

HIV risk and prevention among cisgender men who have sex with transgender women or transfeminine nonbinary people

❓ Question

- What is the current evidence (2015–present) related to risk and prevention of HIV infection among cisgender men who have sex with transgender women* or transfeminine nonbinary people?

* The terms transgender women use to describe themselves may differ from those used in the research literature. Community-used terms include transgender woman, woman, transsexual, and transfemme. In this review, the term “transgender woman” is used as an inclusive umbrella term to reflect a range of transfeminine identities and lived experiences, while acknowledging the diversity and fluidity of language within communities.

🔍 Key Take-Home Messages

- Estimates of HIV prevalence among cisgender men who have sex with transgender women vary widely: a meta-analysis of six studies (367 total study participants) estimated an HIV self-reported prevalence of around 30% among cisgender men who have sex with transgender women, with nearly half of them reporting condomless anal intercourse with transgender women, suggesting substantial transmission risk within and across sexual networks (1–3). At the same time, other studies suggest a lower HIV prevalence of around 5% among cisgender men who partner with transgender women (131 total study participants) (4).
- Cisgender men who have sex with transgender women often also have sexual partnerships with cisgender men, cisgender women, or both, in addition to transgender

Rapid Response: Evidence into Action

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Prepared by
Ryan LaPenna

Program Leads / Editors
David Gogolishvili

Contact
rapidresponse@ohtn.on.ca

For more information visit
www.ohtn.on.ca/rapid-response-service

The Ontario HIV Treatment Network
1300 Yonge Street, Suite 600
Toronto ON M4T 1X3
www.ohtn.on.ca

women, which positions this group as a potential “bridge” for HIV transmission between different population groups due to overlapping partnerships rather than individual behaviour alone (1-4).

- Phylogenetic analyses show that HIV genetic sequences of cisgender men who have sex with transgender women cluster more often with those of transgender women than with those of men who have sex with men, suggesting distinct HIV transmission dynamics (3, 5, 6).
- Literature describes complex and intersecting factors that influence HIV risk for cisgender men who have sex with transgender women, which include: sexual risk behaviours (e.g. condomless sex), structural vulnerabilities (2), mental and behavioural health (e.g. depression and substance use), stigma (including social and relationship stigma), as well as sexual identity-related pressures, and relationship dynamics (1, 3, 7-10).
- A 2023 study of five surveillance data sources in Washington State (U.S.) found that cisgender men who have sex with transgender women were significantly less likely to use PrEP but more likely to have an HIV test in the past year (4).
- Cisgender men who have sex with transgender women may encounter persistent barriers related to PrEP and HIV testing uptake—such as medical mistrust, low perceived efficacy, and negative attitudes toward HIV self-testing—leading to underutilization of HIV prevention strategies (4, 11).
- Couples-focused HIV prevention interventions, such as Couples HIV Intervention Program (CHIP) (12) and “It Takes Two” (13, 14) have shown promising reductions in condomless sex and relationship stigma, yet such programs remain uncommon and are rarely integrated into public health practice (3).
- Overall, cisgender men who have sex with transgender women are not clearly categorized using conventional HIV risk and surveillance categories (3). Future research would benefit from using an intersectionality lens and a syndemics-based framework to examine available evidence on interacting structural, social, behavioural and physical health characteristics affecting HIV risk and outcomes for cisgender men who have sex with transgender partners (3).
- This review did not identify any studies that examined HIV treatment and care among cisgender men who have sex with transgender women, or studies that specifically focused on cisgender men who have sex with transfeminine nonbinary sexual partners.

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! The Issue and Why it's Important

In Ontario, transgender women and gay, bisexual, and other men who have sex with men are disproportionately affected by HIV (15). Various studies estimate HIV prevalence among transgender women between 7.5% in Canada (16) and 14.1% in the U.S. (17). In the U.S., HIV prevalence is especially high among Black transgender women, estimated at 44.2% (17). These data suggest that sexual partners of transgender women also face an elevated HIV risk (11, 18). However, cisgender men who have sex with transgender women are understudied in HIV research (3, 11), not represented in HIV epidemiological surveillance data due to aggregation within broader categories such as men who have sex with men (15), and face distinct barriers to accessing HIV prevention services despite evidence suggesting that they may be at an elevated risk for HIV transmission (2, 11).

