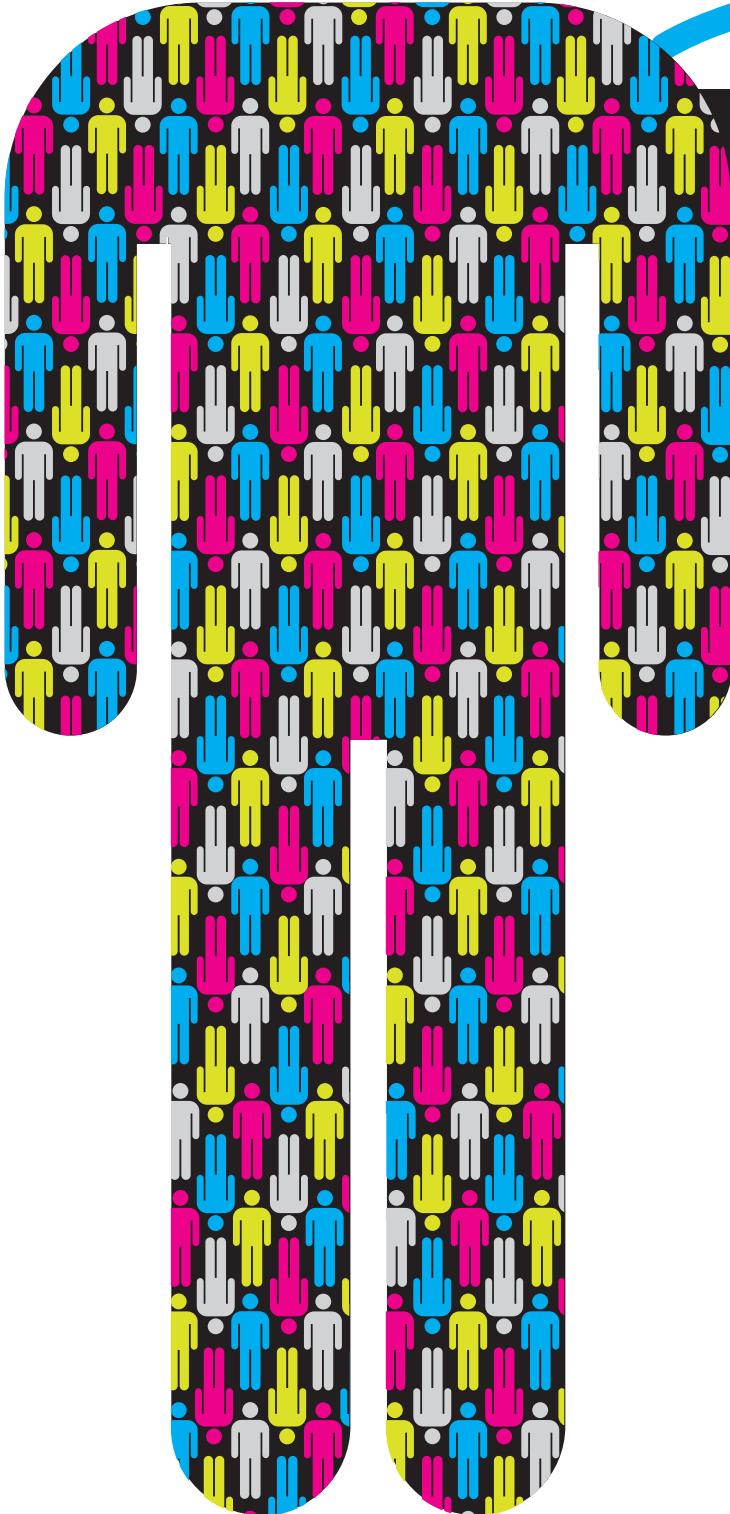




Man Count



Sizes-up the Gaps



A sexual health survey
of gay men in Vancouver

Every second day in BC, another gay man is diagnosed with HIV. 150-190 new cases, year after year over the last decade. Between 2000 and 2010 as many as 1,800 gay men were added to the ranks of those living with HIV in BC today.

Introduction

Since it first came to public attention in the early 1980s, HIV has had an immeasurable impact, affecting certain groups more than others, chief among them gay men. According to estimates for 2008 from the Public Health Agency of Canada (PHAC) 51% of existing HIV cases nation wide were among gay men and other men who have sex with men (MSM).

Every second day in BC, another gay man is diagnosed with HIV. 150-190 new cases, year after year over the last decade. Between 2000 and 2010 as many as 1,800 gay men were added to the ranks of those living with HIV in BC today.

Throughout these years community efforts have been deliberate but daunting. Knowledge and experience with changing conditions have grown. Resources have been reorganized. But significant gaps continue to exist, particularly around community prevention. While it is widely assumed that prevention efforts directed toward BC's gay population are well resourced, the reality of continuing transmission leaves considerable doubt that the response has been adequate for the size and scope of the problem.

No-one knows the true size of the gay male population of Greater Vancouver but conservative estimates suggest at least 20,000—a population larger than the suburban

City of White Rock. Surveys conducted by the Community Based Research Centre (CBRC) over the last decade have attempted to gain an understanding of the gay population and dynamics affecting HIV prevention. By surveying thousands of men at Pride Festivals and on the Internet between 2002 and 2008 the Sex Now survey helped to gain an appreciation of the extent of HIV infection among BC's gay men, at least in those diagnosed. HIV prevalence in Vancouver's gay men was

estimated at 16% in 2008.

These studies also disclosed sweeping changes to the way gay men meet new partners with the influence of the Internet, changes that may be affecting HIV transmission. Until ManCount, however, such findings had no corroboration with biological evidence.

ManCount is a second-generation HIV surveillance study linked to M-Track, a national monitoring program

organized by PHAC. In studies of this type, researchers systematically collect biological samples and information on transmission risks to interpret, track and describe dynamics in the epidemic over time. ManCount collected dried blood samples and questionnaires from 1,139 men visiting Vancouver's gay venues to assess the prevalence of HIV infection, differences between HIV negative and positive men and the gap between those aware and unaware of having an HIV infection. It was the first study of its kind for Vancouver and may well be repeated to track change over time.

