



Interest in and use of PrEP among MSM in Montreal: characteristics of early adopters and considerations for expanded use

Frédéric Pronovost¹, Joanne Otis², Ken Monteith³, Thomas Haig^{2,3}, Alexandre Dumont-Blais¹, Ludivine Veillette-Bourbeau², Jessica Caruso²

1. RÉZO (santé et mieux-être des hommes gais et bisexuels), Montréal, QC, 2. Université du Québec à Montréal, Montréal, QC, 3. COCQ-SIDA, Montréal, QC

BACKGROUND: PrEP constitutes an important new option to increase the effectiveness of combination prevention, particularly among men who have sex with men (MSM) for whom options such as condoms may be less suited to their sexual lifestyles. Quebec has recommended the use of PrEP by MSM at risk for HIV and has covered its cost since 2013. Recent research on PrEP has shown that when used by itself, this prevention method can be as much as 86% effective in protecting against HIV¹. With the endorsement of public health, many organizations in Montreal have begun to heavily promote this strategy to MSM. Yet despite community efforts and enthusiasm with respect to this this new prevention option, overall PrEP use remains low. To help reach UNAIDS' 95-95-95 goal by 2030, the *Mobilise!* project has collected data to better understand how MSM in Montreal make use of various prevention options including PrEP.

¹CATIE. (2017). *Oral pre-exposure prophylaxis (PrEP)*. Retrieve from <http://www.catie.ca/en/fact-sheets/prevention/pre-exposure-prophylaxis-prep>

METHOD:

Between May 2016 and January 2017, 1028 MSM from the greater Montreal region responded to a survey that gathered data on knowledge, interest in, and use of risk reduction strategies. For HIV-negative and HIV-unknown respondents (n=761), a four-category dependent variable was created based on interest in using PrEP (yes or no) and ever having used it (yes or no): 1) little or no interest in using PrEP and have never used it (**NI-NU**); 2) little or no interest in using PrEP, but have already used it (**NI-U**); 3) interested in using PrEP but have never used it (**I-NU**); 4) interested in using PrEP and have already used it (**I-U**) (see figure 1). Multinomial logistic regression was performed with independent variables that were significant at p<0.05 for bivariate analysis.

RESULTS:

Knowledge about and confidence in the effectiveness of PrEP use

- Most respondents (84%) are aware of the existence of PrEP as a strategy that can reduce their risk of contracting HIV.
- Respondents heard about PrEP mainly through friends or partners (56%), from health professionals (47%), and from community workers (17%).
- Compared to HIV-negative and HIV-positive respondents, those did not know their HIV status were less likely to know about this strategy (72% vs. 84% and 91%, p<0.0001).
- Among respondents who were aware of PrEP as a risk reduction strategy (84%), most (88%) were very confident about its effectiveness.

RESPONDENTS' CHARACTERISTICS ACCORDING TO INTEREST IN AND USE OF PREP

Respondents with little or no interest in using PrEP and who have never used it (**NI-NU**) are:

In **smaller** proportion to

- Be very confident about the effectiveness of PrEP (**82%** vs. **94%**, **89%**, **100%** p<0.0001¹)
- Have had 6 sexual partners or more in the past year (**40%** vs. **83%**, **51%**, **85%** p<0.0001)
- Have had an HIV-negative partner in the past year (**66%** vs. **88%**, **72%**, **91%** p<0.0001)
- Have had an HIV-positive partner with a detectable viral load in the past year (**4%** vs. **15%**, **5%**, **14%** p=0.001)
- Be at-risk with respect to substance use (**20%** vs. **31%**, **24%**, **40%** p=0.011)
- Have had an HIV test in the past year (**60%** vs. **89%**, **64%**, **95%** p<0.0001)
- Have had an STI in the past year (**13%** vs. **50%**, **22%**, **46%** p<0.0001)

Respondents with little or no interest in using PrEP but who have already used it (**NI-U**) are:

In **larger** proportion to

- Have a university degree (**77%** vs. **62%**, **50%**, **64%** p=0.004)
- **Have another language than French as their first language** (**60%** vs. **17%**, **16%**, **9%** p<0.0001)
- Have had 6 sexual partners or more in the past year (**83%** vs. **40%**, **51%**, **85%** p<0.0001)
- Have had a partner with unknown HIV-status in the past year (**77%** vs. **53%**, **51%**, **77%** p<0.0001)
- Have had an HIV-negative partner in the past year (**88%** vs. **66%**, **72%**, **91%** p<0.0001)
- Have had an HIV-positive partner with a detectable viral load in the past year (**15%** vs. **4%**, **5%**, **14%** p=0.001)
- **Have had an HIV-positive partner with an undetectable viral load in the past year** (**59%** vs. **21%**, **21%**, **71%** p<0.0001)
- Have had an HIV test in the past year (**89%** vs. **60%**, **64%**, **95%** p<0.0001)
- **Have had an STI in the past year** (**50%** vs. **13%**, **22%**, **46%** p<0.0001)

In **smaller** proportion to

- Live outside Montreal (**11%** vs. **26%**, **39%**, **18%** p<0.0001)