Cisgender men who have sex with transgender women often fall between or outside existing categories (such as men who have sex with men) in public health research and HIV surveillance data (15, 19). This may be due to the use and limitation of the term “men who have sex with men” which historically has been used as a behavioural category in HIV surveillance, meant to group people by sexual behavioural practices and not by gender identity or sexual orientation (19, 20). In addition, cisgender men who have sex with transgender women may be included or excluded from the category of “men who have sex with men” depending on whether “men” is defined by sex assigned at birth or by current gender identity (19).

Some epidemiological studies focused on cisgender men who have sex with men include men with transgender female partners in their eligibility criteria, but during subsequent data analysis, no distinction is made between cisgender men who have sex with transgender women and cisgender men who have sex with cisgender men (1, 21-23).

In the Ontario HIV surveillance reporting, “gay, bisexual, and other men who have sex with men” includes cisgender and transgender men who report sex with men, but it does not explicitly mention stratification into smaller subgroups, like cisgender men who have sex with transgender women (15). By grouping cisgender men who have sex with transgender women with other sexual identities (e.g. under a broader category such as men who have sex with men), researchers, public health officials, and other interest-holders may unintentionally mask the unique HIV-related disparities in an already stigmatized and marginalized population (1).

Thus, there is a need to better understand HIV prevalence, prevention behaviours, and access to HIV-related health care services, in order to make targeted, equitable, and evidence-informed decisions for cisgender men who have sex with transgender women. This review summarizes various aspects of HIV-related evidence pertaining

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to cisgender men who have sex with transgender women or transfeminine nonbinary people. The main population in the discussed studies consists of either cisgender men who have sex with transgender women or transgender women with cisgender male sexual partners.

What We Found

Cisgender men who have sex with transgender women have been described as possibly the “least studied and most poorly understood among populations at risk for HIV worldwide” (5). This rapid review identified two review articles (1, 3). In addition, several primary studies explored various aspects of HIV transmission among cisgender men who have sex with transgender women (5, 6, 24), including factors influencing HIV risk (2, 7, 8, 25), prevention behaviours (4, 9–11), and prevention interventions (3, 13, 14). However, we did not find any studies that examined HIV care among cisgender men who have sex with transgender women, or studies that specifically focused on cisgender men with transfeminine nonbinary sexual partners. Although the initial scope of this review included transfeminine nonbinary sexual partners of cisgender men, there was a lack of related evidence in the literature.

HIV-related review articles on cisgender men who have sex with transgender women

A 2019 systematic review and meta-analysis by Restar *et al.* examined HIV infection and transmission risk factors among cisgender men who have sex with transgender women in the U.S. and included six studies, all conducted in California (1). HIV transmission risk factors, such as condom use, number of sexual partners, sexual positions, and substance use, varied widely among cisgender men who have sex with transgender women (1). The meta-analysis resulted in an estimated HIV self-reported prevalence of 30.6% among cisgender men who have sex with transgender women (95% confidence interval [CI]: 18.1%–43.0%) (1). None of the studies stratified HIV status by race/ethnicity or other demographic factors which limits interpretation of racialized and equity-related disparities (1). The estimated prevalence for self-reported condomless anal intercourse with a transgender woman was 46.1% (95% CI: 31.6%–60.6%) (1).

It should be noted that the above estimate of HIV prevalence among cisgender men who have sex with transgender women (30.6%) is extraordinarily high and may be attributable to the fact that these data were collected decades ago (between 1991 and 2014) (1). A more recent study (2023) using data from six cross-sectional surveys in Washington State estimated HIV prevalence among cisgender men who have sex with transgender women to be around 5%, however the analysis was based on a small sample size (n=131) (4).

12. Operario D, Gamarel KE, Iwamoto M, Suzuki S, Suico S, Darbes L, et al. Couples-focused prevention program to reduce HIV risk among transgender women and their primary male partners: Feasibility and promise of the couples HIV intervention program. *AIDS and Behavior*. 2017;21(8):2452–63.
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The data from the Restar *et al.* review show that cisgender men who have sex with transgender women reported engaging in sexual behaviours with a variety of partners, including cisgender men, cisgender women, or both, in addition to sex with transgender women (1). The proportion of cisgender men who have sex with transgender women reporting exclusive sex with transgender women ranged widely, from 2% to 50% across the six included studies (1). Authors also note that discrimination was reported due to relationships with their transgender female partners (1). Importantly, the authors acknowledge that due to a small number of eligible studies included in the review and the methods of sampling (i.e. non-random sampling), inferences about the overall population of cisgender men who have sex with transgender women is difficult to draw (1). Despite these limitations, the review highlights an important implication that cisgender men who have sex with transgender women may serve as a bridge population for HIV risk transmission for their transgender women and cisgender women partners (1).