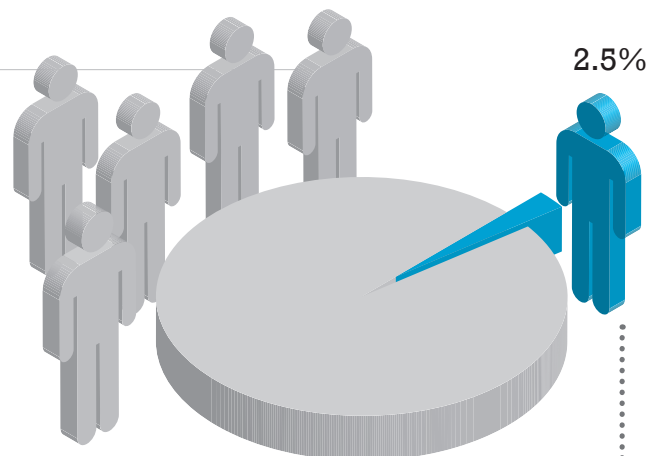
ManCount Sizes up the Gaps

- Biological evidence of HIV prevalence
- Individual awareness of HIV status
- Testing practices
- HIV transmission risks
- Behavioural links to biological samples

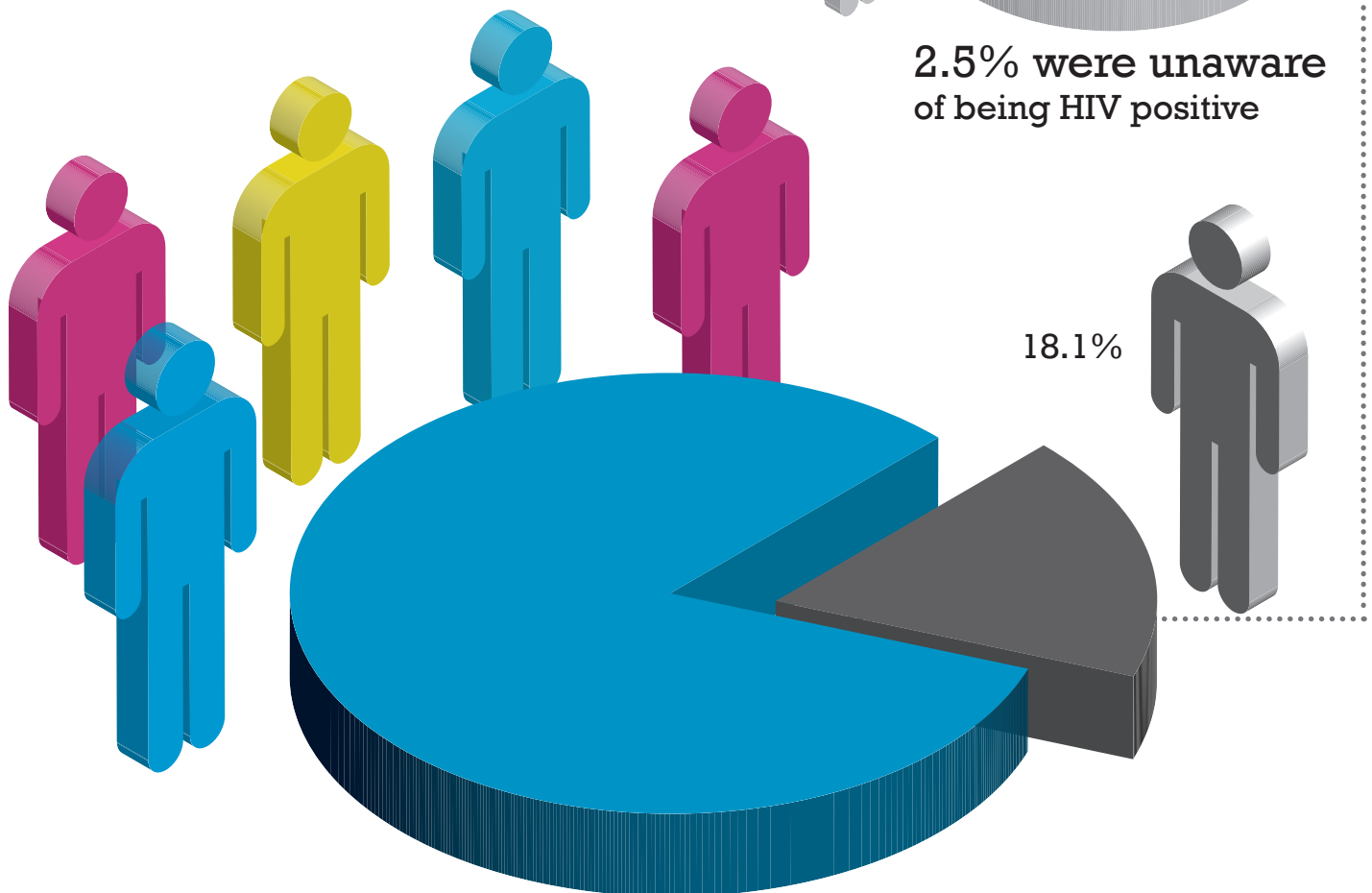
Key Findings

ManCount men: n = 1,139

**18.1% were HIV positive
by blood sample**



2.5% were unaware
of being HIV positive



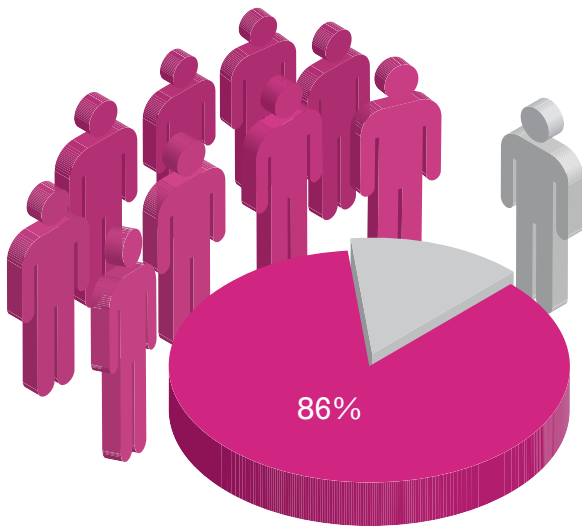
18.1%

About these results: HIV positive blood samples are commonly calculated as a proportion of the whole survey population and those “unaware of their infection” as a proportion of positive blood samples. Analysis disclosed that 14% of ManCount’s HIV positive blood samples were from men who were unaware of being positive. This figure is often used to estimate undiagnosed infection, but it is difficult to visualize proportions-within-proportions in the community. In this text we have described the group of HIV positive unaware men as a proportion of the whole population – 2.5 % – to demonstrate what it may mean in terms of a typical night club scene in Vancouver: a ratio of 1 in 40.

