

Engage Montréal

Portrait of the sexual health
of men who have sex with
men in Greater Montréal

Cycle 2017-2018
Highlights



INTRODUCTION

The objective of the Engage study is to provide an up-to-date portrait of various aspects related to the sexual health of gay, bisexual and other men who have sex with men (gbMSM). This information aims to support prevention interventions.

Participants are residents of Vancouver, Toronto or Montréal, and have been sexually active with other men in the past 6 months. Montréal's public health department is doing the Montréal component of the study in collaboration with a team of representatives from community organizations, universities and public health.

Engage is the most recent study of gbMSM undertaken in Québec that combines observations collected through a questionnaire and biological samples (the last study of this nature dates back to 2008). The samples were tested for sexually transmitted and blood-borne infections, including human immunodeficiency virus (HIV).

Recruiting a representative sample of a specific population always presents a challenge. The Engage study used an adapted form of chain referral sampling: participants were recruited through people who have already participated in the study.

This method is expected to result in a diverse group of gbMSM. The data collected were then adjusted for the size of participants' social networks (see note on recruiting participants for the Engage study, page 7) to improve representativeness.

Between February 2017 and June 2018, a total of 1179 cisgender and transgender men aged 18 to 80 years took part in the Engage Montréal study. The study reached many gbMSM under 30 years of age, those with an annual income below \$30,000 and men of ethnocultural background other than French- or English-Canadian (see Table "Socio-demographic Characteristics of Respondents"). It is pertinent to consider these characteristics in the interpretation of results presented.

The current document provides an overview of indicators from the study. The indicator's value is situated within the reported margins with a level of confidence of 95%.

More information regarding the study and related publications are available at the websites of Engage Montréal and of the Montréal's public health department (see links below).

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THE ENGAGE TEAM: Members of the Engage Montréal team cycle 2017-2018: M Messier-Peet (research coordinator) and H Apelian (research assistant), M Charron, E Nassif and M A Primeau (research nurses) as well as AS Le and D Fernandes (study site personnel).

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Men who are 16 or older living in Greater Montréal' and having had sexual relations with other men in the past 6 months

n=1 179^{2,3}
Unadjusted %

SOCIODEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS	
Is under 30 years old	32.6
Was born in Canada	69.6
Identifies with an ethnic group other than French- or English-Canadian	37.8
Lives on the island of Montréal	92.3
Highest level of education completed: either elementary school, high school or trade/vocational/technical institute	29.9
Has an annual income before taxes ⁴ of less than \$30,000	57.5

	n=1 179 ^{2,3} Adjusted %	95% Confidence Interval (CI)
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GENDER, SEXUAL ORIENTATION AND GAY SOCIAL LIFE		
Identifies as gay or homosexual	76.1	71.4 - 80.7
Identifies as queer ⁵	4.5	2.3 - 6.7
Identifies as a trans-man	2.1	0,2 - 4.0
Is in a relationship with a main partner (man, trans-man, woman, trans-woman, genderqueer/gender non-conforming) for the past 6 months or more	40.9	35.9 - 45.8
Spends 50% or more of his social time (i.e., time spent with others outside of work) with gay/bi guys who he knows quite well, in the past 6 months	32.5	27.6 - 37.3
Has experienced the following forms of discrimination (detailed in the “Heterosexist Harassment, Rejection and Discrimination Scale” ⁶), at least once, in the past year:		
1. “Been called a name like homo, fag, or other names in a derogatory manner”	59.7	54.5 - 64.9
2. “Heard anti-gay/bisexual remarks from family member”	55.8	50.6 - 61.1
3. “Been treated unfairly by strangers because you are a gay/bisexual man”	53.6	48.4 - 58.9
4. “Been verbally insulted because you are a gay/bisexual man”	47.2	42.0 - 52.5
5. “Been treated unfairly by your family because you are a gay/bisexual man”	42.3	37.0 - 47.5