A second review article, published in *The Lancet HIV* by Poteat *et al.* (2020), utilized the lens of intersectionality, accompanied by a syndemics-based framework, to evaluate research on HIV risk and vulnerability among cisgender men and their transgender partners (3). The authors emphasize the importance of using an intersectionality and syndemics-based framework to understand HIV risk and vulnerability among cisgender men and their transgender partners because it captures how overlapping social identities and structural inequities shape vulnerability (3). This approach highlights how interconnected forms of stigma, mental health challenges, and sexual risk behaviours collectively drive HIV risk in this marginalized population (3).

HIV vulnerability among cisgender men who have sex with transgender women is shaped by the complexities of sexuality and gender, where the role of gender expression (rather than genital anatomy) in attraction underscores the limits of conventional sexual orientation (3). This shows that the way public health research groups people may not reflect how communities see themselves, and using sexual orientation as a requirement in research can make it harder to recruit participants or may lead to biased results (3). Yet, public health research has historically conflated transgender women with men who have sex with men, thereby also categorizing cisgender men who have sex with transgender women as men who have sex with men (3, 26).

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Primary studies of HIV transmission, risk, and prevention among cisgender men who have sex with transgender women

HIV transmission dynamics of transgender women and their sexual partners

Studies focused on HIV acquisition and transmission dynamics among transgender women have shed light on the HIV risk among cisgender men who have sex with transgender women (5, 6, 24). For example, when transgender women enrolled in the 2019/2020 National HIV Behavioral Surveillance study in San Francisco were asked an open-ended question about how they were infected with HIV, the most common (43.0%) response was “sex with a straight cisgender man partner when the respondent identified as a trans[gender] woman” (24). This reflects self-described identity rather than behaviour-based categorization. In an effort to better understand HIV transmission networks, other studies have utilized molecular epidemiological tools to characterize genetically linked partners of transgender women (5, 6). A phylogenetic study looking at how transgender women acquire HIV in San Francisco found that transmission patterns of transgender women may stand apart from the “men who have sex with men” epidemic, as transgender women clustered (i.e. their HIV strains were genetically similar) with cisgender men who have sex with transgender women and cisgender women (5). Similarly, another study from Los Angeles County used genetic sequencing to examine HIV transmission patterns among transgender women (6). It found that transgender women were more likely than expected to cluster with other transgender women (odds ratio [OR]=4.65, $p<0.001$) and cisgender men (OR=1.53, $p<0.01$), suggesting that high-risk activities and partners are shared between these groups (6). Furthermore, HIV infections among transgender women were more likely than expected to be linked to cisgender men who did not have sexual encounters with men (i.e. cisgender men who have sex with transgender women) and less likely than expected to be linked to men who have sex with men (OR=0.75, $p<0.001$) (6). Together, these findings reveal that there are nuanced transmission possibilities that cannot be reduced to the “traditional” HIV transmission categories (24). Thus, aggregating transgender women into the category of men who have sex with men may obscure understanding of how they acquire HIV and to whom they may transmit infection (5, 6).

Factors influencing HIV risk and prevention behaviours among transgender women and their cisgender male partners (i.e. cisgender men who have sex with transgender women)

A growing body of research highlights the complex and intersecting factors that shape HIV risk (2, 7, 8, 25) and prevention behaviours (4, 9-11) among transgender women and their cisgender male partners.

22. Hightow-Weidman LB, Rainer C, Schader L, Rosso MT, Benkeser D, Cottrell M, et al. Prepared, Protected, EmPowered (P3): Primary results of a randomized controlled trial using a social networking, gamification, and coaching app to promote pre-exposure prophylaxis (PrEP) adherence for sexual and gender minority (SGM) youth living in the United States. *AIDS and Behavior*. 2025;29(2):652-63.
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24. Wilson EC, Hernandez CJ, Arayasirikul S, Scheer S, Trujillo D, Sicro S, et al. In their own words: How trans women acquired HIV infection. *AIDS and Behavior*. 2022;26(6):2091-8.
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26. Poteat T, German D, Flynn C. The conflation of gender and sex: Gaps and opportunities in HIV data among transgender women and MSM. *Global Public Health*. 2016;11(7-8):835-48.

