

Supplementary Material

Gay, bisexual, and queer men's confidence in the Undetectable equals Untransmittable HIV prevention message: longitudinal qualitative analysis of the sexual decision-making of pre-exposure prophylaxis users over time

Daniel Grace^{A}, Emerich Daroya^A, Mark Gaspar^A, Alex Wells^B, Mark Hull^C, Nathan Lachowsky^B, and Darrell H. S. Tan^D*

^ADalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada.

^BSchool of Public Health and Social Policy, University of Victoria, Victoria, BC, Canada.

^CDepartment of Medicine, University of British Columbia, Vancouver, BC, Canada.

^DSt. Michael's Hospital, University of Toronto, Toronto, ON, Canada.

*Correspondence to: Daniel Grace Dalla Lana School of Public Health, University of Toronto, Toronto, ON, Canada Email: daniel.grace@utoronto.ca

PRIMP Qualitative Interview— Round One, 2020

Introductions, Socio-Demographics, and Rapport Building

1. What is your age?
2. What is your current living situation (i.e. housing)?
3. How long have you lived in [insert city]? Have you lived elsewhere? *If immigrated to Canada: what is your current immigration status?*
4. How do you describe your racial background?
5. How do you describe your sexual identity and/or orientation?
6. How do you describe your gender identity?
7. Are you currently working or studying somewhere? Do you like your job/school program? Is your work permanent/contract/part-time/full time? How long have you been in your current position? Does your workplace or school offer health insurance—if so, how would you evaluate its coverage?
8. Have you worked or volunteered for an HIV service organization?
9. What is your HIV status at the time of this interview? When were you last tested for HIV?
10. Are you currently in a relationship? *If yes: could you describe your relationship? How long have you been together? Is it open or closed? What is the HIV status of your partner(s)? If no: are you actively dating and/or hooking up? In general, what does that look like for you?*
11. What motivated you to come in to do this interview today?
12. Is there anything else about yourself that you think might be helpful for me to know before we move on?

General Health and Healthcare Access

13. In general, what are some of your main health concerns? Have you ever had to deal with a significant health/illness issue? Are you on any medications (other than PrEP if participant is on PrEP)?
14. What (if any) would you say are the biggest obstacles you face to being healthy?
15. Do you have a primary care provider, someone like a family doctor or a nurse practitioner?
 - a) *If yes: How would you describe your relationship with your family doctor? Are you out (i.e. as gay, bi, queer, etc.) to your family doctor? Are you comfortable talking about sex and sexual health with your family doctor? Did you have any challenges finding a family doctor? How often do you visit your family doctor? Do you usually go to your family doctor for all your health issues (including all of your sexual health needs)? Why or why not?*
 - b) *If no: Have you tried to get a regular family doctor? Have you experienced any barriers or challenges trying to get a family doctor? Where do you receive health services? Are you comfortable talking about sex and sexual health where you go for health services? Where do you usually go for sexual health services (e.g. HIV testing)?*
16. How would you describe the current state of your mental health? How would you describe your mental health over the last two years? What kind of supports or services, if any, have you used to address your mental health in the last two years? Did you find them helpful? Did you face any barriers to accessing mental health services or supports?
17. What would you say are the biggest factors currently affecting your mental health?
18. What would you say are some of the biggest factors affecting the health of gay, bi and queer guys living in your community?
19. What would you say are some of the biggest factors affecting the health of gay, bi, and queer (guys of colour) and/or (Indigenous men) and/or (sex workers) living in your community? Do you have any thoughts on what would be needed to address these issues?