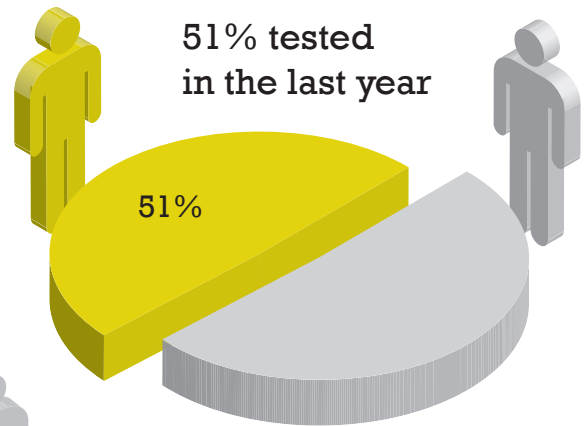
Men unaware of being HIV positive were **3 times more likely** to engage in unprotected sex than known negative men and highly likely to be seeking negative partners.

Similar surveys have been conducted in Montreal, Ottawa, Toronto, Winnipeg and Victoria. The questionnaire investigates sexual experiences over the previous six months. Each respondent's blood sample is linked to their questionnaire. Respondents receive an honorarium for their participation. ManCount also asked a subsample of men to participate in an additional study, unique to Vancouver, by providing an anal swab for Human Papillomavirus (HPV) screening.

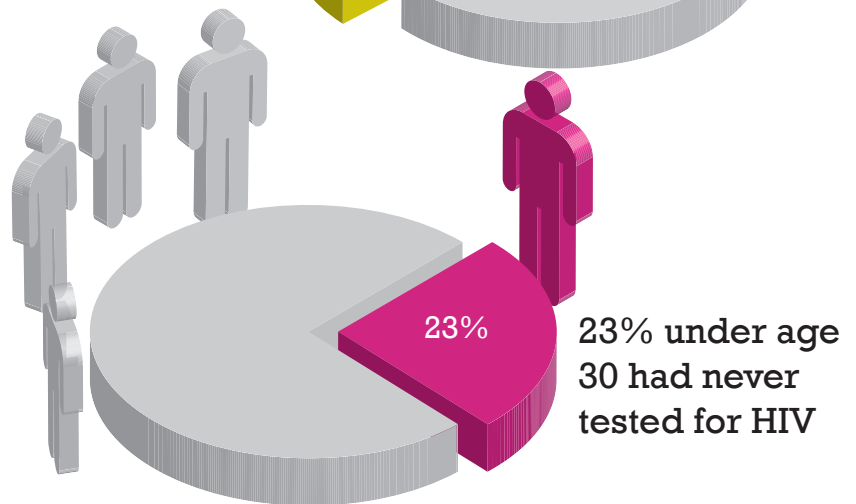
Findings from ManCount will help to clarify current circumstances and point toward renewed prevention objectives. The outline of the evidence describes a troubling situation of unacceptably high HIV prevalence and chronically high rates of HIV infection.



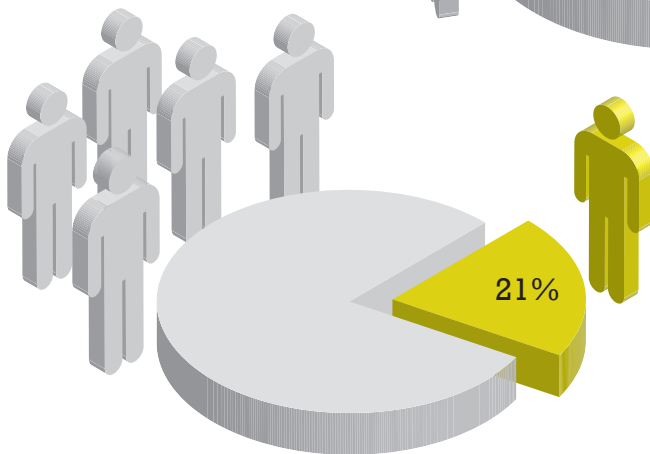
86% had tested for HIV



51% tested in the last year



23% under age 30 had never tested for HIV



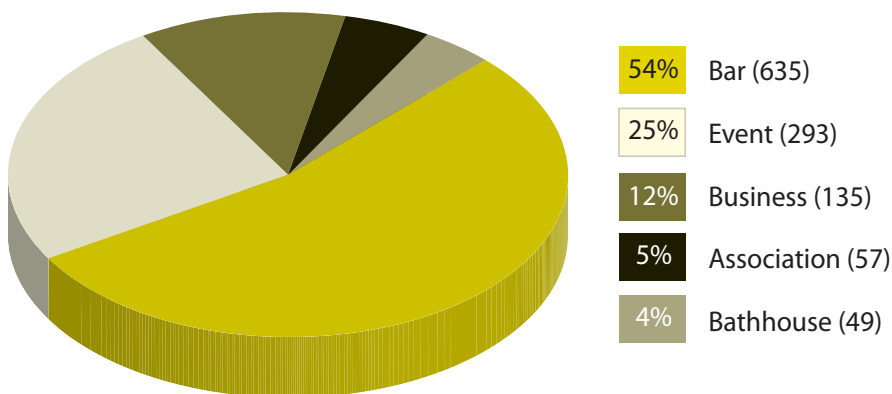
21% had unprotected sex with unknown or different status partners in the previous 6 months

Who got Counted?

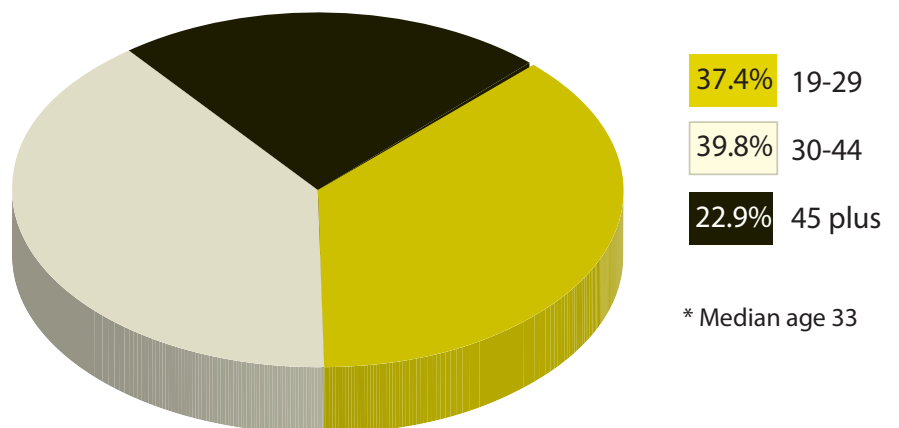
From August 2008 to February 2009, ManCount approached 3,324 men in Vancouver's popular gay venues. Any man over the age of 19 who had had sex with another man was eligible. 1,169 completed the survey and 1,139 provided blood samples. Some of those approached had already participated which made the final participation rate 42%.

