

# The impact of location on implementation of HIV/STI prevention interventions among LGBTQ communities

## ? Questions

- What is the impact of geographical location on implementation of HIV/STI prevention programs or interventions among LGBTQ communities?

## 🔑 Key Take-Home Messages

- The characteristics of a location, including segregation, community-level stigma, and infrastructural resources, may influence HIV service utilization and the HIV continuum of care among men who have sex with men (1).
- Implementation of HIV prevention interventions may be affected by whether a location is convenient, allows for anonymity, and makes one vulnerable to HIV stigma and homophobia (2).
- Evidence-based interventions that do not “fit” a particular setting may be resisted by the target population (3). Therefore, researchers recommend adapting interventions to fit the local context of the communities they are serving (4).
- Structural interventions, such as those to reduce HIV stigma and homophobia within neighbourhoods, have also been recommended by researchers to improve the social and structural conditions of neighbourhoods with high HIV prevalence (1).

## ! The Issue and Why It's Important

HIV disproportionately impacts some members of the LGBTQ community (5). For example, men who have sex with men continue to represent the greatest number and proportion of people living with HIV in Canada (5).

The use of evidence-based interventions for HIV prevention has become a widespread approach to curbing the HIV epidemic (4). Unfortunately, significant barriers have obstructed implementation of these interventions in the real-world settings (6). Implementation,

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in this review, refers to “the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings” (6).

A growing body of research connects location characteristics to HIV outcomes (1). This is in line with the well-established view in public health that health is influenced by characteristics of networks, neighbourhoods, and geographic communities (7). This influence is thought to go beyond individual risk behaviours and ultimately solidify disparities across populations (1).

Given the relationship between health and location, adapting evidence-based interventions to unique communities and local contexts has been considered an important aspect of implementation by researchers (3, 4). Theories of implementation science have explored the impact of tangible and intangible characteristics (such as structural, political, and cultural features) of the setting in which an intervention is implemented (3). This research suggests that setting can interact with individuals and intervention processes to influence implementation effectiveness (3).

Addressing factors that influence implementation is crucial for the scale-up of HIV prevention interventions towards ending the epidemic (6). This review explores the impact of location on implementation of HIV prevention interventions among LGBTQ populations.

## What We Found

### Location and accessing HIV-related services

To guide the improvement of interventions to increase HIV care engagement, researchers have begun to explore barriers and facilitators that LGBTQ individuals encounter when accessing HIV services (8). Some research has found that the distance to transit, care providers, and pharmacies may act as a barrier to engagement and retention in HIV care, as well as adherence to HIV treatment (9, 10). A cross-sectional survey of 1,170 gay and bisexual men who have sex with men also found that participants living in rural areas had increased odds of never testing for HIV compared to those living in urban areas, as having to travel to urban settings to receive testing in a more private manner is an option that brings with it transportation, financial, and other barriers (11).

In many cases, however, LGBTQ individuals reported that they deliberately travelled far from home for HIV care and services, despite inconvenience. This was mainly due to apprehension about seeking HIV services within their own neighbourhoods. For example, participants in a mixed methods study among 54 Indigenous men identifying as gay, bisexual, two spirit or who have same-sex experiences reported that stigma associated with HIV testing in

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smaller towns led people to travel into their location (12). However, a lack of transportation was cited as a barrier to HIV testing and services (12). A study that conducted 66 in-depth interviews with transgender and gender diverse youth living with HIV from 14 cities across the U.S found similar results (13). A lack of personal transportation or money for public transportation was reported by some participants as a barrier to HIV testing and care. Youth also reported that fear of seeing someone they knew in locations within their neighbourhoods impacted their ability to receive care (13). HIV service providers participating in a qualitative interview study in Chicago also reported that greater distance between home and provider, as well as complex transit routes, may lead to a lack of engagement in HIV services among young men who have sex with men (8). They also reported, however, that some young men who have sex with men accessed their services specifically because their site location was far from home, and they wanted to conceal their HIV status (8). A longitudinal cohort study among young men who have sex with men and transgender youth in Chicago found that proximity and convenience (e.g. “too close to my house”) were reasons for not utilizing sexual health services by 9% of individuals (14).