Sexual behaviours and structural vulnerabilities

A 2024 survey-based study in California examined differences in HIV risk and protective behaviours among 156 transgender women with a total of 336 sexual partners (2). Researchers compared transgender women who had cisgender male partners to those with non-cisgender partners (2). Findings showed that transgender women with cisgender male partners reported higher rates of sex exchange, receptive or insertive condomless sex, substance use during condomless sex, and HIV infection (2). Shared experiences of structural vulnerability—such as unstable housing and incarceration—were common among transgender women and their cisgender male partners, underscoring intersecting risk factors (2). Similarly, a 2019 study in southern California analyzed data from a cohort of 392 cisgender men who have sex with men enrolled in a randomized clinical trial on HIV pre-exposure prophylaxis (PrEP) adherence to describe characteristics of men reporting transgender sexual partners (25). Fourteen participants (4%) reported having transgender partners (25). Men who reported transgender partners were more likely to be Black, have a diagnosis of chlamydia, report sexualized drug use, or receive items in exchange for sex—factors commonly associated with higher HIV risk (25). However, due to the small number of respondents reporting transgender partners, the study could not distinguish between those partnered with transgender men and transgender women (25). Although this study did not specifically examine cisgender men who have sex with transgender women, its findings align with that of other research suggesting that cisgender men who have sex with transgender partners may share overlapping vulnerabilities with other high-risk populations, highlighting a need for inclusive HIV prevention strategies (2, 25).

Sexual identity and stigma

In addition to structural vulnerabilities, understanding the nuanced relationship dynamics (7) and the role of stigma is crucial for addressing HIV risk factors among transgender women and their male cisgender partners (8). A 2021 multi-region U.S. study analyzed secondary screening data from 710 cisgender men in primary relationships with transgender women to examine differences in relationship dynamics, sexual risk behaviours, and risk reduction strategies (7). Over half of participants (61%) identified as bisexual, and this group was among the most likely to report recent condomless anal sex with a casual male partner—behaviour that increases the connectivity of their sexual network (7). Heterosexual men, who made up 14% of the sample, were more likely to report engaging in transactional sex, have shorter and non-monogamous relationships (e.g. extra-dyadic sex: sex outside of a main relationship), show lower awareness of HIV status, and report lower PrEP uptake (7), likely reflecting differential stigma, access to services, and social support. In contrast, “queer/gender non-conforming” men (7%) had the highest rates of routine HIV testing and PrEP access, while gay men

27. Operario D, Smith CD, Arnold E, Kegeles S. Sexual risk and substance use behaviors among African American men who have sex with men and women. *AIDS and Behavior*. 2011;15(3):576–83.
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(18%) were the oldest group and most likely to be living with HIV and in committed relationships (7). The study highlights the complex, identity-related drivers of HIV risk among cisgender men who have sex with transgender women, particularly the elevated risk among heterosexual men, shaped by stigma and social norms surrounding gender and sexuality (7). In particular, the ways these men navigate tensions between their trans-inclusive partnering (e.g. relationship stigma associated with partnering with a transgender woman) and heteronormative pressures (7). In connection to the exploration of sexual identity and HIV risk, a related study examined how relationship stigma (i.e. the anticipation of negative treatment based on having a relationship with a marginalized group) specifically impacts these behaviours among cisgender men who have sex with transgender women (8). A U.S.-based survey conducted in 2020 examined 185 cisgender men in primary partnerships with transgender women to assess the impact of relationship stigma on HIV risk behaviours, with attention to differences by sexual identity (8). Researchers found that gay-identified men reported experiencing higher levels of relationship stigma from the general public compared to heterosexual men (8). In multivariable statistical analyses, greater public stigma was linked to increased odds of engaging in sexualized drug use and receiving an STI diagnosis within the past 30 days (8). These associations were statistically significant for gay men but not for heterosexual men (8). The findings underscore the importance of considering both sexual identity and sexual behaviour in HIV prevention strategies, rather than treating cisgender men who have sex with transgender women as a uniform group (8).

