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## Gay Men's Sexual Health Promotion in Virtual Space

Exploring Stakeholders' Attitudes  
and Approaches to Outreach on  
Mobile Apps in Nova Scotia

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# Gay Men's Sexual Health Promotion in Virtual Space: Exploring Stakeholders' Attitudes and Approaches to Outreach on Mobile Apps in Nova Scotia

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*Abstract: HIV infections are still a concern for many gay men in Canada despite prevention efforts. Social networking applications (SNAs) have predominantly been where gay men meet for sexual encounters. Grindr is the most common app used, which is a GPS-enabled SNA that was released in 2009. In Nova Scotia, there is a culture of silence in the gay community surrounding HIV/AIDS discourses. It is suggested that the perspective of professional stakeholders in sexually transmitted and blood borne infections (STBBI) prevention is needed to enhance prevention efforts. The purpose of this qualitative study is to explore the perspectives of service providers regarding STBBI risk on one SNA for gay men. Key stakeholders in this current study were sexual health service providers working in Nova Scotia. Four stakeholders were interviewed as part of a larger study. Secondary thematic analysis was employed to examine this data for this research project. The interviewed stakeholders experienced outreach challenges because of the "changed landscape" of online partner finding. Stakeholders have an interest in accessing these spaces for prevention and suggest that online forums such as Grindr can be used for sexual health prevention aimed at gay men. Further, leaders in the gay men's community may be able to help service providers understand the implications and potential contributions of sexual health promotion efforts.*

*Keywords: Gay Men, Canada, Sexual Health Promotion, HIV Prevention, Social Networking Applications, Grindr*

## Introduction

Gay men have experienced marginalization and discrimination based on their sexuality, behaviour, and HIV status (Smit et al. 2012). Stigma has the potential to affect many areas of gay men's lives, such as their intimate relationships, social lives, physical health, and emotional health (Brown et al. 2017; Chong et al. 2017; Smit et al. 2012). Since the HIV/AIDS epidemic during the 1980s, the health discourse surrounding HIV/AIDS has been closely associated with gay men (Andrew-Robinson 2014). In Canada, despite prevention efforts resulting from this crisis, gay, bisexual, and other men who have sex with men (MSM) account for approximately half of new HIV infections (Lachowsky et al. 2016). There has been a decrease in HIV-related concerns and an increase in a culture of condomless sex among gay men, often attributed to advancements in HIV prevention technologies and improved anti-retroviral treatments (Balán et al. 2012). Attitudes towards gay men's sexual health are directly impacted by stigmatizing HIV discourse, which impedes efforts related to prevention, testing, and treatment.

In Nova Scotia, there are few opportunities to access interventions regarding sexual health for gay men. There is also a culture of silence in the gay community surrounding HIV/AIDS (Lewis 2015). As of 2011, Public Health Division of the Nova Scotia Health Authority (Central Zone) in Halifax reported a 3458.3 percent increase in syphilis infection since 2002 (D'Angelo-

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Scott 2014). The culture of silence, the introduction of virtual space for partner finding, and rising rates in the Central Zone in Nova Scotia indicate the need for improved prevention efforts aimed at gay men in Nova Scotia (Numer 2015).

Mobile “apps” or social networking applications (defined by the acronym SNA) are changing the lives of gay men, including the way they meet for sexual encounters (Ahlm 2017; Jaspal 2017; Jenkins-Hall et al. 2017; Race 2015; Wu and Ward 2018). There are many apps available for gay men to use, including Grindr, Scruff, and Tinder (Anzani, Sarno, and Prunas 2018; Badal et al. 2018; Chan et al. 2018). In one study of men in Rhode Island, SNAs were significantly associated with sexually transmitted infection (STI) diagnoses among men who have sex with men, with Grindr being the most common SNA used by these men (Chan et al. 2018). Grindr is a GPS-enabled SNA released in 2009 for the purpose of connecting men in close vicinity to each other (Gudelunas 2012). D’Angelo-Scott (2014) suggests that the high rates of STIs in Nova Scotia are associated with the use of SNAs. Considering the increasing rates of sexual infections in Nova Scotia and the popularity of mobile apps, prevention efforts need to be examined and enhanced. To do this, the perspectives of health practitioners and professional stakeholders in HIV and other sexually transmitted and blood borne infections (STBBI) prevention need to be explored and understood to design and adequately equip sexual health service providers with the resources they need to promote gay men’s sexual health.