Indeed, neighbourhood-level stigma may impact many LGBTQ individuals’ engagement with HIV prevention and care, affecting where they seek services. One study interviewing African American transwomen living with HIV in Alameda County, California, found that barriers related to transportation and location were influenced by negative experiences within their neighbourhood (15). Some individuals felt unsafe when travelling to HIV care appointments, which would require taking public transportation during the day. They were also reluctant to attend appointments at locations where the likelihood of seeing peers was high, due to fear that they would be “outed” as being HIV positive. These participants reported that they preferred attending appointments in nearby San Francisco, as it was “the gay capital” (15). Safeguarding anonymity was found to be a key factor for attending sexual health services in a qualitative study among 61 men who have sex with men in the UK (16). Participants in this study recalled how they travelled far from home to avoid recognition, and travelled far from small towns where this is more difficult. Black and ethnic minority men were particularly concerned about exposure within their communities. Some men also reported that, once they were familiar with a location, they would continue to attend even if it had become inconvenient geographically (16). An online survey of men who have sex with men in the U.S. found that high structural stigma within specific states of residence was not only associated with increased sexual risk behaviour, but it was also associated with decreased awareness and use of antiretroviral chemoprophylaxis (17). Structural stigma, in this study, was defined as “societal-level conditions, cultural norms, and institutional policies and practices that constrain the opportunities, resources, and wellbeing of the stigmatized” (18). Authors hypothesized that within states with high levels of structural stigma, there may be

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fewer providers who prescribe antiretroviral chemoprophylaxis and less community awareness, ultimately hindering access (17).

In fact, distribution of HIV-related services and providers, as well as other resources and infrastructure, across neighbourhoods may influence access to HIV care (1). These factors may also interact with neighbourhood demographic and socioeconomic characteristics (1). One cross-sectional study examined associations between viral suppression among HIV-positive men who have sex with men and place characteristics in New York City (7). Data was collected regarding demographic composition, economic disadvantage, healthcare access, social disorder, and police stop-and-frisk rates within 42 unique districts. Of the 7,159 participants living within these districts, 57% achieved viral suppression, and 36% achieved durable suppression (e.g. no unsuppressed test within a 12-month period). Individuals who were Latino or White were more likely to achieve suppression than individuals who were Black. However, regardless of individual race or ethnicity, viral suppression was associated with race-based composition. That is, individuals living in a district where between 5 and 29% of residents were Black were more likely to be virally suppressed than those in neighbourhoods with higher percentages. According to the authors, the New York City Department of Health and Mental Hygiene prioritizes Black communities for HIV-related resources. This may facilitate early HIV detection, linkage to care, and treatment initiation. However, these beneficial effects may be undermined in districts with a high percentage of Black residents, due to higher structural discrimination. Participants were more likely to achieve durable suppression if they lived in a district with a higher concentration of households with men who have sex with men. Authors hypothesized that these neighbourhoods were safer, less stigmatizing and more service-rich, thus facilitating routine HIV testing, linkage to HIV care, and long-term engagement with antiretroviral treatment (7). A longitudinal study of 618 young Black men who have sex with men in Chicago found similar results (19). Researchers examined the influence of social venues on the receipt of HIV prevention and treatment services, and knowledge of pre-exposure prophylaxis (PrEP). Results showed that men with social affiliations that were connected to the city's "gay enclave" were most likely to know about PrEP, while men with affiliations in the Black community had better HIV treatment outcomes (19).

Another exploratory study investigated the relationship between HIV care attendance and public transportation use among 178 men who have sex with men across different regions of residence in Atlanta (20). Among those who lived in south Atlanta, using public transportation (compared with private transportation) was associated with lower rates of HIV care attendance. This association was not significant among residents of north Atlanta. Noting that south Atlanta has historically had larger Black populations, as well as greater levels of poverty and a greater burden of HIV compared to other areas of the city, authors hypothesized that this geographic

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difference in attendance may be driven by factors related to socioeconomic status or the availability of medical resources (20). Upon further analysis, it was found that very few attended HIV providers were located in south Atlanta, compared to north Atlanta. This finding led authors to theorize that density of available medical resources amplify existing travel-related barriers to HIV care, and that these barriers may be experienced more frequently by individuals living in economically disadvantaged communities (20).