HIV prevention gaps among cisgender men who have sex with transgender women

There are persistent barriers to HIV prevention among cisgender men who have sex with transgender women, including low uptake of PrEP and challenges with other preventative strategies (4, 11). A 2023 study from Washington State analyzed data across five cross-sectional HIV surveillance sources collected between 2017 and 2021 to describe characteristics of recent sexual partners of transgender people (4). The total sample included 12,084 participants, 7,540 of whom were cisgender men (4). Among the 1,349

individuals who reported having any transgender partners in the past year, 131 were cisgender men with transgender women partners, and only six of these men reported being exclusively partnered with transgender women (4). Other men who have sex with transgender women reported additional sexual partners, including cisgender men (n=91, 69.5%), cisgender women (n=96, 73.3%), transgender men (n=34, 26%), and nonbinary/genderqueer people (n=44, 33.6%) (4). Statistical analyses showed that cisgender men with transgender women partners were significantly less likely to use PrEP (adjusted prevalence ratio [aPR]=0.34, 95% CI: 0.22–0.53), but more likely to have had an HIV test in the past year (aPR=1.69, 95% CI: 1.17–2.42) compared to other cisgender men in the sample, highlighting a gap in biomedical prevention uptake among this group (4). In light of these population-level findings, a 2021 qualitative study provided in-depth insight into the personal experiences, attitudes and HIV prevention perspective of 19 cisgender men who have sex with transgender women (10 straight, 8 bisexual, and 1 with no label) in two urban U.S. settings (Baltimore and Atlanta) (11). Participants reported various HIV risk reduction strategies such as condom use, HIV testing, and communication about HIV status with partners, though condom use was inconsistent and often disliked (11). While most had heard of PrEP, none were using it, citing medical distrust, and attitudes toward HIV self-testing were largely negative due to fear, distrust, and low self-efficacy (11). However, some participants mentioned privacy and convenience as benefits for HIV self-testing (11). Notably, most participants were referred to the study by their transgender women partners, highlighting their role in partner engagement with HIV-related services (11).

Relationship dynamics

Emerging research highlights how relationship dynamics between cisgender men and their transgender female partners influence HIV risk and prevention opportunities (9, 10). A 2022 study conducted in-depth interviews with 19 cisgender male partners of transgender women in Atlanta and Baltimore to better understand the role of stress and coping among cisgender men who have sex with transgender women (9). Self-reported sexual orientation from participants

included straight, bisexual, and gay (9). Interviews identified stressful, marginalizing reactions from family and friends concerning their relationship with transgender women (9). Notably, from an HIV prevention planning perspective, the researchers found that some partners of transgender women expressed ties to the LGBTQ community and spaces, which could provide an opportunity for future targeted HIV prevention efforts (9). Another study (San Francisco area) looked at how relationship dynamics, like trust and intimacy, influenced condomless sex among 191 transgender women and their cisgender male partners (10). Among this sample, many couples (45%) disagreed about whether their relationship was monogamous or open (10). In addition, findings revealed that male partners' involvement in condomless sex with outside partners (extra-dyadic HIV risk) was shaped by both their own and their partner's reasons for forming sexual agreements (10). Moreover, male partners who engaged in extra-dyadic HIV risk were over three times (adjusted odds ratio [aOR]=3.55, 95% CI: 1.10–9.55) more likely to also engage in condomless sex with their serodiscordant primary partners (intra-dyadic risk), emphasizing the importance of including cisgender male partners of transgender women in targeted HIV prevention efforts (10). Findings from both studies suggest that relationship dynamics can inform tailored joint HIV prevention programs that engage both cisgender men who have sex with transgender women and their transgender women partner as interconnected care units (9, 10).

Interventions focused on cisgender men who have sex with transgender women

Overall, there is a lack of studies that explore or test interventions for cisgender men with transgender sexual partners, including cisgender men who have sex with transgender women (3), underscoring an urgent need for targeted intervention research. In this review, we identified only a few such studies:

A couples-based HIV prevention intervention program (called “Couples HIV Intervention Program” or CHIP), enrolled 56 transgender women and their cisgender male partners (112 participants, 56 couples) living in the San Francisco Bay Area (12, 27). In this randomized controlled

trial, the intervention group (27 couples) received a mixture of three counselling sessions, two couples-focused sessions, and an individual-focused session on HIV prevention concerns, while the control group (29 couples) received a one-time couple-based session on general HIV prevention information (12). At 3-month follow up, participants in the intervention group reported a 50% reduction in odds of having condomless sex with primary partners (OR=0.5, 95% CI: 0.3–1.0), a 70% reduction in odds of engaging in sex with a casual partner (OR=0.3, 95% CI: 0.1–1.0), and a decrease in the number of casual partners ($B=-1.45$, standard error [SE]=0.4), compared with the control group (12). This research provides support for efficacy and feasibility of a couples-focused HIV intervention for transgender women and their primary partners (12).