PrEP Usage History and Risk Evaluation

20. Do you remember when/how you first heard about PrEP? What were your initial reactions? Why do you think that was the case at the time?
21. Could you discuss your PrEP usage history to me? For example, are you:
 - a) *Currently on PrEP*: if so, for how long? Are you using it continuously (every day and ongoing) or intermittently (off and on)? Do you ever miss dosages? Do you find it easy to remember to take PrEP regularly? *If intermittently*: can you please describe your pattern of PrEP usage to me over time? How/when did you decide to come off of PrEP? *If relevant*: How was your experience getting back on PrEP? *For both continuous and intermittent users*: Could you reflect upon your initial decisions to start taking PrEP: What were your motivations to start? Did you find the decision to go on PrEP easy or difficult? Do you anticipate using PrEP in an intermittent or continuous basis going forward? What is influencing your decision? How long do you think you will be on PrEP?
 - b) *Not on PrEP right now but you have taken PrEP in the past*: if so, for how long were you on PrEP and when and why did you stop taking it? Do you have an interest in getting back on PrEP? Could you reflect upon your initial decisions to start taking PrEP: What were your motivations to start? Did you find the decision to go on PrEP easy or difficult?
 - c) *Someone who has never taken PrEP*: What are your reasons for never trying PrEP? Are you considering taking PrEP? What might make you consider taking PrEP? Are you reluctant to the idea of taking PrEP? What do you think you need to help you make an informed decision?
22. **PrEP User and Non-PrEP User**: Could you explain your general sexual practices over the last two years?/How do you hook up? Condom use? Number of partners? Number of HIV-positive partners (and their viral load counts)? Partners with an unknown HIV status? Receptive anal sex?
23. **PrEP User and Non-PrEP User**: Have you taken PEP (post-exposure prophylaxis) in the last two years? If so, can you explain what happened? What was the experience of getting and taking PEP like?
24. **PrEP User and Non-PrEP User**: Have you had any STIs (like syphilis, gonorrhea, etc.) in the last two years? Rectal STIs?
25. **PrEP User and Non-PrEP User**: Could you explain how “at risk” you think you currently are for HIV? **PrEP user**: how “at risk” for HIV did you feel before you got on PrEP and how did that motivate your decision to get on PrEP? **Non-PrEP user**: Do you consider yourself to be a candidate for PrEP (someone who could benefit from taking PrEP)? Why or why not?
26. **PrEP User and Non-PrEP User**: Can you describe what is covered under your province’s public health insurance programs for PrEP? Do you consider yourself to be eligible under these current programs? Why or why not?
27. **PrEP User**: Could you explain the logistics of getting access to PrEP initially—how did you get a prescription and how did you pay for it? Have there been any changes to how you have accessed and paid for PrEP since you initially started?
28. **PrEP User and Non-PrEP User**: Have you experienced any barriers in relation to accessing PrEP or thinking about accessing PrEP? I am going to go through a list of common potential barriers to PrEP. Please let me know if any of these have applied to your situation, and if so, how:
 - a. You’re concerned with side effects—what side-effects are you concerned about, if any?
 - b. You didn’t know where to get it
 - c. You thought the cost was too high
 - d. Your clinician was unwilling/unfamiliar with PrEP
 - e. You perceived yourself to be at low HIV risk
 - f. You’re worried about PrEP related stigma –can you elaborate on what PrEP stigma means
 - g. You don’t trust that it works well enough
 - h. You’re concerned that it doesn’t protect against other STIs
 - i. You’re reluctant to the idea or think its inconvenient to take a pill regularly
 - j. You’re satisfied with condom use or other prevention methods (please describe these methods)