SEXUAL ACTIVITIES (in the past 6 months)		
Has had a sexual relation with 1 female partner or more	11.9	8.4 - 15.5
Has had a sexual relation with 6 male partners or more	37.9	33.2 - 42.7
Has had anal sex with 1 male partner or more	84.1	80.4 - 87.7
Has had anal sex with 6 male partners or more	21.2	17.3 - 25.1
Has had anal sex without a condom with a male partner, at least once	57.9	52.7 - 63.0
Has had anal sex without a condom with a male partner of unknown or discordant HIV status, at least once	32.5	27.8 - 37.1

CONTEXTS IN WHICH SEX PARTNERS WERE MET (in the past 6 months)		
Has attended a group sex event (sexual relations between 4 men or more), at least once	16.0	12.8 - 19.2
Has gone to a bathhouse or sex club, at least once	31.9	27.2 - 36.5
Has given money in exchange for sex, at least once (regardless of the gender of the person paid)	2.0	0.9 - 3.1
Has received money in exchange for sex, at least once (regardless of the gender of the person providing payment)	5.5	3.1 - 7.9

TOBACCO, ALCOHOL AND OTHER DRUG USE (in the past 6 months)		
Use of cigarettes daily	24.7	20.3 - 29.1
Use of cannabis daily	11.6	8.5 - 14.7
Use of alcohol		
1 drink or more, 4 times a week or more	12.6	9.2 - 16.0
6 drinks or more, 4 times a week or more	1.8	0.9 - 2.7
Has used cocaine (snorted or sniffed), at least once	22.3	18.0 - 26.6
Has used crack cocaine, at least once	8.0	5.2 - 10.8
Has used cocaine (snorted or sniffed) or crack, once a week or more	5.7	3.6 - 7.9

Has used ketamine, at least once	6.3	3.8 - 8.8
Has used methamphetamine (crystal meth), at least once	7.9	4.7 - 11.0
Has used at least one of the types of amphetamines ⁷ : methamphetamine (crystal meth), MDMA (ecstasy), methylphenidate (for example, Ritalin) not prescribed or mephedrone, once a week or more	4.1	2.6 - 5.5
Has used a psychoactive drug in the context of sexual activities (chemsex ⁸) with at least one of his last 5 sexual partners	8.8	5.8 - 11.8
Has used steroids (not prescribed), at least once	2.7	1.0 - 4.4
Has used drugs by injection (non-medical use only), at least once	5.6	2.4 - 8.7
Has used a syringe already used by someone else, at least once (<i>among participants who have used drugs by injection for non-medical use, in the past 6 months</i>)	28.4	8.0 - 48.9