Using web-based data, one study compared the characteristics of 8,166 men who have sex with men, with negative or unknown HIV infection status, from rural or urban areas in the U.S. (21). Compared to urban participants, rural participants were less likely to have ever tested for HIV, be tested for HIV and other STIs in the last year, or receive free condoms or prevention counselling in the last year. Authors suggested that lower levels of funding for community-based organizations providing HIV testing in rural areas may account for this difference. Rural men also reported significantly less tolerance of gays and bisexuals within their community than urban men (21).

Another study used data from 1,043 HIV-negative men who have sex with men in Philadelphia to determine whether demographic, geographic, and socioeconomic characteristics were associated with recent HIV testing (22). Participants' "neighbourhoods" were determined by self-reported zip code and grouped into regions based on Philadelphia Department of Health research. Overall, the association between neighbourhood and recent HIV testing was not statistically significant. Authors stated that this may have been due to the fact that the majority of participants had been recruited from gay-identified venues, which may be located near HIV prevention community-based organizations. This may have increased access to HIV testing services. However, when compared to individuals living in the center of the city, specific neighbourhoods (namely the north, west, and lower northeast regions) did have higher rates of recent HIV testing (22).

A longitudinal cohort study examined PrEP attitudes and stigma among 620 young men who have sex with men and transgender women in Chicago (23). Authors found that PrEP stigma was identified in neighborhoods with high HIV incidence and concentration of racial minorities, while low prevalence of stigma was identified in areas with high HIV incidence and low LGBTQ stigma. Due to experienced stigma, PrEP was prescribed less, both in terms of providers and patients seeking PrEP. Authors suggested that addressing LGBTQ discrimination may support PrEP implementation (23).

### **Potential mechanisms of influence**

Recent research has identified the role of network- and neighbourhood-level factors that influence progression through the

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HIV continuum of care (1). To inform HIV-related interventions, it is crucial to understand the mechanisms by which these factors influence the HIV continuum of care at varying levels of social ecology. However, exactly how neighbourhood characteristics influence how LGBTQ individuals interact with the HIV care continuum is largely unknown. One 2018 review by Tieu et al., based on empirical literature and theoretical perspectives, provides three potential pathways of influence between neighbourhood environment and HIV-care related outcomes among gay, bisexual, and other men who have sex with men (1).

The first mechanism described is the Stress/Coping Pathway (1). Through this pathway, Tieu et al. suggest that concentrated poverty, racial segregation, community violence, and physical disorder within a neighbourhood may be associated with experiencing chronic acute stressors. Negative coping strategies, such as substance abuse, can then produce HIV care-related outcomes such as missed medical visits, reduced adherence and viral non-suppression. Positive coping strategies, such as social support among social network connections, may mitigate these outcomes. The second mechanism is the Stigma/Resilience Pathway, whereby neighbourhood characteristics such as social norms surrounding people living with HIV or LGBTQ people may produce feelings of alienation or connectedness. Neighbourhoods with low levels of HIV stigma and homophobia may be more supportive of care seeking, treatment adherence, and HIV status disclosure. The third mechanism, the Access/Resource pathway, outlines how infrastructural and material resources directly increase access to HIV-related services and care (1).

The conceptual frameworks presented in this review may help inform interventions that focus on neighbourhood and network characteristics (1). The authors offer a variety of recommendations for such interventions including interventions to reduce HIV stigma and homophobia within neighbourhoods, integration of HIV care with employment and housing programs, and urban planning-based interventions to improve the social and structural conditions of neighbourhoods with high HIV prevalence (1).

## Location and implementing HIV prevention interventions

Some researchers have also explored how environment can impact the implementation of specific HIV-prevention intervention for LGBTQ individuals (2, 24).

One particular study assessed the acceptability of a PrEP service for Black men who have sex with men in London, UK in 2016 (2). Through in-depth interviews, participants expressed specific preferences for sexual health services. Several themes emerged from these interviews. One theme was Proximity and Anonymity, which related to preferences regarding clinic location and divisions from community. For many participants, acceptability of the PrEP service was influenced by whether or not accessing this service could expose oneself to HIV stigma and homophobia. While convenience was also important, many participants felt that services should be located away from areas linked to family, friends and traditional “Black” communities. This concern was particularly pronounced for a PrEP service where men would have to attend on a regular basis, and when they would be accessing sexual health services for the first time. Authors concluded that, for this particular population, community-based PrEP services may not have advantages over clinically-delivered services (2).