ManCount used time-space sampling—varying recruitment times at prime locations—to ensure a diverse sample of men in Vancouver's gay venues. While every effort was made to obtain an unbiased sample, recruiting in popular venues ultimately consults only the population that attends them. Surveys at Pride Festivals or the Internet, for example, produce moderately different views of the gay population due to the respective appeal of those settings to different members of the population.

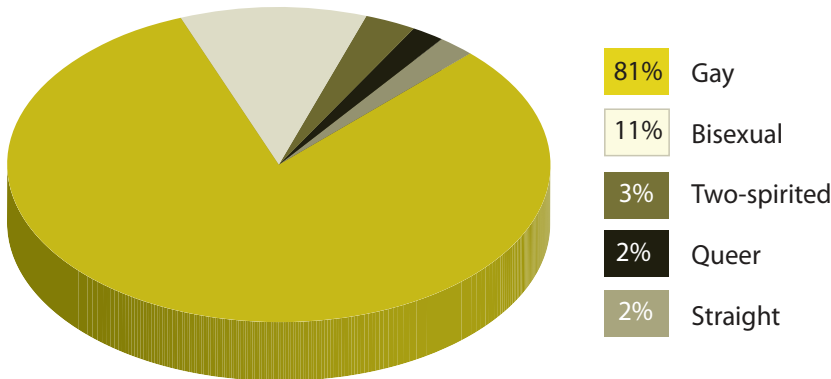
Participation by Venue



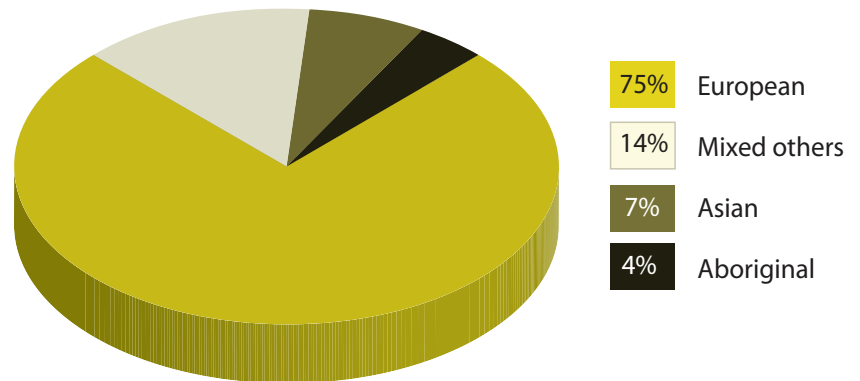
Participation by Age



Participation by Orientation



Participation by Ethnicity



The majority of ManCount men were from Vancouver and the Greater Vancouver Region. A 12% portion were visitors from nearby cities like Bellingham, Calgary and Seattle, and other Canadian cities like Montreal and Toronto. There was also representation from cities much further away such as Amsterdam, Auckland, Brisbane, Paris and Mexico City. All of these men were considered part of the sexual marketplace of Vancouver's gay venues and were thus included in ManCount.

One of ManCount's main contributions was its use of blood samples to assess the prevalence of HIV, STI's and Hepatitis C in the

population. The results are representative of Vancouver's gay venues but may vary when considering men from the region apart from visitors. For example, ManCount showed HIV prevalence to be slightly higher among Vancouver residents and Sex Now surveys have shown slightly lower prevalence in other regions of BC. In general, all the results reported here should be taken as estimates which may vary by plus or minus a few percentage points depending on the context and who got counted in ManCount. The primary purpose of these results is to provide reliable—though arguably imperfect—indicators on the road to a community response.



ManCount blood samples showed that at least 2.5% (1 in 40) were unaware of their **HIV positive status**.

Biological Results

Blood sample results are an effective way to demonstrate the extent of HIV in the community with biological evidence. ManCount results showed that 18.1% of the men in the sample were HIV positive—suggesting almost 1 in 5 in Vancouver’s gay venue population were HIV positive at the time of the survey.

Considering only men from the Greater Vancouver Region, ManCount found that 20.8% were HIV positive by blood sample.

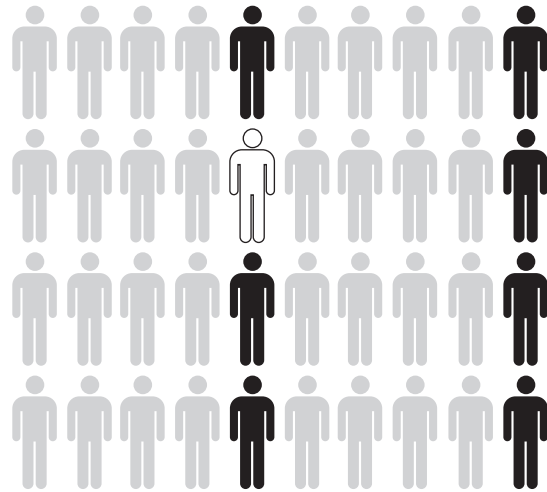
This evidence indicates that HIV prevalence is very high among Vancouver’s gay men—so high that the level of infection in the community alone would be a major influence in any gay man’s likelihood of getting infected.

Answers to specific questions in the survey broadened this finding to show the proportion “aware” and “unaware” of their status. About 14% of blood-sample positive men thought they were HIV negative. In other words, 2.5% or 1 in 40 of all ManCount men were unaware of being HIV positive.