- k. You just haven't gotten around to it or it is not a priority
29. **PrEP User:** Were there any specific facilitators (things that really helped you) to getting PrEP? Do you have any comments on how to make access to PrEP easier? **Non-PrEP User:** What can be done to help you access PrEP more easily?
 30. **PrEP User:** How do your experiences of accessing PrEP compare to other efforts where you have accessed health services or prescription drugs (for any condition) in the past? **Non-PrEP user:** How do you think your experiences of accessing PrEP would compare to other efforts where you have accessed health services or prescription drugs (for any condition) in the past?
 31. **PrEP User:** Did you initiate the conversation about PrEP or did a doctor/nurse/health service provider? *If participant initiated:* what was your doctor/nurse/health service provider's response when you requested PrEP? Has their outlook to PrEP changed since you started? *If the health service provider started the PrEP conversation:* can you describe the context for this conversation (i.e. were you getting an HIV test, at a routine visit, a call from a public health nurse, etc.)? What did you think about them initiating this discussion? **Non-PrEP User:** Has PrEP ever been offered to you by a doctor/nurse/health service provider? Can you explain the context and how you came to your decision?
 32. **PrEP User:** Do you have any concerns about being on PrEP? Have you experienced any side-effects while taking PrEP? If so, how have you managed these side-effects?
 33. **PrEP User:** What is the best thing about being on PrEP? Have there been any surprises for you, or has taking PrEP been exactly as you expected?
 34. **PrEP User:** Does being on PrEP influence the type of sex you are having? Intimacy levels? Condom use? The type of people you have sex with? Has it changed your behaviours and/or attitudes toward having sex with HIV-positive men or men who don't know their HIV status?? **Non-PrEP User:** Has other people being on PrEP changed the sex you are having? Intimacy levels? Condom use? The type of people you have sex with? Has it changed your behaviours and/or attitudes toward having sex with HIV-positive men or men who don't know their HIV status?
 35. **PrEP User and Non-PrEP User:** Has PrEP affected your mental health at all? How so?
 36. **PrEP User:** Do your friends and sexual partners know that you are on PrEP? What have their responses been to you being on PrEP (if they know)? Does your family know that you are on PrEP? What have their responses been to you being on PrEP (if they know)? **Non-PrEP User:** Are any of your friends on PrEP? Has this influenced your relationship with them at all?
 37. **PrEP User and Non-PrEP User:** Can you comment on any changes you've noticed (if any) within gay/queer community/gay politics and social life that are related to PrEP?
 38. **PrEP User and Non-PrEP User:** Are there any specific aspects of PrEP use/promotion/access for gay, bi, and queer men of colour and/or Indigenous men and/or sex workers that you believe are not being addressed?
 39. **PrEP User and Non-PrEP User:** If bisexual/have sex with women: Are their specific implications of PrEP use/promotion/access in the context of relationships and/or sex with women?
 40. **PrEP User and Non-PrEP User:** If a sex worker: Are their specific implications of PrEP use/promotion/access in the context of the work that you do? Has it changed your interaction with clients in any way?
 41. **PrEP User and Non-PrEP User:** Is there any health and healthcare issue that matters to you and your communities that we haven't addressed today that you would like to put on my radar?
 42. **PrEP User and Non-PrEP User:** Do you have any questions for me? Is there anything about PrEP that we haven't discussed that you would like to discuss?

PRIMP Qualitative Interview Guide — Round Two, 2021

All Participants

1. How are you doing today?
2. Are you still living in [name city]? Has your housing situation changed in the last year?
3. Has your employment and/or financial situation changed in the last year?
4. When we last spoke it was during the first lockdown period of COVID-19 in Ontario/British Columbia.
 - a. Since then, have you gotten COVID-19? Has anyone close to you gotten COVID-19? Could you tell me about that experience?
 - b. Have you ever been tested for COVID-19? What was that experience like? Have you ever wanted to be tested for COVID-19 but you were not able to get access to testing?
 - c. How has social distancing and lockdown affected your work life? Social life? Family life? Romantic relationships (have there been any changes to your dating life since we last spoke)? Sexual relationships? Mental health?
 - d. Has COVID-19 affected your sex life this past year? If yes, how so? How did you manage COVID-19 risks during your sexual interactions?
 - e. Did you get tested for STIs or HIV during this last year (i.e. since we last spoke, about 12 months ago)? How was that experience? Did you ever feel like you needed to get tested and you chose not to? Did you have an STI? How was your experience getting it treated?
 - f. Did you need health services during this last year for anything (not just sexual health related)? How was this experience, especially given COVID-19 measures? Did you ever avoid getting a health issue checked out because of COVID-19?
 - g. Did you need mental health services during this last year? Did you access mental health services? How was this experience, especially given COVID-19 measures?
 - h. Do you plan to get vaccinated for COVID-19/have you gotten vaccinated for COVID-19? Do you have any concerns or questions about COVID-19 vaccination? Are you someone who is, or do you personally know people who are, sceptical of the vaccine and/or resistant to taking the vaccine? Why are you/why do you think they, are resistant/hesitant/sceptical? Any opinions about what can be done to address this resistance/hesitancy/scepticism? How do you think this scepticism to the COVID-19 vaccine compare to scepticism toward PrEP?