ACCES TO HEALTH AND PREVENTION SERVICES	HIV status (-) or unknown ⁹ n=968		HIV status (+) ⁹ n=211	
	%	95% CI	%	95% CI
Has a regular healthcare provider (for example, family doctor, nurse practitioner)	54.5	48.9 - 60.0	93.4	88.2 - 98.7
Regular healthcare provider is aware of his sexual orientation (<i>among participants who have a regular primary healthcare provider</i>)	80.7	74.6 - 86.8	96.1	88.7 - 100.0
Has received information about his sexual health from the following sources: (<i>in the past 6 months</i>)				
On-line interaction with a worker or volunteer from a community-based organization (for example, messaging/chat on a hook-up site or app)	4.1	1.7 - 6.5	5.2	0.0 - 11.9
Multiple-session programs or support groups (for example, Ateliers RÉZO)	3.9	1.5 - 6.3	9.6	2.1 - 17.1
In-person interaction with a worker or volunteer from a community-based organization (for example, RÉZO, ACCM)	8.7	5.4 - 11.9	16.2	7.6 - 24.7
Has been tested for HIV				
<i>Among all participants</i> , tested at least once in the past 12 months	73.8	68.8 - 78.9	n/a	
<i>Among participants who have had 6 male sexual partners or more in the past 6 months</i> , tested at least once in the past 6 months	68.9	61.7 - 76.0	n/a	
Has been tested for any sexually transmitted infections (STI) other than HIV ¹⁰				
<i>Among all participants</i> , tested at least once in the past 12 months	61.5	55.8 - 67.2	72.0	60.4 - 83.5
<i>Among participants who have had 6 male sexual partners or more in the past 6 months</i> , tested at least once in the past 6 months	59.0	51.0 - 67.0	83.5	71.6 - 95.3
Has received one or more doses of hepatitis B vaccine, in his lifetime				
<i>Among all participants</i> has received one or more doses	59.0	53.4 - 64.4	65.4	54.3 - 76.5
does not know if he has received a dose or not	19.9	15.4 - 24.4	12.5	6.2 - 18.8
Has received one dose or more of the vaccine against the human papillomavirus (HPV), in his lifetime				
<i>Among all participants</i> has received one or more doses	13.8	9.8 - 17.7	7.7	0.2 - 15.1
has never heard of the vaccine against HPV	39.7	34.2 - 45.1	34.8	23.5 - 46.1
<i>Among participants who are 26 years of age or younger</i> has received one or more doses	34.9	23.7 - 46.1	3/6	
has never heard of the vaccine against HPV	19.2	10.0 - 28.3	2/6	
Has taken post-exposure prophylaxis (PEP) at least once, in his lifetime	11.7	8.1 - 15.2	n/a	
Has taken pre-exposure prophylaxis (PrEP) at least once, in the past 6 months (“on demand” or “continuous”)				
<i>Among all participants</i>	7.4	4.4 - 10.5	n/a	
<i>Among participants who have had 6 male sexual partners or more in the past 6 months</i>	18.4	11.5 - 25.2	n/a	
“Has contacted most or all of his recent sexual partners to tell them to get tested or treated” <i>Among participants who have received a diagnosis of a sexually transmitted infection (STI) in the past 6 months.</i>	53.7	38.0 - 69.3	58.9	41.5 - 68.1

n/a: not applicable

OPINIONS ABOUT HIV INFECTION

“Agrees” or “strongly agrees” with the following statements:

“If a guy is using pre-exposure prophylaxis (PrEP: HIV medication taken by HIV-negative guys before potential exposure to HIV to reduce the risk of HIV transmission) it makes using condoms during anal sex less important.”	26.8	22.0 - 31.6	49.0	37.2 - 60.7
“New HIV treatments will take the worry out of sex.”	34.0	28.7 - 39.3	59.2	47.8 - 70.7
“HIV/AIDS is a less serious threat than it used to be because of new treatments.”	41.9	36.5 - 47.2	56.7	45.3 - 68.1
“It is very hard to get HIV nowadays because most HIV-positive guys have undetectable viral loads.”	11.9	8.4 - 15.5	30.6	19.0 - 42.2
Considers his current risk of getting HIV as “somewhat likely”, “likely” or “very likely”	20.4	15.6 - 25.3	n/a	
Considers his current risk of transmitting HIV as “somewhat likely”, “likely” or “very likely”		n/a	8.3	1.9 - 14.8