This research recognizes the complexity of the identities that surround gay men and includes gay, bisexual, trans-men and other men who have sex with men. For the sake of expediency, we will refer to gay, bisexual and other men who have sex with men as “gay men.” We do so because the term “MSM” has been widely criticized for depoliticizing the social and historical conditions associated with gay men (Young and Meyer 2005). We opt for this term to signify the importance of the history, culture, and discourse that affects gay identities but recognize the term as inclusive of all people who identify as men and have sex with other men. This phrasing was also applied for the inclusion criteria for the study.

## Literature Review

The following review of the literature will highlight three main themes that pertain to gay men’s sexual health promotion in online space: culture of silence and risk-taking behaviour, social networking applications (SNAs), and services in Nova Scotia. These three themes were selected based on the unique experience that service providers in the Halifax region face. There are few services available in Nova Scotia that may be derived from cultural stigma surrounding HIV and gay men, and there is little existing data about the use of SNAs for gay men in this specific setting.

### *Culture of Silence and Risk-taking Behaviour*

Despite years of interventions and health strategies targeted at the gay men’s community, HIV-positive men still experience adverse risk factors in comparison to HIV-negative men (Weber et al. 2001). Public Health’s guidelines for gay men can put them at risk of being “othered” if they choose to act outside of what is defined for them (Andrew Robinson 2014). This feeling of marginalization may discourage gay men from accessing sexual health services as well as their willingness to disclose their health with other people. The stigma and discrimination attached to HIV have been associated with risk-taking behaviours (Smit et al. 2012), and concern with HIV and the perceived status of one’s partner does not necessarily account for other sexually transmitted infections, such as syphilis. The culture of silence in Nova Scotia surrounding HIV/AIDS and other STBBIs creates a culture of risk where there may be little to no communication of sexual health between gay men (Lewis 2015). This environment could also impact communication with practitioners who work in sexual health prevention. If gay men are

not accustomed to communicating with each other, it is unlikely that they will be comfortable communicating with health professionals.

In addition to riskier behaviours, the stigma surrounding gay men and “gay” more broadly can extend into multiple aspects of men’s lives. A combination of sexual orientation and HIV status can present adverse challenges for the quality of life within the community of gay men (Slater et al. 2013). Gay men living with HIV respond well to emotional and informational support surrounding HIV (Slater et al. 2013); however, the effectiveness of such interventions is challenged by the introduction of technology and virtual space, particularly in relation to SNAs (Liau, Millett, and Marks 2006).

### *Social Networking Applications*

Advancements in technology have provided new opportunities for partner finding. Gay men who utilize this technology are utilizing geo-social networking applications such as Grindr to locate nearby men for potential sexual partnerships (Ii et al. 2014). A study conducted by Young, Szekeres, and Coates (2013) examined the use of social networking websites and sexual behaviour. It was found that those who used social technologies for partner seeking were more likely to engage in riskier sexual behaviours (Young, Szekeres, and Coates 2013). Further, SNAs are creating new spaces to meet partners, virtual spaces that exist outside of the physical world (Wu and Ward 2018). Some researchers suggest the role of the physical gay community is diminishing and attribute it to the increasing presence and occupation of virtual worlds (Simon-Rosser, West, and Weinmeyer 2008; Zablotska, Holt, and Prestage 2012). Emerging data suggest that the method of intimate partner finding for gay men is changing from physical locations to online spaces (Bernstein et al. 2013). Gay men seeking to express their identities may feel more comfortable using the internet and mobile devices because they can find safe gay spaces no matter where they may be physically (Miller 2015). Traditional STBBI prevention has relied on physical venues and rarely accounts for these new online areas, especially in smaller cities and rural areas. There is a gap in online prevention efforts for gay men outside of large urban centres.