18.1 %

1 in 5 were positive by blood sample



2.5 %

1 in 40 were unaware they were HIV+



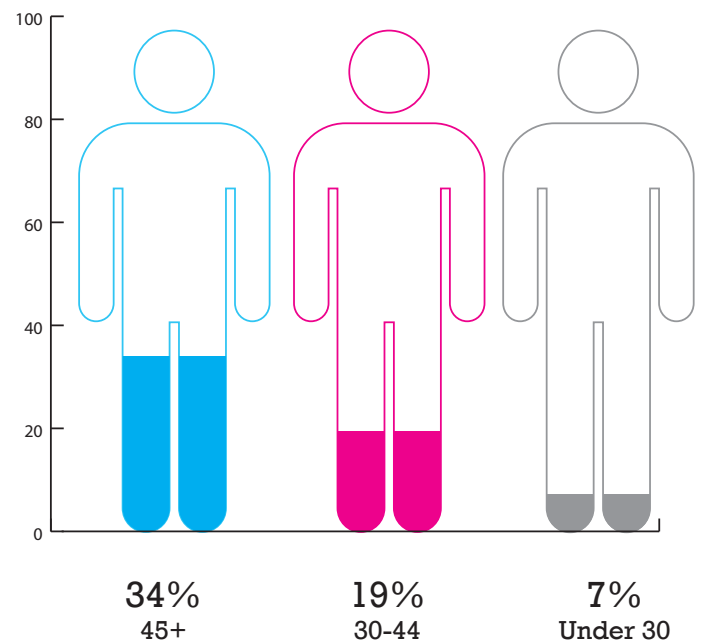
This evidence indicates that HIV prevalence is very high among Vancouver's gay men – so high that the level of infection in the community alone would be a major influence in any gay man's likelihood of getting infected.

ManCount results showed that HIV prevalence increased with age which means there were increasingly more positive men in older age groups. Greater opportunity for HIV transmission appears to occur with the passage of time over the lifespan.

While lower prevalence among younger men may seem cause for optimism, at the current rate of new infections, young men under 30 now may see the same HIV prevalence among their peers when they reach 45 as seen in older gay men today—unless conditions change.

If estimates that at least 20,000 gay men live in the Vancouver area are correct, ManCount's evidence could mean that as many as 500 would be unaware they are HIV positive. Due to survey sampling in popular venues, however, such calculations need to be appreciated with some caution as HIV prevalence may vary somewhat lower in the whole population.

HIV Prevalence by Age Group



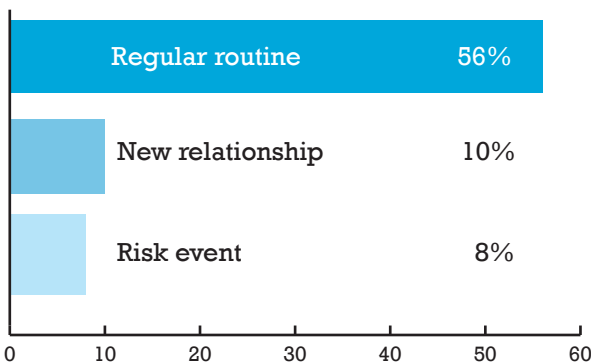
Testing Practices

ManCount results showed that testing participation is robust but they also revealed gaps to be addressed.

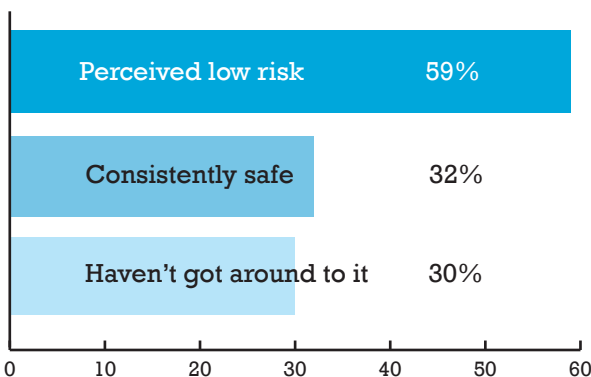
86% of ManCount men had tested for HIV at some point in their lives, 51% within the previous year.

These findings suggest that individual awareness of HIV status among ManCount men is relatively high. Nonetheless, ManCount blood samples showed that at least 2.5% (1 in

Top 3 Reasons for HIV Testing



Top 3 Reasons for Not Testing



40) were unaware of their HIV positive status. Importantly, half of those positive unaware men had tested for HIV at least once (most more than once) over the previous 2 years, indicating that their infection may have occurred between screenings.

ManCount results show that 14% overall had never tested for HIV. However, a significantly larger portion (23%) of young men under 30 had never tested.

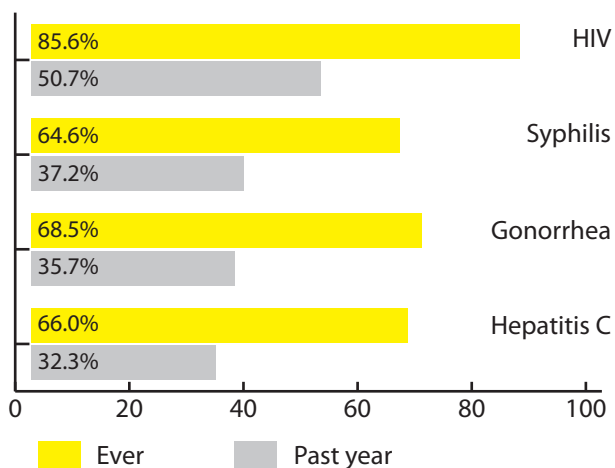
Can testing participation improve? ManCount found that 67.9% of respondents had tested at least once for HIV in the last 2 years. Routine screening, entering a new relationship and potential exposure appeared to be the most common reasons for having an HIV test. A range of other less common reasons such as finding out a partner had been infected or experiencing symptoms were documented.

The most common reasons for not testing related to perceived “low risk” and “consistent safety”. For a significant portion (30%), however, not testing was simply procrastination. Further analysis showed that, to a great extent (92%), those who perceived themselves to be at low risk actually were at low risk by what they reported in their sexual behaviour.

Testing for Other Infections

Because they are health risks in their own right and may also facilitate HIV infection, ManCount collected information about experience with other Sexually Transmitted and related Blood Borne Infections (STBBI).

Tested



In general, ManCount men tested for STBBI less routinely than HIV.

Participants also reported on whether they had been diagnosed with an STBBI at some point in their lives and within the last year.

Blood samples were used to test for the presence of Syphilis and Hepatitis C (HCV) in the population.

Since Syphilis infection may occur even with condom use and symptoms are not always visible, routine STI testing is an important means of preventing its spread. To determine the extent of undiagnosed disease among ManCount men blood samples were tested for Syphilis antibodies. The results showed past or current Syphilis infections in 50 or 4.4% of ManCount men and about 31% of them appeared to be unaware of their antibody status.