HEALTH STATUS

Perceives his mental health in the past 6 months as “poor” (compared to “fair”, “good”, “very good” or “excellent”)	6.2	3.0 - 9.3	13.3	3.2 - 23.4
Has felt a moderate or severe level of anxiety in the past week (according to the “Hospital Anxiety and Depression scale” ¹¹)	27.6	22.5 - 32.8	25.3	13.8 - 36.7
Has felt a moderate or severe level of depression in the past week (according to the “Hospital Anxiety and Depression scale” ¹¹)	7.9	4.7 - 11.2	19.4	6.4 - 32.4
Is at risk of developing dependence or problems (health, social, financial, etc.) related to his use of alcohol (“ASSIST” scale ⁷)				
Moderate risk of developing	26.2	21.1 - 31.2	19.2	12.6 - 25.8
High risk of dependence or already dependent and likely experiencing problems	5.8	3.1 - 8.5	5.5	0.0 - 10.9
Is at risk of dependence or developing problems (health, social, financial, etc.) related to his use of at least one of the following groups of drugs : cocaine, amphetamines, inhalants, sedatives, hallucinogens, opioids (“ASSIST” scale ⁷)				
Moderate risk of developing	18.6	14.7 - 22.5	30.4	20.2 - 40.6
High risk of dependence or already dependent and likely experiencing problems	4.1	1.9 - 6.4	9.0	2.5 - 15.6
Has been told by a doctor or a nurse that he has genital or anal warts, in his lifetime	14.0	10.0 - 17.9	44.3	32.7 - 55.9
Has been told by a doctor or a nurse that he has herpes, in his lifetime	11.2	7.2 - 15.2	35.3	24.7 - 45.0
Has been told by a doctor or a nurse that he has chlamydia, in the past 12 months	11.8	8.3 - 15.3	11.4	4.3 - 18.4
Has been told by a doctor or a nurse that he has gonorrhea, in the past 12 months	11.0	7.4 - 14.5	19.0	10.7 - 27.1
Has been told by a doctor or a nurse that he has syphilis, in the past 12 months	3.7	1.6 - 5.7	19.3	9.3 - 29.2

According to the tests done during the study

Prevalence of gonorrhea (pharyngeal, urinary or rectal)	4.7	2.2 - 7.2	12.8	4.4 - 21.3
Prevalence of chlamydia (pharyngeal, urinary or rectal)	2.7	1.2 - 4.1	4.2	0.0 - 9.2
Prevalence of syphilis	11.7	8.5 - 14.9	39.2	27.7 - 50.8
Reactive treponemal test (compatible with a current or resolved infection)	1.1	0.3 - 1.9	6.1	2.5 - 9.8
Non-treponemal: RPR titer \geq 1:8 (compatible with an active infection)				

Hepatitis B virus (HBV) Infection

Total n=1 179^{2,3}

Susceptible to HBV (HbsAg, anti-HBc and anti-HBs non-reactive tests)	31.0	25.9 - 36.0
Immune due to natural infection (HbsAg non-reactive, anti-HBc reactive and anti-HBs reactive tests)	13.3	10.1 - 16.6
Immune due to hepatitis B vaccination (HbsAg non-reactive, anti-HBc reactive and anti-HBs reactive tests)	52.4	47.2 - 57.6
Chronic or active infection (HbsAg non-reactive, anti-HBc reactive and anti-HBs reactive tests)	0.6	0.0 - 1.6

Hepatitis C virus (HCV) Infection

Prevalence of HCV (reactive anti-HCV test; compatible with current or resolved infection)	7.2	4.0 - 10.3
Among all participants	59.6	41.7 - 77.4
Among participants who have injected drugs	17.4	5.9 - 28.9
Among participants who had a reactive (positive) HIV test	1.0	0.2 - 1.7
Among participants who had never injected drugs and who had a non-reactive (negative) HIV test		
Aware of his HCV status	96.9	93.7 - 100.0
Among participants who had a reactive anti-HCV test	71.2	48.9 - 93.5
Received antivirals (currently or in the past)		
Among participants who are aware of their HCV status		

n/a: not applicable

Human Immunodeficiency Virus (HIV) Infection			
Prevalence of HIV	<i>Among all participants</i>	14.2	10.6 - 17.7
	<i>Among participants who have injected drugs</i>	34.2	18.7 - 49.7
Aware of his HIV status	<i>Among participants who had a reactive (positive) HIV test</i>	96.7	91.6 - 100.0
Currently on antiretrovirals (at the moment of the study)	<i>Among participants who were aware of their HIV status</i>	96.8	94.0 - 99.6
Undetectable viral load	<i>Among participants who were aware of their HIV status and were currently on antiretrovirals</i>		
	Measured during the study	less than 200 copies/ml	93.7 87.7 - 99.8
	Reported	less than 50 copies/ml	85.3 77.6 - 93.1
Co-infection of HIV and HCV	<i>Among all participants</i>	2.2	0.3 - 4.2

