement, the research procedure will follow as described below:

1. I (Maneet Kaur) will interview you about your perspectives on the Social Prescription scheme.
2. If the COVID – 19 crisis resolves, the interview could take place either in local community organization, or in a public place of your choice, as long as it is quiet and allows a confidential discussion. If an interview "in-person' is not possible, I will propose to organize a "virtual" interview; To do so, Zoom, Facetime, or Skype, can be used while sitting in a quiet room.
3. You will choose the interview time based on your convenience.
4. The interview will be in English and last approximately 60 minutes. If you find the interview too long, I will offer to split it in two parts at your convenience.
5. With your permission, the interview will be digitally recorded, transcribed, and then analyzed.
6. You will be free to ask the interviewer to stop recording if you feel uncomfortable or need a break.
7. You will be free to refrain from answering any questions that make you uncomfortable.

Possible risks:

There is a little or no risk associated with the interview, mainly because your participation simply consists of talking with me (Maneet Kaur). However, some of the questions or subjects during the interview might be uncomfortable for you to respond to or cause discomfort. If this happens, I will offer you to pause or stop the interview. You could also withdraw your decision to participate at any point, before or during the interview.

Potential benefits:

Through your participation, you will have an opportunity to share your views and opinions on the study subject. On a broader scale, however, you will contribute to the development and the implementation of social prescription model in undergraduate dental clinic of McGill University and interested dental and medical schools worldwide.

Confidentiality:

Your personal information will remain completely confidential, as I (Maneet Kaur) will replace your name with codes/numbers. In addition, I will omit any phrases/comments in the interview that could potentially disclose your identity. I will delete the digital recordings from the cloud space of Zoom, Facetime or Skype immediately after the interview. I will transcribe the interview verbatim and analyze it later. The transcribed interviews will not contain any names (all names will be removed to make them anonymous). All the digital recordings, written transcriptions and their later analysis will be stored on McGill University's OneDrive network (developed by Microsoft), which is password secured. The members of the research team will have access to this OneDrive file. After the student investigator's graduation, the anonymized transcripts will be transferred to Dr. Christophe Bedos's OneDrive account. This database will be destroyed after seven years, according to the University's policy. Consent forms will be transferred to a locked filing cabinet in a designated secure location in McGill University, accessible only to Dr. Christophe Bedos. If I paper-print the anonymized transcripts for analysis purposes, I will destroy them after the study is finalized; meanwhile, I will keep them in a locked cabinet at my house, accessible only to me. I will use the results of this study to develop my master's thesis. These results will also be published in scientific journals and national/international conferences. This said, the anonymity of your information will be assured all the time using the measures mentioned before, therefore, the readers and conference attendees will not be able to recognize your identity.

Please be informed that a representative of the McGill Institutional Review Board, or a person designated by this Board, may access the study data to ascertain its ethical conduct.

Compensation:

You will not receive compensation for participating in this study.

Contact Information for questions about the study:

- Dr. Maneet Kaur: MSc Dental Science Student, McGill University, Faculty of Dental Medicine and Oral Health Sciences, 2001 Ave McGill College, Montreal, QC, H3A 1G1. Tel: 438-728-6429.

  Email: maneet.kaur@mail.mcgill.ca

- Dr. Christophe Bedos: Associate Professor, McGill University, Faculty of Dental Medicine and Oral Health Sciences, 2001 Ave McGill College, Montreal, QC, H3A 1G1. Tel: 514-398-7203 ext. 0129#

  Email: christophe.bedos1@mcgill.ca

Contact information for questions about your legal rights:

For further questions or concerns regarding your rights or welfare as a participant in this study, you could contact:

- Ms. Ilde Lepore: Ethics Officer for the McGill Institutional Review Board, McGill University, Faculty of Medicine, McIntyre Building, #633-3655 Promenade Sir William Osler, Montreal, Quebec H3G 1Y6. Tel: (514) 398-8302.

  Email: ilde.lepore@mcgill.ca

CONSENT:

Please mark your choice in one of the following boxes:

I agree to be interviewed: YES ☐ NO ☐

I agree to be digitally recorded via zoom: YES ☐ NO ☐

Please confirm the following statement by signing in the blank space. You should know that by signing this consent form, you are not giving up any of your legal rights.