Grindr is the leading SNA used by gay men, and it is only available on mobile devices. The application allows users to create a profile that includes basic demographic information including age, height, and body type (Gudelunas 2012). It should be noted that Grindr now incorporates other features like HIV status and a space to report the last time HIV testing was done. At the time of this study, however, these features were not part of the application. Grindr can be an efficient and fast way to locate intimate partners. As mentioned before, surveillance data from Public Health of the Nova Scotia Health Authority showed a sharp increase in syphilis infection from 2002 to 2011 (D’Angelo-Scott 2014). The increasing rates of syphilis in the province are currently almost exclusively associated with MSM; 85.5 percent of cases were non-heterosexually identified men, and 28.6 percent that identified as heterosexual men reported having male partners (D’Angelo-Scott 2014). Internet sites and SNAs were indicated to be critical in the transmission of syphilis (D’Angelo-Scott 2014). Syphilis rates and the consistent HIV infections rates among gay men indicate a need for enhanced prevention efforts. If online space is where people contracting STIs are locating partners, it is suggested that prevention efforts need to be updated to address online spaces. Nadarzynski et al. (2018) suggest that SNAs provide a valuable opportunity for STI prevention efforts. Health service professionals who work in prevention should be involved in this process of designing and adaptation new prevention efforts, so their viewpoints and knowledge are critical.

### *Services in Nova Scotia*

Nova Scotia is a unique place for gay men and this influences HIV prevention work in the local context. The culture of silence in Nova Scotia regarding HIV and the use of the internet and SNAs to locate sex partners creates obstacles for accessing preventative services in Nova Scotia

(D'Angelo-Scott 2014; Lewis 2015). The discourse of accessing interventions becomes less of a challenge in larger cities and populated areas in developing countries; however, there are few resources available to mobilize prevention efforts aimed at addressing cultural stigma surrounding risky sexual behaviours (Knight et al. 2016). For example, a study done in Vancouver, Canada indicated that stigma surrounding HIV in public health hindered the perceptions and effectiveness of interventions surrounding HIV (Knight et al. 2016). With the Nova Scotian region's gay men population being significantly affected by syphilis rates and cultural stigma surrounding HIV, perspectives of service providers are critical to gain a better understanding of this health concern and how online space and SNAs may be utilized in prevention. This idea also addresses information dissemination because gay men use the internet and SNAs to learn about sexual health and relationships (Kubicek et al. 2010).

## Research Purpose

The purpose of this analysis is to identify challenges and opportunities for prevention from healthcare perspectives regarding SNAs and gay men in Halifax, Nova Scotia. The desired outcome is to identify specific barriers and challenges to inform prevention efforts in Nova Scotia and elsewhere where SNAs are used by gay men for sexual partner finding. Prevention efforts can then be tailored to the advancements of technology and the role this plays in HIV and STIs.

## Research Question

The main research goal was to develop a comprehensive understanding of how stakeholders in HIV/STI prevention experience challenges in their prevention efforts. The data were analyzed and coded to the following questions: a) what challenges do sexual health service providers face with the advent of SNA use among gay men in the Halifax region; and b) what opportunities do virtual spaces have for health promotion?

## Methods

### *Study Context*

The work presented in this article is part of a larger study exploring online technologies use and sexual practices of gay men (Numer et al. 2017). This large study, entitled *Grinding Against HIV Prevention Discourse: A Critical Exploration of Risk Among Users of Mobile Gay Cruising Apps*, had six overall goals: 1) to examine the public profiles of users on a specific SNA to understand pictures, rhetoric, and information used to present sexual beings in virtual space; 2) to explore the ways in which participants create their profiles for public consumption; 3) to discuss how sexual encounters are manifested through SNAs and how these encounters are negotiated in terms of sexual positioning, sexual practices, location, and other aspects of sexual engagement; 4) to examine how sexual risk is conceptualized by SNA users; 5) to explore the role of SNAs in relation to other means of engaging in sexual encounters; and 6) to inform public health and health promotion efforts aimed at reducing HIV and other STIs among gay men (Numer et al. 2017).

The larger study involved semi-structured interviews with fourteen Grindr users and four stakeholders who were sexual health professionals. These interviews were conducted in the summer of 2016. The focus of the larger study was the Grindr users' experiences (Numer et al. 2017). As part of the original study, an analysis was conducted on the interviews with the Grindr users. The current study, however, provides an analysis of the interviews with the stakeholders using a secondary thematic analysis approach. The goal of the current article is to inform public

health and health promotion efforts aimed at reducing HIV and other STIs among gay men who utilize SNAs to locate intimate partners.

### ***Setting and Stakeholders***

The larger study took place at Dalhousie University with a team of researchers. The team consisted of faculty members within The School of Health and Human Performance at Dalhousie University and the School of Nursing at the University of Ottawa, as well as graduate and undergraduate researchers. The lead researchers specialize in gay men's sexual health.