NOTES

- 1. Place of residence:** Among participants whose postal codes were available, 9 (0.8%) lived outside the Greater Montréal area.
- 2. Missing data:** Depending on the variable, the proportion of missing data (“prefer not to answer” or “don’t know/don’t remember”) varied between 0.3% and 5%. However, where scores are obtained from psychosocial-behavioural scales composed of several questions, the proportion of missing data varied between 6.2% and 8.5%.
- 3. RDS-adjusted data:** Aside from sociodemographic data, the indicators presented and their 95% confidence intervals were adjusted based on the size of the social network reported by each participant.
- 4. Low income cut-off:** In Québec, the low income cut-offs (before tax) for 1 person is \$24,000 (Institut de recherche et d’informations socioéconomiques (IRIS), April 2018); this exact amount is not indicated in the Engage questionnaire, therefore the proportion of respondents whose income is below \$20,000 is presented.
- 5. Queer:** The term queer encompasses all genders and sexual orientations. It is a flexible term (compared to gay, bisexual, lesbian, heterosexual, man, woman, that are more fixed terms) that recognizes differences without having a strict definition.
- 6. Discrimination scale:** The Heterosexist Harassment, Rejection and Discrimination Scale consists of 14 items. Respondents indicate the frequency at which each event occurred over the past year (“never”, “once in a while”, “sometimes”, “a lot”, “most of the time”, “almost all the time”) (Szymanski, DM, 2006).
- 7. ASSIST:** The types of amphetamines are grouped according to the Alcohol, Smoking and Substance Involvement Screening Test (ASSIST). ASSIST was developed for the World Health Organization (WHO) by an international group of substance abuse researchers to detect the risk of developing substance use dependence and related problems. ASSIST is a 7-item questionnaire; scores are classified into 3 categories: lower risk, moderate risk or high risk.
- 8. Psychoactive drugs used in the context of sexual activities (chemsex):** This includes any of the following 2 substances: gamma-hydroxybutyrate (GHB) or methamphetamine (crystal meth). Specifically, the proportions are 6.3% (3.9 - 8.7) for GHB and 6.3% (3.7 - 9.0) for methamphetamine. In addition, the following were reported: 2.1% (0.4 - 3.8) for ketamine, 4.5% (2.8 - 6.2) for ecstasy and 12.1% (8.9 - 15.3) for cocaine.
- 9. Age difference between HIV-negative or unknown status participants and HIV-positive participants:** HIV-negative or unknown status participants were 18 to 80 years old (mean: 35.8, median: 32), and HIV-positive participants were 23 to 73 years old (mean: 50.7, median: 51).
- 10. Testing for sexually transmitted infections other than HIV:** The list of infections included chlamydia, gonorrhoea, syphilis, lymphogranuloma venerium (LGV), hepatitis A, hepatitis B, hepatitis C, anal and genital warts, shigella, giardiasis and herpes (HSV).
- 11. Anxiety and Depression Scale:** The Hospital Anxiety and Depression Scale consists of 14 items (7 measuring anxiety and 7 measuring depression). Participants choose the answer that best corresponds to how they had felt during the past week (e.g. “I feel tense or wound up”; answer choices include: “most of the time”, “a lot of the time”, “from time to time/occasionally”, “not at all”). Scores are classified into the 4 following categories: normal, mild, moderate or severe (Zigmond, AS and Snaiths RP, 1983).

