

Estimation of the number of gay, bisexual, and other men who have sex with men in Ontario who are eligible to take HIV pre-exposure prophylaxis (PrEP)

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Conflict of Interest Disclosure – no conflict of interest to declare

In the past 2 years I have been an employee of: **n/a**

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In the past 2 years I have held investments in the following pharmaceutical organizations, medical devices companies or communications firms: **n/a**

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I agree to disclose approved and non-approved indications for medications in this presentation: **YES**

I agree to use generic names of medications in this presentation: **YES**

There are relationships to disclose: **NO**

Background

- HIV pre-exposure prophylaxis (PrEP) is the use of antiretroviral medication by HIV-negative individuals to reduce their risk of HIV acquisition; this has been shown to be highly effective.
- Health Canada approval of two oral PrEP medications, TDF/FTC (branded and generic, 2016) and TAF/FTC (branded, 2022).
- PrEP is recommended for adults who are at risk of acquiring HIV through sexual activity or injection drug use including:
 - **Gay, bisexual and other men who have sex with men (GBM) and transgender women** who report condomless anal sex in the last six months and:
 - a recent sexually transmitted infection (STI); OR repeated use of PEP; OR an HIV-positive partner with substantial risk of transmissible HIV; OR a High-Incidence Risk Index (HIRI)-MSM risk score of ≥ 11

