Geographic distribution of pre-exposure prophylaxis (PrEP) dispensations in Ontario, 2022

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Canadian Association for HIV Research (CAHR) Conference 2024

April 26, 2024

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Conflict of Interest Disclosure – no conflict of interest to declare

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What is PrEP?

- HIV pre-exposure prophylaxis (PrEP) refers to the highly effective use of antiretroviral medication by HIV-negative individuals to reduce their risk of HIV infection

- Health Canada approval of two oral PrEP medications, TDF/FTC (2016, branded and generic) and TAF/FTC (2022, branded)

- PrEP is recommended for adults who are at risk of acquiring HIV infections through sexual activity or injection drug use

- Objective: Establish routine provincial monitoring for PrEP in Ontario.

1. TDF/FTC - tenofovir disoproxil fumarate-emtricitabine
2. TAF/FTC - tenofovir alafenamide-emtricitabine

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Where does this data come from?

- **IQVIA**, a multinational company which collects dispensation data from a representative sample (70%) of retail pharmacies across Ontario.
  - Data is then projected to the provincial level to estimate the number of individuals dispensed branded/generic TDF/FTC OR branded TAF/FTC.

- A decision tree[1] is then used to assign the dispensation to PrEP or another purpose (e.g. PEP, HIV treatment, Hep B treatment)

- Data recorded by pharmacy or IQIVA: Age (10-year categories), Sex (male/female), Prescriber specialty, Payer type (private/public), Geographic location of the pharmacy