I have fully read and understood the information in this consent form. By signing this form, I agree to participate in the mentioned study under the conditions highlighted in above sections.

Name of the participant: ……. Date: ……

Signature of the participant: ……

Person who obtained consent: ……. Date: ……

Signature of person who obtained consent: ……

9.3 Appendix 3: The McGill University IRB approval

McGill | Faculty of Medicine and Health Sciences | Faculté de médecine et des sciences de la santé

3655 Promenade Sir William Osler #633
Montreal, QC H3G 1Y6

3655, Promenade Sir William Osler #633
Montréal, QC H3G 1Y6

T: (514) 398-3124

March 10, 2022

Dr. Christophe Bedos
Faculty of Dentistry
2001 avenue McGill-College
Montreal QC H3A 1G1

eRAP/Info-Ed File Number: **22-03-050** **IRB Internal Study Number: A03-B30-22A**

Study Title: *Social prescription in dentistry: the perspective of potential community partners*

McGill Principal Investigator: Christophe Bedos, DDS, PhD

McGill Student Investigator: Maneet Kaur, DDS

Dear Dr. Bedos,

Thank you for submitting the above-referenced study for an ethics review, on behalf of your Master's student, Maneet Kaur.

As this study involves no more than minimal risk, and in accordance with Articles 2.9 and 6.12 of the 2nd Edition of the Canadian Tri-Council Policy Statement of Ethical Conduct for Research Involving Humans (TCPS 2 2018) and U.S. Title 45 CFR 46, Section 110 (b), paragraph (1), we are pleased to inform you that an expedited/delegated review was conducted and ethics approval for the study is provided 10-Mar-2022, valid until **09-Mar-2023**. The study proposal will be presented for corroborative approval at the next meeting of the Committee.

The following documents were reviewed and approved:

- Study protocol and instruments (IRB dated February 24, 2022)
- Consent form and invitation email (IRB dated February 24, 2022)

The Faculty of Medicine and Health Sciences Institutional Review Board (IRB) is a registered University Research Ethics Board working under the published guidelines of the Tri-Council Policy Statement 2, in compliance with the Cadre de référence en recherche avec des participants humains (MSSS, 2020), and the Food and Drugs Act (17 June 2001); and acts in accordance with the U.S. Code of Federal Regulations that govern research on human subjects (**FWA 00004545**). The IRB working procedures are consistent with internationally accepted principles of good clinical practice.

The Principal Investigator is required to immediately notify the Institutional Review Board Office, via

amendment or progress report, of:

- Any significant changes to the research project and the reason for that change, including an indication of ethical implications (if any);
- Serious Adverse Effects experienced by participants and the action taken to address those effects;
- Any other unforeseen events or unanticipated developments that merit notification;
- The inability of the Principal Investigator to continue in her/his role, or any other change in research personnel involved in the project;
- A delay of more than 12 months in the commencement of the research project, and;
- Termination or closure of the research project.

The Principal Investigator is required to submit an annual progress report (continuing review application) on the anniversary of the date of the initial approval (or see the date of expiration).

The Faculty of Medicine and Health Sciences IRB may conduct an audit of the research project at any time.

If the research project involves multiple study sites, the Principal Investigator is required to report all IRB approvals and approved study documents to the appropriate Research Ethics Office (REO) or delegated authority for the participating study sites. Appropriate authorization from each study site must be obtained before the study recruitment and/or testing can begin at that site. Research funds linked to this research project may be withheld and/or the study data may be revoked if the Principal Investigator fails to comply with this requirement. A copy of the study site authorization should be submitted the IRB Office.

It is the Principal Investigator's responsibility to ensure that all researchers associated with this project are aware of the conditions of approval and which documents have been approved.

The McGill IRB wishes you and your colleagues every success in your research.

Sincerely,

Roberta Palmour, PhD
Chair
Institutional Review Board

cc: Maneet Kaur, DDS
Sylvain Baillet, PhD, Associate Dean, Medicine Research
Svetlana Komarova, PhD, Associate Dean, Dentistry Research
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