As previously discussed, key stakeholders in this current study were sexual health service providers. These stakeholders worked either within the provincial health authority as public health nurses or as program coordinators for AIDS service organizations. Stakeholders were recruited through posters, emails, and community networks. Four stakeholders were recruited for interviews. These interviews were conducted within Halifax at the stakeholder's location of employment. Key stakeholders were interviewed in order to obtain information regarding online HIV prevention. Individual interviews occurred in a face-to-face, semi-structured format and lasted approximately sixty to ninety minutes. The interviews were conducted either by the Principle Investigator (PI) or the Senior Research Assistant (SRA). An interview guide with open-ended questions was used. The questions were related to the organization's role in health promotion and gay men's health. After consent for the interview was confirmed with the stakeholder over phone or e-mail, an appointment was made to conduct the interview. The stakeholder arranged their office or a neutral office space for the PI and/or SRA to conduct the interview. The informed consent form was provided to the stakeholder prior to the interview. This research was approved by the Dalhousie University Ethics Review Board.

### ***Data Analysis***

General principles of qualitative research were employed throughout data analysis (Denzin and Lincoln 2003). The interviews were audio-recorded and transcribed by a transcriptionist. NVivo software was then used for coding, storing, and managing the data. Secondary thematic analysis (Braun and Clarke 2006) was used to code the data to themes. The coding and themes were first done independently and then collaboratively by three members of the research team.

### **Results and Analysis**

Due to the nature of the methodology, the results and analysis will be presented as one section, as the themes that arose from the data are necessary to include for clear and concise interpretation. A secondary thematic data analysis was performed on the interview transcripts of the four stakeholders who work in sexual health outreach.

### ***Outreach Challenges***

The first major theme that arose from the data was outreach challenges experienced by service providers. They described multiple barriers while attempting to do sexual health outreach, specifically with regard to advancements in technologies. This is illustrated by the following statement from an interviewed stakeholder: "there are partners who get infected...they have absolutely no contact with that person...no way of passing on the message that they've been positive" (P2). Lewis (2015) noted that Nova Scotia also has a culture of silence and stigma with regard to HIV, and this is consistent with the service provider's experiences with gay men. Many of the interviewed stakeholders noted that they work with many men who are not open about their sexual experiences. D'Angelo-Scott (2014) also discussed how SNA use creates obstacles for accessing preventative services in Nova Scotia. The stakeholders of this study were aware

that online locations where many gay men meet their partners need to be addressed in their outreach work, but they do not have the resources to access online spaces for prevention efforts. In the interviews for this study, the stakeholders also stated that while resources were a challenge, so was time. They further noted their priorities were treating and helping those who are testing positive for STBBIs, and this left little time to attempt new prevention techniques in an unknown realm. The interviewed stakeholders suggested that their current efforts have limited impact on reducing new infections and impede well-informed practices in health promotion. They suggested that prevention efforts are largely ignored in the healthcare system, and the rising rates of infections are reflective of this neglect and exhibit the need for systems-level efforts.

### Contact in Online Space

SNAs present challenges that few health outreach workers are familiar with. One participant noted this specific challenge: “we have done messages to like Manhunt, and Squirt...contact us for an important health message...But Grindr, but the apps are much more difficult because you don’t have that ability” (P1).

As suggested in the above quote, the stakeholder’s ability to conduct outreach services is limited because many men who use Grindr use it only temporarily. Traditional efforts include using phone numbers and contacting users of gay partner-finding websites such as Squirt or Manhunt. Applications like Grindr are accessible, discreet spaces for gay men to meet partners (Woo 2013). The stakeholder expressed that Grindr and similar applications are not particularly easy spaces for outreach. Grindr allows users to create a profile with the option to fill out basic demographic information, such as age and interests (Woo 2013). These are optional features that allow users to be online anonymously if they wish. In an interview, one stakeholder outlined the challenge of contacting people on Grindr: “it’s not that easy...people don’t have names and phone numbers anymore” (P1). *Discretion* is a term that stakeholders encountered while working with patients who had said they had used Grindr to locate partners. The term *discretion* is often used as a code among gay men to signify that they may not be out of the closet, that they are straight but curious, or that they keep their sexual experiences with other men secret. Stakeholders struggled with understanding the meaning of the word because their patients had varying interpretations of it, and “that’s not the language that we use in the medical system” (P3). There is a disconnect with the language used on the application and the language used in the medical system.