Participants on PrEP during interview one

5. Have there been any changes in your PrEP use over the last year? (Did you pause it? Restart? Stop?) Are you still taking it continuously? Or intermittently/on demand (i.e., as needed for periods of time) and what does this look like for you? How did you make these decisions? If you stopped and restarted PrEP: how many days did you start PrEP before engaging in sex again?
6. How would you describe your current risk level for HIV? For STIs? How do you determine this risk?
7. If you stopped PrEP at some point: Did you ever need PEP or did you ever consider yourself at higher risk for HIV?
8. How has COVID-19 affected your PrEP use and sex life? Do you consider any changes to your sex life this past year to be mostly a result of COVID-19, or were there other motivating factors and circumstances?
9. How have your experiences been with your PrEP doctor and clinic over the last year? With your pharmacy? With your insurance company or program? How do these compare with your experiences with any non-PrEP related healthcare over the last year?

10. What have your experiences been like with your sex partners and PrEP this last year? Are they also on PrEP? Do they know that you are on PrEP or have stopped and restarted PrEP?
11. If you had online/telehealth appointments for PrEP access, how was that experience for you? What would be the ideal arrangement for you to get your PrEP prescription and STI screening in the future?
12. Do you foresee any changes to your PrEP use in the coming year? Do you foresee any changes to your sex life in the coming year? Why?
13. Can you explain why you are still using PrEP? How would you describe your relationship (need, interest, scepticism, confidence, side-effects) to PrEP, and how this has or hasn't changed over this last year?
14. Were there any barriers, concerns, difficulties you had regarding PrEP this last year?
15. Is there anything about PrEP access in Ontario [or British Columbia] that can be made easier or better for you?

Participants previously not on PrEP for interview one

16. Over the last year has anything changed in your sex life? How would you describe your current risk level for HIV? STIs?
17. Have you considered taking PrEP this last year? Why or why not?
18. If you have gone on PrEP or thought about going on PrEP: how was this experience like? How did you access it? Where did you go to learn about it? (If yes, ask 1-7 from last section)
19. If participants expressed reluctance/scepticism to PrEP in first interview: In the last interview you expressed some reservations and scepticism toward PrEP use, have your opinions changed at all in the last year? Has your confidence in PrEP changed all?
20. Do you foresee any changes to your PrEP use in the coming year? Do you foresee any changes to your sex life in the coming year? Why is this case?
21. Do you have any questions or concerns regarding how to access PrEP if you wanted it?
22. Is there anything about PrEP access in Ontario/British Columbia that can be made easier or better for you?

All Participants

23. Have you needed to take PEP this last year? If so, how was that experience?
24. Have you heard about injectable PrEP? Would this be something that would interest you (more or less) than taking PrEP as a pill?
25. Have you heard about HIV self-testing kits? Is that something you would use? How might that change your HIV prevention practices?
26. Are there any debates, issues, new scientific findings about PrEP that you have noticed in the last year?
27. Has PrEP affected your relationship to undetectable viral load's prevention benefits at all (in the last year)? Your decisions to have sex with people living with HIV (in the last year)?
28. Since our last conversation, I am wondering if you have had any more thoughts on what you think are the most pressing health problems facing gay, bisexual, queer and other men who have sex with men living in Ontario/British Columbia (Canada)? Are there any health issues that you think should be getting more attention that aren't?
29. Do you feel supported by the community organization sector serving gay, bisexual, queer and other men who have sex with men living in Ontario/British Columbia? Why or why not?
30. Do you feel supported by the current research activities serving gay, bisexual, queer and other men who have sex with men living in Ontario/British Columbia? Why or why not?
31. Do you feel supported by the current health sector serving gay, bisexual, queer and other men who have sex with men living in Ontario/British Columbia? Why or why not?