Building upon CHIP, the “It Takes Two” couples-based HIV prevention program for transgender women and their partners (including cisgender men) showed promising results in addressing relationship stigma and involving partners in HIV prevention efforts (13, 14). A randomized controlled trial conducted between 2019 and 2022 by Gamarel *et al.* (2025) among 52 couples (104 individuals) found that, although the intervention group (26 couples receiving four 1-hour counselling sessions) did not significantly impact HIV vulnerability compared to the control group (26 couples receiving educational videos), the intervention was associated with reductions in relationship stigma among partners of transgender women at 3, 6, and 12 months post-intervention (13). A secondary analysis of these data revealed disparities between in-person (40% of couples) and digital (60% of couples) participants: in-person participants were more likely to be Black, have cisgender male partners, report higher unemployment and incarceration histories, and experience greater relationship stigma, and lower relationship quality (14). For the “It Takes Two” trial, study operations transitioned to digital formats during the COVID-19 pandemic, and eligibility criteria were expanded to include transgender women and their partners living anywhere in California rather than being restricted to the San Francisco Bay Area (13). To ensure equity in reaching communities disproportionately impacted by HIV, the authors recommend researchers incorporate hybrid

or in-person options to overcome structural vulnerability barriers (14).

A 2018 study conducted in the New York City and Boston areas examined the perceived acceptability of couples' HIV testing and counselling (CHTC) intervention for transgender women-male couples (dyads) from the perspective of cisgender men who partner with transgender women (3, 28). In this mixed-method study, 19 cisgender men were surveyed to collect data on the acceptability of CHTC as well as on perceived barriers and facilitators to seeking this service for transgender women-male couples (28). Acceptability of CHTC was high (89.5%), but complex and contingent on several factors including relationship dynamics (e.g. commitment and monogamy), HIV-risk perception, understanding of sexual agreements, and personal relationships versus other transgender woman-male relationships (28). These findings have implications for culturally adapting and implementing CHTC in real-world settings for cisgender men-transgender women couples and individual HIV testing needs for cisgender men who have sex with transgender women (28).

Factors That May Impact Local Applicability

Most research evidence identified in the literature comes from specific U.S. urban contexts, which may not reflect the health care systems, cultural dynamics, or social and structural determinants present in other regions, including Ontario or Canada. Overall, HIV-related research focusing on cisgender men who have sex with transgender women was scant, and most studies used non-random or convenience sampling, potentially increasing risk of bias and limiting generalizability. This makes it difficult to draw conclusions about the broader population of cisgender men who have sex with transgender women.

The small sample sizes in the intervention studies (e.g., 56 couples for CHIP; 52 couples for "It Takes Two") suggest the findings should be viewed as preliminary and the results should be interpreted

with caution.

In Ontario, HIV-related data on transgender people has not been collected in a consistent manner over time (29). For this reason, transgender people are not included in any of the HIV diagnosis counts or rates when stratified by sex (29). Thus, there is a lack of data on transgender women and their sexual partners (including cisgender men who have sex with transgender women). As data collection becomes more consistent with capturing transgender identity, future Ontario HIV epidemiological reports may incorporate this information (29).

What We Did

We searched Medline (including Ovid MEDLINE and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations) using the term HIV in titles or abstracts AND (text terms transsexual* or transgender* or "trans gender*" or transpeople* or transwom#n or nonbinary or "two spirit*" or Transvestite or gender nonconforming or genderqueer or trans wom#n or chaser* or trans adj3 [people or individual or individuals or person or persons or sexual* or man or men or male or female or youth* or woman or women or population* or gender* or sex worker* or adult* or patient* or participant* or masc* or femme* or feminine*] or MeSH term exp Transgender Persons/). Searches were conducted on May 22, 2025 and results limited to articles published in English since 2015. Reference lists of identified articles were also searched. The searches yielded 1,824 references from which 29 were included.