Similarly, ManCount blood samples were tested for the presence of HCV antibodies. Community experience has suggested that HCV is being sexually transmitted among HIV

Diagnosed (self-reported)

	Ever	Past Year
<i>Gonorrhea</i>	22.5%	4.9%
<i>Chlamydia</i>	13.7%	3.4%
<i>Genital warts</i>	17.9%	4.1%
<i>Syphilis</i>	7.8%	2.2%
<i>Genital herpes</i>	7.3%	2.6%
<i>Hepatitis A</i>	5.6%	0.9%
<i>Hepatitis B</i>	7.6%	1.8%
<i>Hepatitis C</i>	4.9%	2.0%
<i>Any STBBI</i>	37.8%	11.2%

positive men. ManCount results were positive for 56 or 4.9% of participants indicating past or current HCV infection, and about 23% of them appeared to be unaware of their antibody status. While most of these had men with histories of injection drug use, some (15%) did not and so these findings appear to support the sexual transmission theory.

A sub-sample of participants provided self-collected rectal swabs to test for Human Papillomavirus (HPV), Chlamydia, Gonorrhea and anal cancer. A total of 239 swabs were tested of which approximately two thirds were adequate for analysis. About 62% were positive for HPV: 79% HIV positive men and 57% HIV negative. Cancer screening showed cell abnormalities in 64% of HIV positive men and 34% of HIV negative men. Rectal swab prevalence of Chlamydia was 5.4% and Gonorrhea 2.1% . While high, these findings are similar to what has been reported in other studies of gay men elsewhere.

Sexual Health and Behaviour

ManCount findings suggest that a majority of participants were actively avoiding HIV transmission in a range of ways but there were evident inconsistencies. Given the persistently high prevalence of HIV in the population such inconsistencies have the potential to be random opportunities for viral transmission. In ManCount the main issues appeared to be doubtful risk reduction practices, faulty assumptions and miscommunication.

The data paint their picture of Vancouver's scene based on explicit questions which provide behavioural clues about the population's experience with HIV and prevention. Due to this specific focus, however, ManCount does not shed much light on the attitudes, motivations, beliefs or values of its respondents.

Most studies of this type show that the majority of gay men have more than one sexual partner over a six month period. About a third of ManCount men had 1 or no partners over a six month period, a third had 2 to 5 and another third had more than 5 (some many more).

About 70% of ManCount men reported anal sex over this period. 58% of them said they used condoms on the most recent occasion. A substantial portion of the men who

had not used condoms may have been with an exclusive partner but the data are unclear on this point. 44% of ManCount men had one "regular partner"—someone with whom they had had sex more than once. But 36% said they had "regular" and "casual" partners at the same time.

ManCount probed a range of risk reduction strategies that men may be using to avoid transmission. About 71% of HIV

positive men reported that they took anti-retroviral (ARV) medications over the previous 6 months—a practice thought to reduce viral load and potential transmission. Asking about HIV status prior to sex (to arrange informed consent or same-status partnering) appeared to be as common among positive men as negative.

The likelihood of unprotected sex tended to increase with the volume of casual partners. 21% of

ManCount men reported unprotected casual sex with unknown or different status partners. Less than a third of those with 2-5 partners over the period reported such events compared to more than half of men with 10 or more partners.

ManCount probed the extent to which men were using alternative risk reduction strategies for sex without condoms. While not as effective as condoms, men using these strategies are thought to lower the likelihood

The main issues appeared to be doubtful risk reduction practices, faulty assumptions and miscommunication.

Risk Reduction

	HIV- men	HIV+ men
Condoms always	68%	not asked
Ask status	63%	63%
Omit anal sex	not asked	58%
Control ejaculation	44%	46%
Same status partner	35%	50%
Strategic positioning	34%	37%
Low viral load	7%	23%

About these results:

Not asked. HIV positive and HIV negative men were asked separate sets of questions to detail their risk reduction practices.

of HIV transmission compared to men who use neither condoms nor risk reduction. Serosorting—seeking a same status partner for sex without condoms—was more common among HIV positive men but at least a third of negative men also appeared to be serosorting with other men they thought to be negative. Strategic positioning—taking the least exposing sexual role to reduce transmission risk—was equally common among both positive and negative men in such situations, as was ejaculation outside the body. Exploiting low viral load as a strategy for reducing transmission risk appeared to be in effect but much less common among HIV negative than positive men.

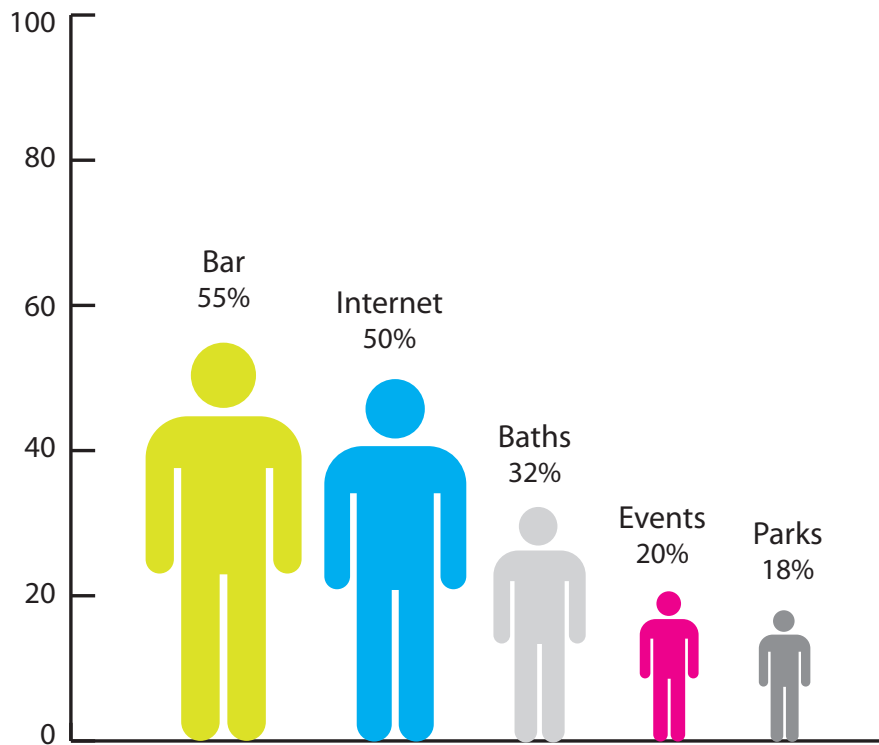
Because ManCount was created to evaluate the dynamics of sexual transmission, the role of those unaware of their HIV positive status in this scene is crucial to understand. ManCount showed that, not only about 2.5% or 1 in 40 local gay men may be unaware they are positive, but also that they were substantially more likely

to engage in unprotected sex than most HIV negative men. These findings may well explain how they became infected in the first place and how they persist in having unprotected sex unaware that they may be transmitting HIV to others. As studies in other cities have shown, these findings suggest that men unaware of their positive status may be contributing substantially to new infections in Vancouver as well.