Another study evaluated facilitators and barriers to effective implementation of a multilevel HIV prevention intervention in 72 community-based organizations across the U.S. (24). This was one of the first studies of an HIV intervention exploring implementation issues across multiple community-based organizations longitudinally. The intervention, called the MPowerment Project, had been previously shown to decrease rates of unprotected anal intercourse among young gay and bisexual men who have sex with men (25). In light of this research, the longitudinal study aimed to understand the barriers and facilitators to effective implementation of this intervention in specific communities (24). Study data came from 647 semi-structured interviews and thorough notes from providers. From this data, 13 different themes regarding factors that influenced effective implementation of the intervention emerged. One overarching theme was Community Factors,

which included geography and sociopolitical climate. With respect to geography, the size of the city and its proximity to a “gay magnet city” (e.g. San Francisco) affected the ability of MPowerment coordinators to both recruit and retain young gay and bisexual men for their intervention. Small or rural cities often had too few men to recruit. Being close to “gay magnet cities” made recruitment difficult as individuals would rather go to that area than stay in their own community to attend outreach events. With respect to sociopolitical context, hostile responses in conservative areas made implementation challenging. For example, finding space to have the intervention was difficult in some circumstances, as landlords did not want to rent their space for events that were HIV-related or affiliated with young gay, bisexual, or other men who have sex with men. Authors concluded that the entire ecological system in which an intervention occurs impacts implementation and that it is important to address facilitators and barriers to implementation such as geography and sociopolitical context (24).

## Adapting interventions to local contexts

Given the relationship between HIV-related service utilization and location, researchers recommend adapting evidence-based interventions to fit the local context of the communities they are serving (4). In fact, it has been suggested by implementation science researchers that without adaptation, evidence-based interventions may be resisted by the target population if they are a poor fit for the setting (3). The following section outlines recent studies that have documented adaptation of existing HIV-related interventions to suit different LGBTQ communities.

### **Get Yourself Tested, New York**

One study evaluated the implementation of an HIV testing intervention among a community of Black and Latino sexual minority youth in New York City (26). Get Yourself Tested (GYT) had had demonstrated success among youth, but had not been assessed for relevance among this population. Before implementing the service,

researchers conducted two focus groups with 25 Black and Latino sexual-minority youth to gather their experiences with STD and HIV testing services. During these focus groups, the main concerns of youth were fear of stigma and lack of anonymity within testing services. In response to this research, GYT materials and strategies were revised. This included relocation of mobile van-based testing to be easily accessible to selected venues, but not directly visible from them. To minimize stigma, promotions advertised the availability of a range of general preventive health care (e.g. flu shots). After the three-month campaign, mobile van-based testing increased by 83% and testing at a youth-only clinic increased 10% (a difference that may reflect concerns regarding privacy). Despite these increases, overall uptake and rates of HIV positivity were generally low. However, the observed changes in testing uptake demonstrate the impact of making structural adaptations to HIV-related services (26).

### **Community PROMISE, Boston**

One study described the process of implementing a community-level evidence-based behavioural intervention (Community PROMISE) for HIV-positive African American men who have sex with men in Boston and Minneapolis-St. Paul (4). The intervention was adapted using the Centers for Disease Control (CDC) Map of the Adaptation Process (The MAP)(27). The MAP involves five steps when adapting interventions for a new population or setting: 1) Assessment, which includes consideration of the target population and an agency’s capacity to implement an intervention; 2) Selection, which includes determining the fit of the intervention with population HIV prevention needs and the implementing agency; 3) Preparation, which includes building agency capacity and pre-testing the adapted intervention with the target population; 4) Piloting, which includes developing an implementation plan; and finally 5) Implementation (4, 27). As part of this process, researchers conducted 112 interviews with local HIV-positive African American men who have sex with men, as well as their friends, partners, relatives, and providers. Data from field observations of venues and locations where participants congregated were also used. Many participants described how stigma and

homonegativity resulted in high-risk sexual behaviours, and was exacerbated by the small size of the community of African American men who have sex with men. Intervention components were then modified in response to the specific needs of the target population and community. Unfortunately, researchers in this study were unable to ascertain the effectiveness of this adaptation as they were restricted to a shorter follow-up period than the original intervention required. However, authors state that the MAP process would be feasible and useful to guide adaptation of interventions for other populations in other settings (4).