RECRUITMENT OF PARTICIPANTS FOR THE ENGAGE STUDY

PROCEDURES

Procedures for Engage were guided by the World Health Organization's recommendations on the use of Respondent-Driven Sampling (RDS), an adapted form of chain referral sampling.

- After an informal community mapping of Montréal's gbMSM population, 27 gbMSM of different age groups, gender, ethnocultural background and HIV status were selected to start recruitment. Each of these individuals, called "seeds", received coupons to invite peers to participate in the study. This number of "seeds" was thought to be appropriate, given the targeted sample size (approximately 1200 participants). 21 of these "seeds" recruited at least one individual.
- Everyone who agreed to participate was encouraged to maintain the chain of recruitment. Participants were compensated \$50 for data collection (self-administered questionnaire and biological samples), and \$15 for each person recruited (maximum of 6 people). Measures were taken to prevent individuals from participating more than once. Almost half (45%) of all participants recruited at least one person; among these, the median number of recruited members was 2. The median number of successive waves in a recruitment chain was 6 (range: 1 - 17); 61% of participants were accrued later in recruitment chains (i.e., from the 6th wave of recruitment forward), indicating adequate deployment. When asked about the nature of the relationship with the person from whom participants received an invitation coupon, all but 5 participants described their referrer as a friend, or current/past sexual partner.

SPECIFIC CHALLENGES

- **Selection bias that could result from the benefits of participating in the study.** Financial compensation is common in epidemiological studies. A generous compensation is likely to attract some people more than others. The ethics committee that evaluated the study did not determine the amount provided as excessive, especially given travel to the study site and the duration of the interview (approximately 2 1/2 hours). When asked about the main reasons for participating, most respondents reported being interested in issues related to gbMSM and sexual health, while only 11% reported being mostly interested in the financial compensation.

The possibility of free access (regardless of having health-care coverage in Québec) to STBBI testing, including the rapid HIV test, may have been more appealing to some gbMSM than others. However, during the study recruitment period, similar screening services were offered at Clinique SIDEP+, located a few hundred metres away from the Engage site.

- **Degree of similarity between participants and their recruits (homophily).** A high level of homophily suggests that a large proportion of participants with a certain characteristic (e.g., regular drug use) recruited only or mostly people with that same characteristic; this may result in an over-representation of that characteristic. An investigation of the Engage data showed a moderate degree of homophily for age, ethnocultural background and HIV status, which was expected.
- **Equilibrium reached.** As waves of recruitment progress and recruitment chains grow, indicators (e.g., average annual income) are expected to stabilize, such that the addition of new participants introduces little change in the indicator. The investigation of data on selected sociodemographic, psychosocial and behavioural indicators and health outcomes showed that indeed equilibrium was reached before data collection ended.

STATISTICAL ADJUSTMENT

To increase the representativeness of results originating from RDS, various adjustment methods can be applied. Engage data were adjusted using RDS-II weights, a widely-used method in similar such studies also recommended by two Engage consultants. With this method, data is adjusted according to the size of each participant's social network (weighting decreases as size of social network increases) to account for the fact that individuals with larger social networks are more likely to be recruited into the sample. A participant's social network size is based on the answer to the following question: "How many men who have sex with men aged 16 years or older, including trans men, do you know who live or work in the Montréal metropolitan area (whether they identify as gay or otherwise)?" The median size of social networks reported by gbMSM was 30.

Recruiting a representative sample of a specific population always presents a challenge. RDS is a useful sampling method, however some sub-groups of gbMSM may be over- or under-represented. Nevertheless, by adhering closely to recommended procedures for recruitment, obtaining a large sample size with long recruitment chains, and using statistical adjustments, possible biases related to RDS were attenuated.

1 World Health Organization. Regional Office for the Eastern Mediterranean (2013). Introduction to HIV/AIDS and sexually transmitted infection surveillance. Module 4: Introduction to respondent-driven sampling. http://applications.emro.who.int/dsaf/EMRPUB_2013_EN_1539.pdf

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