In the interviews, the stakeholders noted that the term “discreet” had varying implications for the gay men they engaged with. For some gay men, it meant that they did not know the name, age, or any identifying characteristics of their recent sexual partners, while for other gay men it meant they only had a name or a small piece of information, which was often not enough to contact their sexual partners. This presented stakeholders with challenges in their work, as noted in the following interview quote: “we generally just don’t get into the apps cause they’re not traceable, they can be completely anonymous...there are partners who get infected...they have absolutely no contact with that person...no way of passing on the message that they’ve been positive” (P2).

This illustrates how discretion interferes with public health efforts, as the elusive nature of Grindr prevents stakeholders from trying to access the application. Another stakeholder commented: “he [a client] said he’s just ordering out [an encounter]...I don’t know how the Grindr works...totally not up to speed on that at all” (P1). This stakeholder indicated that they had no real knowledge on how Grindr works and no starting points or information to conduct follow-ups for those who may have been exposed to an infection. Follow-ups for clients who might have been exposed to infections are crucial, as Young et al. (2013) reported that men who use SNAs for partner finding were more likely to engage in riskier behaviour. Health professionals require training and knowledge to learn how to use SNAs and how to mitigate the challenges associated with follow-ups within SNAs (Brennan et al. 2018).



Stakeholders who have attempted to access Grindr noted in their interviews that they felt inappropriate doing so because Grindr is often not viewed by gay men as a space for sexual health professionals to do their work. This is illustrated by the following quote by a stakeholder: “the folks that have the apps don’t want us on them...we’re kind of raining on their parade type of thing” (P1). In this instance, sexual health has been framed as a detriment to pleasure in virtual space. Many people engaging with others on SNAs enjoy the anonymity that can be afforded and do not want this aspect interrupted, even when sexual health is at risk. The interviews suggest that this anonymous, sexually-driven space has created a culture that rejects interference from outsiders, which complicates outreach efforts. Stakeholders noted that outreach workers accessing these spaces may be seen as intrusive by Grindr users.

### **Unfamiliarity, Accessibility, and Anonymity**

Stakeholders reported apprehension accessing places like Grindr themselves because they are not familiar with them. One participant noted that Grindr was like “*ordering out*” and that they were unsure how the application itself operated: “he said he’s just ordering...I don’t know how the Grindr works...totally not up to speed on that at all.” (P1). Stakeholders in this study stated that they had no experience in prevention through online spaces such as Grindr. In addition to the unfamiliarity of applications, stakeholders expressed that the high level of accessibility to partners provided to gay men through Grindr seemed to be a complication for outreach services. For men who use the application, there is very little effort required to download it and access potential partners. Further, users can delete the application at any time rendering them invisible from outreach efforts (Woo 2013). D’Angelo-Scott (2014) noted that accessibility to partners through online spaces is a factor that contributes to the increasing rates of syphilis. Geo-social networking apps are unique in that they use the smartphone GPS to list nearby profiles in an outward radius. The nearest profiles show up first in the cascading list of images (Woo 2013). The stakeholders explained that *anonymity* is the nature of these dating applications. This feeling of anonymity on a mobile application such as Grindr can compromise outreach efforts by stakeholders because further communication is hindered if their patient met sexual partners anonymously.

### **Attitudes in Nova Scotia**

Stakeholders noted that while they conduct their work in the Halifax region, the rural areas outside the city were not as accepting towards gay men as in the Halifax region. They further reported that as a result of homophobia, many men would visit the Halifax region for partner finding on SNAs. One stakeholder described this culture as something that “drives people further underground” (P2). This stakeholder further discussed how the ongoing stigma and judgmental language surrounding gay men, HIV, and other STBBIs keeps people in the closet, prevents STI testing, and does not allow young men to access needed sexual health resources. The stakeholder stated: “if you really don’t want anybody to know that you’re gay or bisexual, they’ll come into the city”(P2). Stigma drives men in rural areas of Nova Scotia to Halifax to use hookup apps to locate partners.