32. What are the organizations, people, clinics that you are most familiar with? How do you think they can better meet your needs?
33. How has being a part of this research study impacted (if it has) your thinking around health, sexual health, and PrEP use over the last year?
34. The last year (year and half) has been a challenging one for most people. Right now, do you feel more or less hopeful about your future? Why or why not? Do you feel more or less safe (i.e. secure, confident, reassured) now (since before) COVID-19? Why or why not? Do you believe things will return back to the way they were before COVID-19? Do you want them to return back to 'normal'? Why or why not?
35. How have major political discussions (COVID, racial justice and Black Lives Matter, US elections, economic recovery in the pandemic, etc.) in 2020-2021 altered (or not) your life plans, health or identity?
36. Do you have any questions for me?

PRIMP Qualitative Interview Guide — Round Three, 2022

All Participants

1. How are you doing today?
2. Are you still living in [name city]? Has your housing situation changed in the last year?
3. Has your employment and/or financial situation changed in the last year? Has your access to drug insurance coverage changed in the last year?
4. Is there anything you think I should know before we get into the interview questions about PrEP?
5. Did you get tested for STIs or HIV during this last year (i.e. since we last spoke, about 12 months ago)? How was that experience? Did you ever feel like you needed to get tested for STIs and HIV and you chose not to? Did you have an STI? How was your experience getting it treated? How was (were) this experience (these experiences) given COVID-19 restrictions?

Participants on PrEP during interview one and/or interview two

6. Can you remind me about your PrEP usage history?
 - a. Have there been any changes in your PrEP use over the last year or from when we first met?
 - b. Are you still taking it continuously (daily)? Or intermittently/episodically or 'on demand'? What does this look like for you? How did you make these decisions? Are you aware of different methods of taking PrEP (episodically and on demand)? Where did you find information about these different methods? Did your provider(s) help you make a choice to take PrEP on demand or episodically or continuously?
 - c. Did you pause PrEP? Stop? Restart? Why did you make this decision? If you stopped and restarted PrEP: how many days did you start PrEP before engaging in sex again? Where did you find the information to make this decision? Did your provider help you make this decision (why or why not)?
 - d. If you decided to go back on PrEP, did you have any challenges/face any barriers to doing so? Were there any facilitators/supports that made this decision easier for you?
7. If you stopped PrEP at some point: Did you ever need PEP or did you ever consider yourself at higher risk for HIV?
8. How have your experiences been with your PrEP doctor and clinic over the last year? With your pharmacy? With your drug insurance company or program?
 - a. What are the things you have liked about your doctor? Other clinic staff (nurses, admin etc.)? Pharmacist? Insurance company?
 - b. What are things you wish could be improved with these providers? Have you had other PrEP providers that did not work well for you?
9. Has your sex life changed over the last year and from when we first spoke (in ways related to and not just related to COVID-19)?
 - a. What have your experiences been like with your sex partners and PrEP this last year? Are they also on PrEP? Do they know that you are on PrEP or have stopped and restarted PrEP? How has PrEP affected pleasure in your life?
10. If you had online/telehealth appointments for PrEP access, how was that experience like for you? If you haven't, is this something you would be interested in? What would be the ideal arrangement for you to get your PrEP prescription and STI screening in the future?
11. Do you foresee any changes to your PrEP use in the coming year? Do you foresee any changes to your sex life in the coming year? Why?
12. Have you ever been offered PrEP by a provider or got a prescription for PrEP, but chose not to fill it? Why?

13. Were there any barriers, concerns, difficulties you had regarding PrEP this last year?
14. Is there anything about PrEP access in Ontario that can be made easier or better for you?