Respondents who are interested in using PrEP but have never used it (**I-NU**) are:

In **larger** proportion to

- **Live outside Montreal** (**39%** vs. **26%**, **11%**, **18%** p<0.0001)

In **smaller** proportion to

- Have a university degree (**50%** vs. **62%**, **77%**, **64%** p=0.004)
- **Have had an HIV-positive partner with an unknown viral load in the past year** (**6%** vs. **8%**, **21%**, **23%** p<0.0001)

Respondents who are interested in using PrEP and have already used it (**I-U**) are:

In **larger** proportion to

- Are very confident about the effectiveness of PrEP in reducing HIV transmission (**100%** vs. **82%**, **94%**, **89%** p<0.0001)
- Have an annual income of more than CAD\$ 40,000 (**73%** vs. **54%**, **62%**, **51%** p=0.013)
- Report that the majority of their friends are gay (**54%** vs. **33%**, **51%**, **32%** p=0.002)
- Have had 6 sexual partners or more in the past year (**85%** vs. **40%**, **83%**, **51%** p<0.0001)
- Have had a partner with unknown HIV status in the past year (**77%** vs. **53%**, **77%**, **51%** p<0.0001)
- Have had an HIV-negative partner in the past year (**91%** vs. **66%**, **88%**, **72%** p<0.0001)
- Have had an HIV-positive partner with a detectable viral load in the past year (**14%** vs. **4%**, **15%**, **5%** p=0.001)
- Have had an HIV-positive partner with an undetectable viral load in the past year (**71%** vs. **21%**, **59%**, **21%** p<0.0001)
- Have had an HIV-positive partner with an unknown viral load in the past year (**23%** vs. **8%**, **21%**, **6%** p<0.0001)
- Are at-risk with respect to substance use (**40%** vs. **20%**, **31%**, **24%** p=0.011)
- **Have had an HIV test in the past year** (**95%** vs. **60%**, **89%**, **64%** p<0.0001)
- **Have had an STI in the past year** (**46%** vs. **13%**, **50%**, **22%** p<0.0001)
- **Have regular access to a health care professional** (**90%** vs. **72%**, **75%**, **76%** p=0.026)

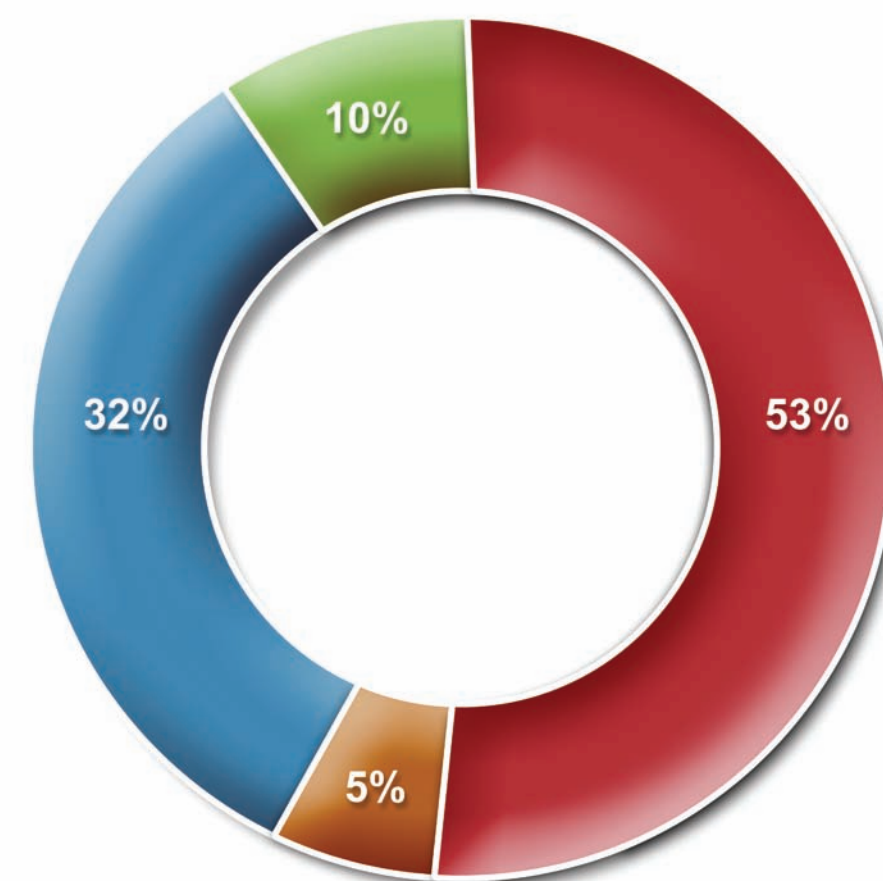
In **smaller** proportion to

- Live outside Montreal (**18%** vs. **26%**, **11%**, **39%** p<0.0001)

Figure 1:

SUBGROUP DISTRIBUTION ACCORDING TO INTEREST IN AND USE OF PREP

- Little or no interest in using PrEP and have never used it (NI-NU) n=366
- Little or no interest in using PrEP, but have already used it (NI-U) n=35
- Interested in using PrEP but have never used it (I-NU) n=217
- Interested in using PrEP and have already used it (I-U) n=69



Factors associated with interest in and use of PrEP

Multinomial logistic regression analysis² indicates that compared to **NI-NUs**:

- **NI-Us** are characterized by: having a first language other than French (aOR: 16.8, CI95% 4.71 – 59.87); having had an HIV-positive partner with an undetectable viral load in the past year (aOR: 4.4, CI95% 1.31-14.77); and having had an STI in the past year (aOR: 5.1, CI95% 1.48 - 17.54).