ManCount data disclosed that as many as half of the HIV unaware men were likely infected between routine screenings. More to the point, a majority were highly likely to be seeking known negative partners in a misguided belief of their own negative status—a faulty assumption of otherwise well intended serosorting.

In an environment where a small but substantial minority of men are using alternative risk reduction strategies such as serosorting instead of condoms, ManCount measured “pressure for unprotected sex” as

Top Sex Seeking Settings



Odds of Unprotected Sex

Baths	4.3
Internet	2.6
Gay Bar	2.4

About these results:

Men seeking sex at the baths were 4.3 times more likely to have unprotected sex with an unknown or different status partner than users of other settings. Those seeking sex on the Internet were 2.6 times more likely and at gay bars 2.4 times more likely to have unprotected sex with unknown or different status partners than users of other settings. These statistics may be an indication of differences in the cultures of sex seeking settings.

an indicator of this complex social tension. As many as 29% of ManCount men overall reported feeling pressured this way once or more over the previous 6 months. However, 50% of men who actually had unprotected casual sex reported such pressures—indicating a very high likelihood that the influence of social pressures is significant. The odds that men unaware of being HIV positive had experienced this pressure were also substantially greater than among aware positive men. Recent qualitative research suggests that some social pressure may be coming from simply not having a condom on

hand. Whatever the cause, the association with HIV transmission risk is substantial.

ManCount analyzed many sex seeking settings including shops and community groups. In general, these findings showed that men who looked for sex in baths, bars and

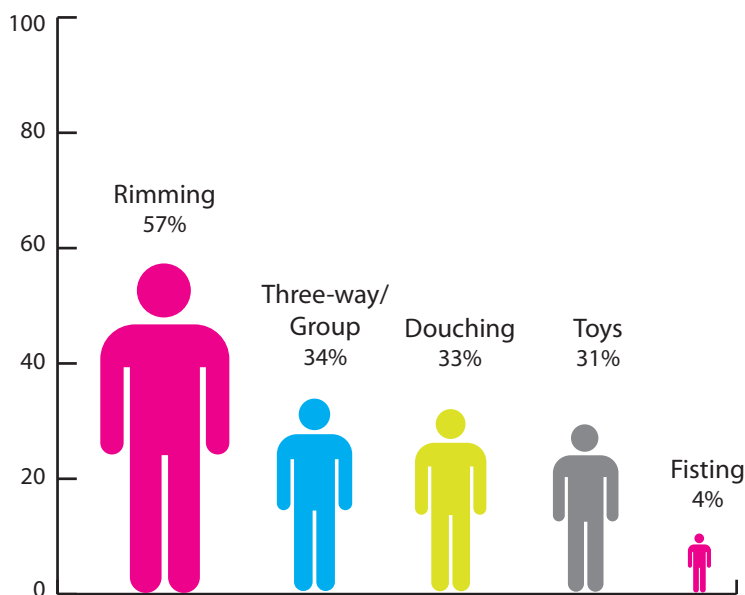
50% of ManCount men who reported unprotected casual sex said they experienced social pressure for sex without condoms.

the Internet were much more likely to report unprotected sex with unknown or different status partners than men who explore other settings.

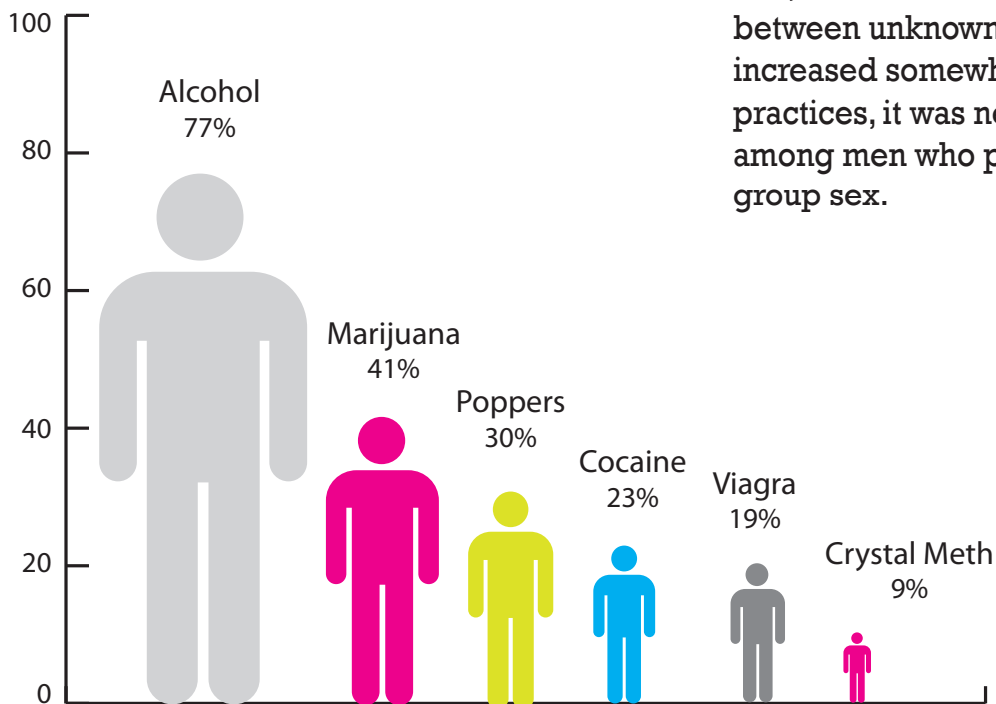
The use of alcohol and or recreational drugs was not uncommon among ManCount men, however, trends change. While the extent of Cocaine use (23%) has dramatically increased relative to previous Sex Now surveys, Crystal Meth use (9%) has seen a slow decline. Further analysis of ManCount findings showed that Poppers, Crystal Meth and Cocaine were most associated with unprotected sex between unknown or different status partners.

ManCount investigated specific sex practices to find out how common they were and what links they may have with

Other Sex Practices



Drugs Prior to Sex



HIV transmission risks. The analysis showed that, while the likelihood of unprotected sex between unknown or different status partners increased somewhat with most of these practices, it was nearly 3 times more likely among men who participate in three-ways or group sex.

The Implications

ManCount has contributed a milestone toward understanding the situation of gay men and HIV in Vancouver. The biological evidence of HIV prevalence at 18.1% in gay venues puts Vancouver in league with other major cities like Toronto, New York or San Francisco. The rate of undiagnosed HIV (14% of positive blood tests / 2.5% of the population) was similar to other M-Track sites. Overall, ManCount's biological data confirm what other surveys have been unable to describe so reliably. Vancouver's gay men live in an environment of chronically high HIV prevalence that only increases the probabilities of new infections. The question is what does ManCount suggest we do?