Participants previously not on PrEP for interview one and/or two

15. Can you remind me about your PrEP usage history?
16. Has your sex life changed over the last year and from when we first spoke (in ways related to and not just related to COVID-19)? How would you describe your current risk level for HIV? STIs? Why?
17. Have you considered taking PrEP this last year? Why or why not?
18. If you have gone on PrEP or thought about going on PrEP over this last year: What motivated you to try PrEP or consider it? How did you access it? Where did you go to learn about it? (If yes, ask 2-9 from last section)
19. Are you aware of different methods of taking PrEP (episodically and on demand)? Do these methods appeal to you more or less than taking PrEP continuously?
20. If participant expressed reluctance/scepticism to PrEP in the previous interview(s): In (one of) the last interview(s) you expressed some reservations and scepticism toward PrEP use, have your opinions changed at all in the last year?
21. Have you ever been offered PrEP by a provider or got a prescription for PrEP, but did not fill it? Why?
22. Do you foresee any changes to your PrEP use in the coming year? Do you foresee any changes to your sex life in the coming year?
23. Do you have any questions or concerns regarding how to access PrEP if you wanted it?
24. Is there anything about PrEP access in Ontario that can be made easier or better for you?
25. Were there any barriers, concerns, difficulties you had regarding PrEP this last year?
26. Have you needed to take PEP this last year? If so, how was that experience?

All Participants

27. How would you summarize your relationship to PrEP (and any changes with it) over the last three years that we've been speaking?
28. Do you feel that (mainstream) public health is promoting PrEP enough/providing enough information about it? Do you feel that gay/queer (HIV) community health organizations are promoting PrEP enough/providing enough information about it?
29. Where are you getting most of your information about PrEP? Why this (these) source(s)?
 - a. Who within the healthcare system do you most trust and prefer to get reliable information about PrEP from (e.g. public health clinics, sexual health clinics, primary care, infectious diseases, local pharmacy)?
30. Since we last spoke, have you heard any more about injectable PrEP? Would this be something that would interest you (more or less) than taking PrEP as a pill? Why or why not? What other information do you think you would need to know in order to make an informed decision about injectable PrEP?
31. Has PrEP affected your relationship to condom use? Your decisions to have sex with people living with HIV (in the last year)? Your assessment of the prevention benefits of undetectability?
32. What are people in your peer group saying about PrEP these days? Do you observe/perceive any stigma to PrEP among gay/queer men?
33. Since we last spoke, have you gotten COVID-19? Has anyone close to you gotten COVID-19?
34. Have your opinions with COVID-19 and/or public health protocols for COVID-19 changed at all since we first spoke/since we last spoke?
35. Have you ever been tested for COVID-19? What was that experience like? Have you ever wanted to be tested for COVID-19 but you were not able to get access to testing?

36. Have you been vaccinated for COVID-19? Have you received a booster? Have you had any concerns or issues with the vaccine? What do you think about vaccine mandates?
37. How has social distancing and public health restrictions affected your work life over the last year (over the course of the pandemic)? Social life? Mental health?
38. Did you need mental health services during this last year? Did you access mental health services? How was this experience, especially given COVID-19 measures?
39. Has COVID-19 affected your sex life this past year? If yes, how so? How did you think about COVID-19 risks during your sexual interactions?
40. Do you feel that your relationship to the gay/queer community has been impacted or changed by the COVID-19 pandemic? What do you think the gay/queer community will look like after the pandemic?
41. Did you need health services during this last year for anything (not just sexual health related)? How was this experience, especially given COVID-19 measures? Did you ever avoid getting a health issue checked out because of COVID-19?
42. Since this is our last conversation for this study, I am wondering if you have had any more thoughts on what you think are the most pressing health problems facing gay, bisexual, queer and other men who have sex with men living in Ontario? Are there any health issues that you think should be getting more attention that aren't?
43. What do you think needs to be addressed to have the ideal healthcare system for gay, bi and queer men?
44. From where we are at today (considering the COVID-19 pandemic and other social issues of the time) are you more or less hopeful about *your* future? Are you more or less hopeful about *the* future? Why?
45. Do you have any final comments about PrEP?
46. Do you have any final questions or comments to make about the health of gay, bisexual, queer, and other men who have sex with men?
47. Do you have any final comments about your role this study? Suggestions for improvement? Areas you wished we had addressed?