- **I-NUs** are characterized by: living outside Montreal (aOR: 2.7, CI95% 1.66 - 4.25).

- **I-Us** are characterized by: having an annual income of CAD\$ 40,000 or more (aOR: 2.5, CI95% 1.02 - 6.01); having a first language other than French (aOR: 6.4, 1.66 – 24.91); having had an HIV-positive partner with an undetectable viral load in the past year (aOR: 6.5, CI95% 2.81-15.24); having been tested for HIV in the past year (aOR: 4.9, CI 95% 1.26 - 19.31); having had an STI in the past year (aOR: 2.9, CI95% 1.30 - 6.58); and having access to a health professional on a regular basis (aOR: 3.4, CI95% 1.02 - 11.14).

²*Adjusted odds ratio for control variables: age, education, annual income, place of birth, first language, living outside Montreal, being in a relationship, and size of gay social network.*

CONCLUSION:

I-U (10%) and **NI-U** (5%) groups represent early adopters and their characteristics generally correspond to the criteria for PrEP use as set out in clinical guidelines. Quebec guidelines recommend PrEP for MSM who have had sex at least once without condoms in the past 6 months and meet one or more of the following criteria: have had at least one STI in the past 12 months, have had sex with an HIV-positive partner with a detectable viral load, have taken PEP at least once in their lifetime, have used drugs in a sexual context, or have had more than 2 sexual partners in the past 6 months. With 15% of respondents in our sample reporting use of PrEP, these results suggest that PrEP coverage is adequate and that at-risk MSM for whom PrEP may be useful are being reached.

However, **I-NU** respondents may comprise an additional group to be targeted, given that 22% have had an STI in the past year, 24% are at risk with respect to substance-use problems, and some have had an HIV-positive partner with a detectable (5%) or unknown (6%) viral load in the past year. MSM in this group are interested in PrEP but are not currently using it. Living outside Montreal or having an annual income of less than CAD\$ 40,000 may constitute barriers in access to PrEP for these respondents.

Respondents in **NI-Us** group are not currently using PrEP (not interested) but are nonetheless still taking risks. Results from this study do not show whether these risk behaviours occurred before or after PrEP use was discontinued. Did HIV-related risk-taking decrease, or did these respondents have problems using PrEP? Health care professionals should be attentive to MSM who stop using PrEP and explore the underlying motivations for discontinuing its use with these patients.



26TH ANNUAL CANADIAN CONFERENCE ON HIV/AIDS – CAHR 2018

Research team: Principal Investigators: Ken Monteith, Joanne Otis. **Co-investigators:** Marianne Beaulieu, Line Chamberland, Jorge Flores Aranda, Gabriel Girard, Aurélie Hot, Bruno Laprade, Bertrand Lebouché, Alain Léobon, David Lessard, Maria Nengeh Mensah, Pierre-Henri Minot, Sarah Mathieu-Chartier, Roberto Ortiz, David Thompson, Cécile Tremblay. **Staff:** Thomas Haig, Jessica Caruso, Ludivine Veillette-Bourbeau, Gabriel Daunais-Laurin, Pierre-André Marquis, Patrice Bécotte, Gabriel Giroux. *Thank you to all study participants.*

Partners: COCQ-SIDA; Département des exologie, UQAM; RÉZO; ACCM; Chaire de recherche sur l'homophobie, UQAM; CIUSSS du Centre-Sud-de-l'Île-de-Montréal; Clinique médicale L'Actuel; Clinique médicale OPUS; Clinique médicale du Quartier Latin; Direction régionale de santé publique de Montréal; *Fugues*; Institut thoracique de Montréal; *LGBT in the City*; Maison Plein Cœur; Ministère de la Santé et des Services sociaux du Québec; Portail VIH/sida du Québec; Warning Montréal. **Funding:** Canadian Institutes of Health Research (CIHR); Réseau sida & MI des Fonds de recherche du Québec – Santé (FRQS); the CIHR Centre for REACH in HIV/AIDS (REACH 2.0); and a community grant from the Positive Action Canada Innovation Program provided by Viiv Healthcare.

Correspondence: developpement@rezosante.org

Conflict of interest disclosure: We have no conflicts of interest.



¹ Results of chi-square analysis.

* Characteristics shown in **bold** indicate variables that are statistically significant in multinomial logistic regression. NI-NUs respondents served as the reference category.