Stakeholders also discussed that while high schools have emerging support for LGBTQ+ issues, there is still work to do to support queer youth health in Nova Scotia. According to the stakeholders, the culture of silence, as described by Lewis (2015), and stigma are still apparent in Nova Scotia. This is illustrated by the following comment of one stakeholder in the study: “I work here in Dartmouth, but I live out in a rural area and certainly rural areas as in Antigonish sometimes aren’t as... you really don’t want anybody to know that you’re gay or bisexual.” (P2)

The interviewees of this study indicated that rurality, age, and stigma are all isolating factors that intersect in Nova Scotia in regard to gay men’s sexual health. This suggests that isolation influences how gay men are communicating with and meeting partners in online spaces.

### *Utilization for Health Promotion*

The second main theme that arose was the interest of stakeholders in utilizing online applications for prevention. Traditional prevention efforts have been aimed at physical, tangible spaces, with some advocacy and outreach having been conducted on partner-seeking websites by service providers.

### **SNAs for Prevention**

The challenges and interest expressed by service providers in using these online spaces indicate a gap in sexual health prevention. One participant noted: "I think what we need to focus on is not these tools are bad...these tools are here whether we like them or not...how can we best make use of them to promote health, to promote good...I think there's great potential there." (P3)

Stakeholders described that they do not see Grindr as necessarily a good or bad thing, but simply as a new venue that public health is not prepared for. Stakeholders discussed their belief that using online spaces, such as Grindr, for prevention efforts would be an opportunity to reach out to people who are "flying under the public health radar". According to stakeholders, it is important to engage people in the environment where they are looking for partners. The place where people are having conversations and where they end up receiving information is where health professionals should be engaged. One stakeholder suggested this would be smart for them to do, stating that "[if you] could you build it into Grindr...I think it would be smart" (P4). They discussed that it would be mutually beneficial to increase the ability to communicate between users of the app and health professionals, but this would require establishing formal communication about sexual health risks between a private company and healthcare professionals. Stakeholders in this study identified that they believe that it is time to exercise the potential of apps for prevention strategies: "if we don't explore how they're being used now so we can understand what the potential uses are in terms of health promotion...that's a definite lost opportunity" (P3). As the quote illustrates, understanding the potential of these SNAs and engaging with them is an important step towards the bigger picture of online sexual health promotion in Nova Scotia.

### **The Big Picture**

Stakeholders described the need for more "big picture" work in sexual health promotion. They discussed that most prevention is "putting out fires," instead of preventing the fires from starting. There is interest in the need for upper systems-level prevention by incorporating efforts into popular partner-meeting venues. One stakeholder noted that "people wouldn't fall off a cliff if we had the guardrail up a little higher, you know what I mean?" (P1). This quote highlights the need stakeholders to recognize the need for systems-level change in Nova Scotia. The stakeholder acknowledged that this work is pertinent in Nova Scotia, citing D'Angelo-Scott's (2014) report that is "in our own backyard" (P3). They discussed that the issues in Nova Scotia are not the same as the issues in places like Toronto, stating that "it's crucial that we do that work ourselves" (P3). Stakeholders reported interest in learning more about how SNAs could be involved in prevention and systems-level changes. They stated that they do not have the resources or knowledge at hand to begin countering the bigger issues of stigma and discretion that have contributed to the new, virtual sexual landscapes where gay men are meeting partners.

### **Discussion**

The aim of this analysis was to explore the challenges that sexual health service providers face with the advent of SNA use among gay men in Halifax, NS, and to explore the opportunities that virtual spaces have for sexual health promotion. Service providers expressed interest in using SNAs for sexual health promotion, and they discussed the barriers that prevent them from doing so. The main challenges experienced were the changes in prevention and the current challenges with resources.

### *Experienced Changes in Prevention*

Health professionals noted the changes they have experienced throughout their careers, such as increasing syphilis rates and more diversity in sexualities. Some health professionals did not see these new technologies as creating new problems within sexual health but saw it as something that changed peoples' behaviours. This "changing landscape" of technology was something they felt like they were not keeping up with as service providers. One change noted by some stakeholders were the increasing rates of syphilis, and this is consistent with D'Angelo-Scott's (2014) report on syphilis rates in the Halifax Regional Municipality.