1. TDF/FTC - tenofovir disoproxil fumarate-emtricitabine

2. TAF/FTC - tenofovir alafenamide-emtricitabine

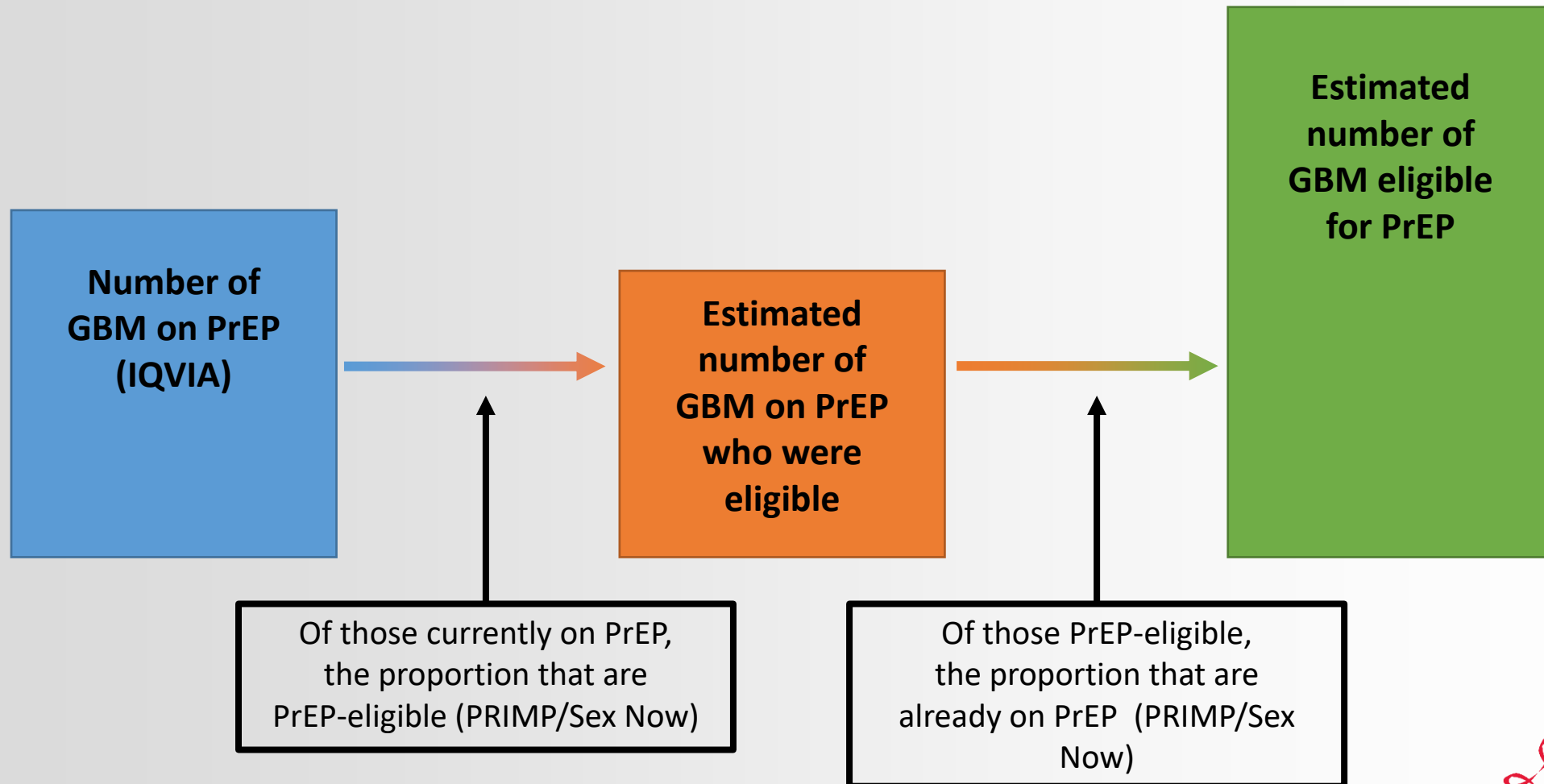
Objective and Methods

The first step in estimating the projected uptake and potential costs of a fully publicly-funded PrEP program in Ontario is to determine the size of the GBM population eligible for PrEP.

How many GBM are currently on PrEP and how many more PrEP eligible GBM are there?

- IQVIA is multinational company which collects dispensation data from a representative sample (70%) of retail pharmacies across Ontario and projects provincial level estimates
 - This data source provides the best estimate of unique PrEP users at any given time

Methods snapshot



PrEP eligibility and PrEP use within the PRIMP and Sex Now studies of GBM in Ontario

Living in Ontario, self-identifying as never been diagnosed with HIV

Define GBM:

- Assigned male at birth OR identify as a man OR identify as a trans man
- Identify as gay OR bisexual OR as anything other than gay/bisexual AND are sexually active in past 6 months with a partner whose gender is anything other than exclusively a cis woman.

Define eligible for PrEP as self-reported:

- Condomless anal sex in the previous 6 months AND bacterial STI (chlamydia, gonorrhea or syphilis) in past 12 months,
OR
- Condomless anal sex in the previous 6 months AND HIRI score >10.
- Define PrEP use as self-reported currently on PrEP (at time of survey)

Note: HIRI cut-off is usually ≥ 10 . Since CASP6M (receptive) gives a score of 10 automatically, having a HIRI score >10 allows for the requirement of a second risk factor to be deemed PrEP-eligible via the HIRI score alone.



ONTARIO
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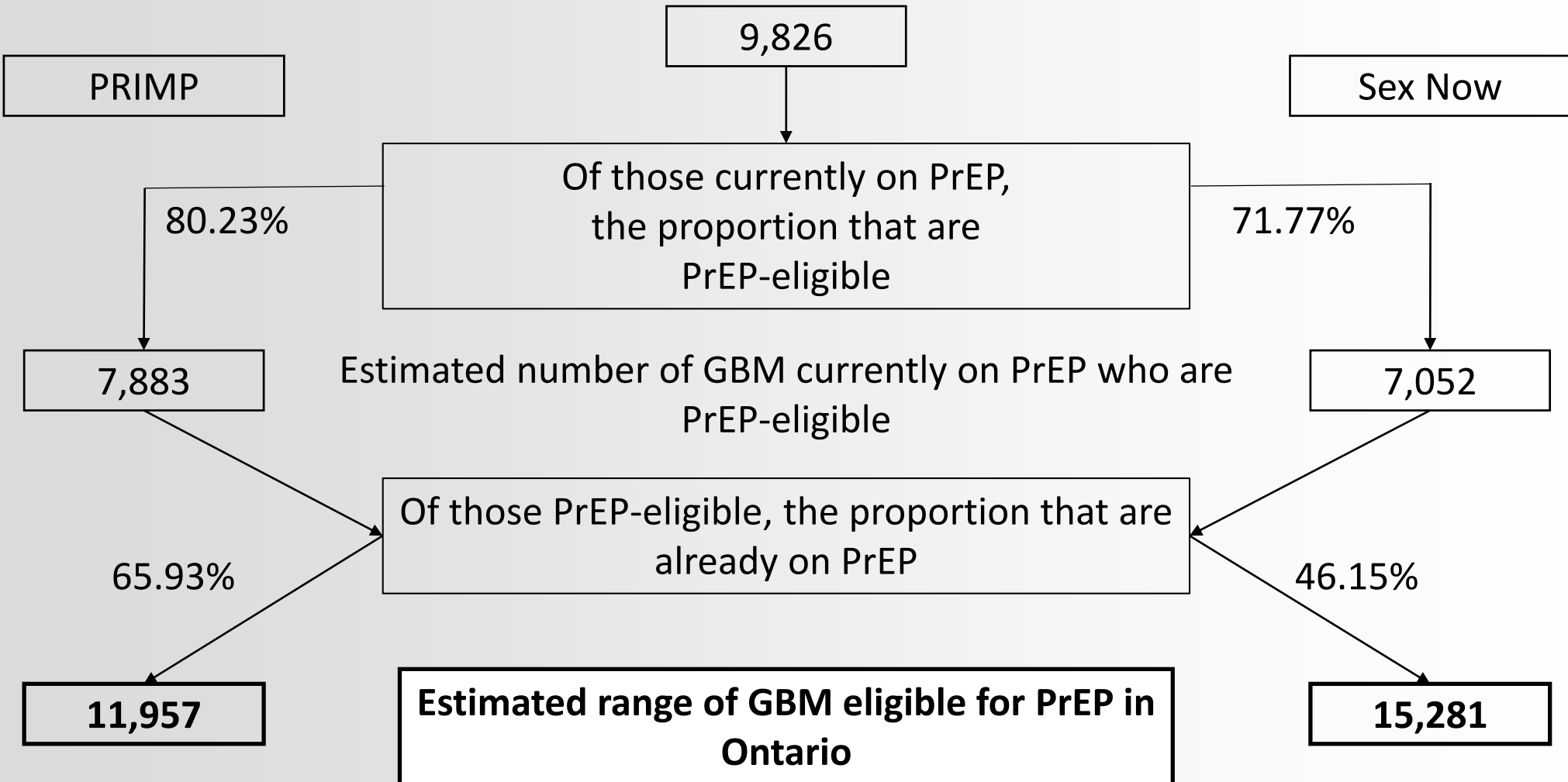
Results