### **Mpowerment Project, Detroit**

One mixed-method case study describes the process of implementing the Mpowerment Project in an organization in Detroit, serving young Black gay and bisexual men (28). Mpowerment Detroit members perceived a fundamental mismatch between the regional and cultural context of the original program and their community. Members of the organization understood that fidelity in following evidence-based interventions is important, however the perceived limitation of the program for meeting their community's needs led to significant adaptations of the program. These changes primarily reflected the economic, social, and political context for young Black gay and bisexual men in Detroit and Black middle and working class values of Mpowerment's members. While outcomes were not investigated, these adaptations were perceived by organization members to increase, rather than hinder, the effectiveness of the intervention (28).

## **An intervention addressing community-level factors to improve HIV prevention**

Researchers have recommended structural interventions to address community-level homophobia and HIV stigma, which may affect individuals' care seeking, treatment adherence and HIV status disclosure (1). However, few interventions have attempted to address both HIV stigma and homophobia at the community level (29).

Based on the belief that community-level stigma and homophobia may subsequently lead to adverse health and social outcomes, Project CHHANGE (Challenge HIV Stigma and Homophobia and Gain Empowerment) was an anti-HIV stigma and homophobia intervention that sought to reduce barriers to HIV prevention and treatment (29, 30). The multicomponent intervention was implemented for six months in a neighbourhood in New York City with high HIV prevalence, and a primarily African American, Black and Afro-Caribbean population. Intervention components included workshops, space-based events, and bus shelter ads delivered to community-based organizations and neighborhood residents. To evaluate the impact of Project CHHANGE, a quasi-experimental design was used to compare HIV stigma and homophobia in the target neighbourhood before and after the intervention, as well as within a similar control neighbourhood. Changes in HIV testing were also assessed via self-report and administrative data. The evaluation did not find a significant effect of the intervention on HIV stigma and homophobia. However, following the intervention implementation, HIV testing in the target neighbourhood increased by 350%. Among post-intervention residents, having attended an anti-HIV-stigma workshop was associated with having had an HIV test in the last six months. Researchers hypothesized that while community attitudes did not shift, it is possible that behaviours of residents in close proximity to the intervention site were affected through increased contact, knowledge and raised critical consciousness of HIV stigma and homophobia. Thus, results suggested that CHHANGE may have increased access to HIV prevention among intervention neighbourhood residents (29).



## Factors That May Impact Local Applicability

It is clear from the literature described in this review that the characteristics of a specific location may have a great deal of impact on HIV-related outcomes, as well as the implementation of interventions. While exploring demographic, socioeconomic, cultural, or political characteristics of communities is important regardless of location, the results of these studies may not be generalizable. The majority of included studies were conducted in the U.S., four of which were conducted in Chicago. Assessing location's influence on HIV risk and intervention implementation in other regions would be an invaluable addition to the literature.

This review was focused on interventions targeting LGBTQ populations, however there was a dearth of literature exploring populations other than men who have sex with men. Determining place-based factors that are specific to other LGBTQ groups, as well as intersecting racial and ethnic identities, would be an important area for future research.

## What We Did

We searched Medline (including Epub Ahead of Print, In-Process & Other Non-Indexed Citations) using a combination of (text terms [gay\* or lesbian\* or bisexual or transgender\* or queer\* or LGB\* or men who have sex or MSM] or MeSH term Transgender Persons) and (text terms [location\* or urban\* or rural\* or downtown\* or village\* or suburb\* or city or cities or town or geograph\* or neighbo\*]) and (text terms [service\* or program\* or project\* or intervention\* or research\* or study or studies or recruit\*]). All searches were conducted on March 4, 2019 and results limited to English articles published since 2010. Reference lists of identified reviews were also searched. The search yielded 2,362 references from which 30 were included. Sample sizes of primary studies ranged from 10 to 8,166.

### Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers quick access to research evidence to help inform decision making, service delivery and advocacy. In response to a question from the field, the Rapid Response Team reviews the scientific and grey literature, consults with experts, and prepares a brief fact sheet summarizing the current evidence and its implications for policy and practice.

#### Suggested Citation

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