The current challenges identified by the stakeholders interviewed in this project are almost universally experienced by stakeholders who work in sexual health prevention (Brennan et al. 2018). The shift in gay men's community to online spaces for partner finding is not solely unique to Halifax or Nova Scotia; it is happening across the country and elsewhere (Brenna et al. 2018). It is apparent from the interviews of this study that the current sexually transmitted infection rates in the province of Nova Scotia are linked to the venue with which people locate partners. Grindr is very accessible because it is an app-based program that can run on any smartphone. This may explain why service providers feel there is a higher number of men who are able to access partners through online spaces. An accessible venue where one can present oneself anonymously may open the door for sexual exploration and curiosity for those who have not had a safe space previously. The stakeholders in this study seemed to support the observation that SNAs create spaces for sexual explorations. The stakeholders, however, struggled with how to access these spaces themselves and felt as though they did not have the appropriate resources to do so.

### *Nova Scotia Context*

While the shift into online spaces is not unique to Nova Scotia, the conservative attitudes towards HIV and gay men combined with rural isolation are important features to consider in the Maritime provinces. When considering sexual health and the development of programs to promote gay men's health, the surrounding social conditions produced by historical stigma and physical isolation are factors that need to be considered (Lewis 2015). Socially and physically isolated gay men may be the most difficult population to reach and may be more likely to utilize SNAs to compensate for these conditions. Kakietek et al. (2011) note evidence that rural gay men may be more likely to look for sex partners online compared to men in denser populations. This indicates a need for health promotion principles in prevention by working towards supporting gay men who are made vulnerable by systemic stigma and oppression (Lewis 2015). Understanding the outcome of these conditions can help service providers in Halifax and elsewhere work toward becoming better equipped to support gay men in socially isolated rural areas. In this study, stakeholders often worked with gay men who had travelled from rural areas to escape stigma and oppression. In such cases, stakeholders noted that they only had time to treat them for sexuality transmitted infections and did not have time for prevention efforts.

### *Challenges with Resources*

Service providers felt as though they had support from their supervisors to learn to understand and access online spaces but also felt as though they did not have the time to address these issues.

Their time was spent “putting out the fires” instead of figuring out what was causing these issues in the first place. This practice of individual-level interventions is contrary to health promotion, whereas community-health interventions are more effective at reducing rates long term (Wohlfeiler 2002). Brennan et al. (2018) found that resources, such as budgets and staffing, were critical issues in the implementation of prevention efforts using SNAs. The need for health-promotion-based approaches in prevention are evident in the present study, and as stakeholders noted, incorporating prevention efforts into popular partner-seeking apps can catalyze upper systems-level prevention efforts.

### ***SNAs as Tools for Health Promotion***

Stakeholders in Halifax have recognized the importance and their obligation as healthcare providers of incorporating media such as SNAs in their prevention strategies, but their lack of experience prevented them from doing so. While the stakeholders who were interviewed in this study felt they lacked the resources to access online spaces like Grindr, they viewed the apps as untapped resources that could be used for health promotion. This holds significance because it indicates a need for a more diverse approach to sexual health promotion and prevention in Halifax. This study suggests that to better understand these spaces, leaders in the gay men’s community may be important resources for service providers to understand virtual spaces and their potential for health promotion. A collaborative effort between service providers and those who know about spaces like Grindr may be the most effective method to begin incorporating partner-finding applications in outreach efforts. Brennan et al. (2018) also suggest that coordinated efforts to build collaborations between the owners of the SNAs and sexual health service providers to develop, implement, and access the effectiveness of online sexual health promotion efforts are needed. This study suggests that collaborations may be the most effective solution to compensate for the lack of experience and uncertainty that was noted in the stakeholder interviews.

### **Conclusion**

In Halifax, Nova Scotia, gay men are using mobile technologies to connect, and health professionals in Halifax have expressed interest in using these apps for their work. They believe that resources like Grindr can be used to help men access resources and provide education on STBBI prevention. These online spaces can provide alternative routes to deliver information. As SNAs are such an integral part of the lives of many gay men, spaces such as Grindr can be an appropriate place for sexual health promotion. Further, communicating with leaders in the gay men’s community can help professionals learn what strategies will work within SNAs and other related spaces. The barriers to accessing these spaces that healthcare professionals expressed were time and resources. Advocating for training and prioritizing these projects are actions that will be required to move forward. As technologies constantly change, it is recommended from the findings of this study that strategies for promoting sexual health are also constantly adapted to be responsive to the ever-changing sexual landscape for gay men. Future research can include more popular dating applications and websites used for partner finding by gay men, and can also include other geographic areas that differ from Nova Scotia to compare the effect of location and local culture on app use and behaviour.

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