- Sex Now 2022:
 1. Of those on PrEP, proportion that are eligible for PrEP: **71.8%**
 2. Of those eligible for PrEP, proportion that are on PrEP: **46.2%**
- PRIMP 2022
 1. Of those on PrEP, proportion that are eligible for PrEP: **80.2%**
 2. Of those eligible for PrEP, proportion that are on PrEP: **65.9%**

Note: PrEP eligible using HIRI>10 cut-off. Defined previously as GBMSM, in Ontario, not HIV-positive

Results

Estimated number of GBM dispensed PrEP between Oct-Dec 2022 (IQVIA)



Applying the rate of PrEP uptake in BC among GBM (universal free program) to ON GBM population

- BC has a free universal PrEP program and reports quarterly data counts of GBM taking PrEP.
- A recent analysis¹ was published that modeled the estimated size of the GBM population in Ontario and BC (identity + sexual behaviour, and behaviour only based estimates)
- By applying the proportion of GBM dispensed PrEP in BC to the estimated number of GBM in Ontario, we estimated the number of GBMSM in Ontario who would take PrEP if it was free/part of a universal program.
- Projected number of GBMSM who would take PrEP if part of a universal free program in Ontario, assuming BC rate of uptake, behavior and identity estimate: **12,317**
- Projected number of GBMSM who would take PrEP if part of a universal free program in Ontario, assuming BC rate of uptake, behavior only estimate: **13,473**

Both estimates fall within the modeled number of GBM PrEP-eligible in Ontario: 11,957-15,281

¹ Sorge J, Colyer S, Cox J, Kroch A, Lachowsky N, Popovic N, Yang Q. Estimation of the population size of gay, bisexual and other men who have sex with men in Canada, 2020. Can Commun Dis Rep. 2023 Nov 1;49(11-12):465-476. doi: 10.14745/ccdr.v49i1112a02

Limitations

IQVIA data – assumption that all males being dispensed PrEP are GBM

- There is no information to be able to model this number to reflect actual GBM. The proportion of males on PrEP who are GBM is probably quite high and we do not expect this to overestimate PrEP eligibility in a meaningful way.

Point in time estimate –

- Not all GBM eligible for PrEP will take it, and not all GBM on PrEP meet the Canadian guidelines in terms of PrEP appropriateness
- Sexual behaviour and corresponding PrEP appropriateness is not static and can change when an individual is on PrEP as well as off of PrEP

Conclusions

- We estimate between 11,957 to 15,281 GBM are PrEP eligible in Ontario, of which between 46.2% (Sex Now) and 65.9% (PRIMP) are estimated to currently be on PrEP, indicating moderate current PrEP uptake among those at objective HIV risk.
- Sensitivity analyses yielded estimates within the modeled range.
- This is the first step in modeling cost-analysis and uptake projections for free universal PrEP in Ontario

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*Thank
you!*

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