The biological evidence that ManCount has brought to the fore is perhaps its most compelling contribution toward refining the primary prevention message for gay men. ManCount findings—that 1 in 40 men were unaware of an HIV infection; that half of them were likely infected between routine screenings; that they had a high likelihood for casual sex without condoms and that the majority were seeking men they knew to be HIV negative—bear a warning message about “serosorting” between assumed “negative” men.

As a risk reducing strategy for casual sex

without condoms, seeking same status partners is likely having a preventive effect in the gay population, however, the extent is unknown and perhaps unknowable. Same status partnering is a mainstay of positive prevention and serosorting is widely practiced among positive men. On the other hand, ManCount findings expose the extent of random transmission risk involved in serosorting among men

Instead of a condom pitch, a new campaign might feature a testing message suggesting shorter intervals between screenings.

who believe themselves negative. Through biological samples ManCount provides a useful estimate of the risk in Vancouver: 1 in 40—a ratio that is visible in any bar or café.

ManCount's findings on HIV positive unaware men are reminiscent of a prevention message campaign designed for San Francisco nearly a decade ago and adapted for Canadian men five years later: known as “Assumptions”. The

campaign featured the mistaken assumptions that men often make about their partner in a sexual transaction. ManCount's biological findings confirm the role of such “assumptions” in Vancouver's current sexual culture and extends the meaning of the message to what gay men may assume about their own HIV status, not just their partner's. Instead of a condom pitch, a new campaign might feature a testing message suggesting shorter intervals between screenings.

A consensus is growing that sexually active men should test more frequently than

Considering that nearly one quarter (23%) of young men under age 30 had never been tested suggests targeted efforts to increase their participation.



once a year, perhaps every 3-6 months among some men, depending on their volume of partners and types of exposures. More status aware men would lower the probabilities of transmission in the existing sexual culture. Considering, that so many HIV unaware men in ManCount may have been between screenings, the main message on testing appears to be about frequency or shorter intervals.

While ManCount's findings suggest that HIV testing participation is relatively strong with 86% having ever tested overall, routine testing was less so. About 51% tested in the previous twelve months, however, some of those who did not test may not have been active in the sexual marketplace. On the other hand, ManCount men tested for STBBI much less regularly than HIV. Little more than a third had participated in those screenings routinely. Increasing reports of sexually transmitted Hepatitis C suggests that more STBBI screening is warranted. Some gains could be made by improving the overall access and efficiency of testing services and intensifying related messages about reduced screening intervals.

Research in Vancouver since ManCount indicates that few gay men are aware of the

reduced window period or rapid results available with new HIV testing technologies: that they can test as early as 10 to 14 days after a potential transmission event or get their results in the same visit. With the introduction of "early" and "rapid" HIV testing services, now offered through the Health Initiative for Men (HIM) Sexual Health Centre on Davie Street, this gap has been narrowing but receptivity in the community is still largely unknown. An intercept survey conducted in some of the same venues as ManCount showed that rapid testing was most desired regardless of window period.

Considering that nearly one quarter (23%) of young men under age 30 had never been tested suggests targeted efforts to increase their participation. The Totally Outright program, designed for this age group, has been gaining some momentum by training peer sexual health leaders aged 18-26. Recent graduates, however, find the mission to engage gay youth in community health action both difficult and demanding with given resources.

ManCount also showed a significant link between "pressure for sex without condoms" and HIV transmission risks. Taken as an indicator of condom availability, the evidence points toward ensuring better condom distribution in popular gay venues, especially the baths. Since ManCount, for example, a renewed condom distribution program was launched by HIM which, contrary to expectations, exceeded distribution goals by tenfold.

Taken as an indicator of social coercion, the extent of pressure for sex without condoms might also suggest extending prevention

activities aimed at strengthening gay men's self assurance. Because HIV prevention research has shown a strong link between oppressed mental states and HIV transmission risks, assertiveness training or similar personal strengthening activities might be significant and popular community prevention tools. The BC Persons with AIDS Society has recently implemented services, for example, specifically intended to support men recently diagnosed with an acute infection found through "early" HIV testing. Counseling and peer services aimed at dealing with depression and assertiveness in gay men are being explored by HIM.

Given the high prevalence of HPV and cell abnormalities among ManCount participants, the HPV vaccine could potentially have a large impact on health outcomes for both HIV positive and HIV negative gay men. Gardasil,

one of two HPV vaccines, is now licensed for use in boys and young men to protect against external genital warts, and recent evidence shows that the vaccine has an impact in gay and bisexual men for the prevention of early forms of anal cancer. Once the vaccine is recommended for boys or gay men in Canada, community groups will have an important role to play in education and advocacy for HPV vaccination, as they have had with Hepatitis A and Hepatitis B vaccination.

Local efforts in all these directions have been under way, however, under ad hoc arrangements, little coordination and dauntingly scarce funding. Further studies of ManCount results will likely reveal more refined information about how to direct ongoing efforts and others as new responses emerge.

Suggested Citation:

Trussler, T., Banks, P., Marchand, R., Robert, W., Gustafson, R., Hogg, R., Gilbert, M., and the ManCount Survey Team (2010) *ManCount Sizes-up the Gaps: a sexual health survey of gay men in Vancouver*. Vancouver Coastal Health: Vancouver.

Please go to www.mancount.ca to download an electronic copy of the report.

About the ManCount results:

ManCount's HIV prevalence finding (18.1%) is based on a highly accurate blood test. Overall HIV prevalence was measured as a proportion of reactive (HIV positive) to non-reactive tests for the whole survey sample. However, the estimated proportion of undiagnosed HIV (14% of positive tests) was calculated based on answers to survey questions (self-reports): a research practice that introduces greater opportunity for error and uncertainty than a biological test.

Thanks to all who completed the survey. Your participation counts.

Thanks to all the groups, events and businesses that provided sites for sampling:

Celebrities	Metro Vancouver Kink
Fountainhead	Primetimers
Numbers	AIDS Walk
Odyssey	Davie Days
Pumpjack	Fuck Off and Dance
Little Sisters	Gay Men's Health Summit
Rhizome Café	Koodo
F212	Oddball
Boys'R'Us	Out On Screen
Club 40/50	Pride
GAB Youth	Red 8
Gay Warriors	Vick Vancouver Party

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