- There is no information recorded on some very important demographic features such as race/ethnicity, gender identity, and HIV risk factors.
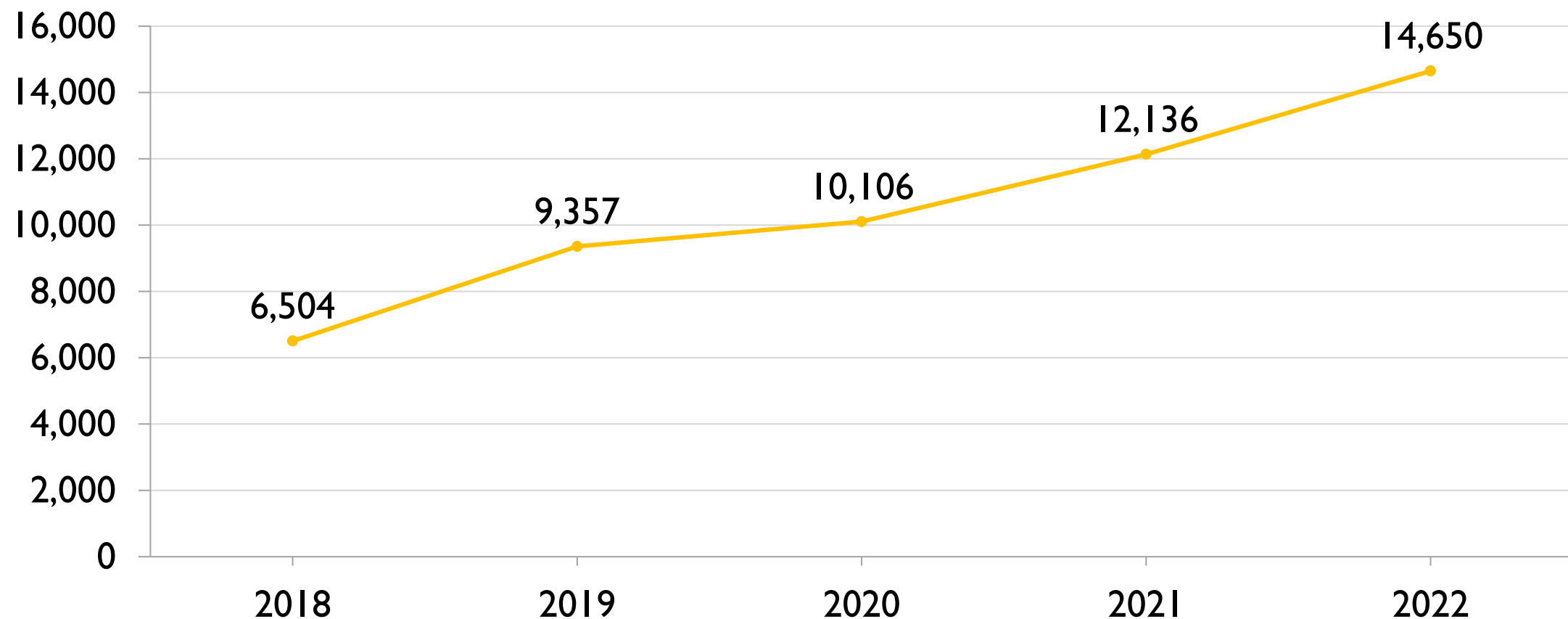
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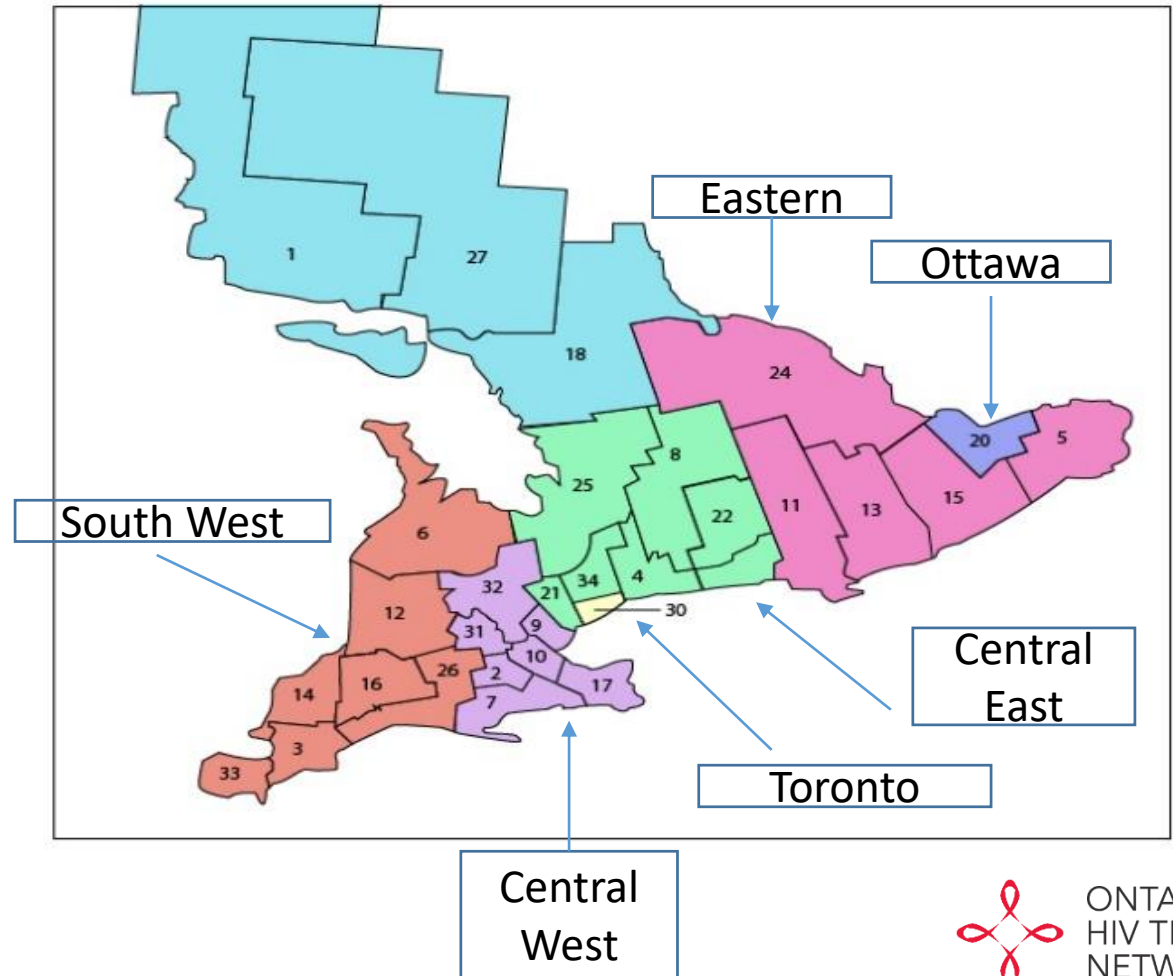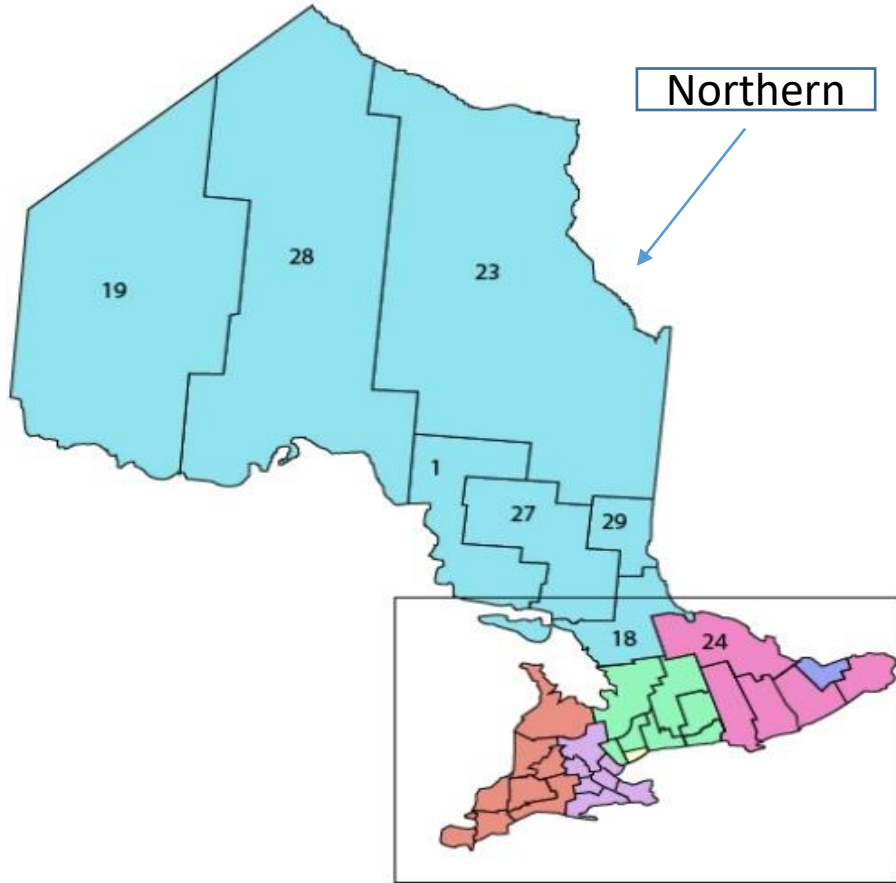# Online PrEP dispensing clinic adjustment for reporting PrEP use by geographic region

- IQVIA attributes all dispensations to the location of the pharmacy.

- In late 2021, an online PrEP dispensing clinic opened with a mail delivery service using a single Ontario pharmacy. Attributing all mailed out dispensations to this one pharmacy creates bias in the data reported by geographic region.

- Solution: Dispensations attributed to that pharmacy's forward sorting address (IQVIA data) needed to be geographically redistributed proportionate to its clients' mailing locations.

- The data presented is the adjusted data, accounting for the redistribution of online dispensation of PrEP.
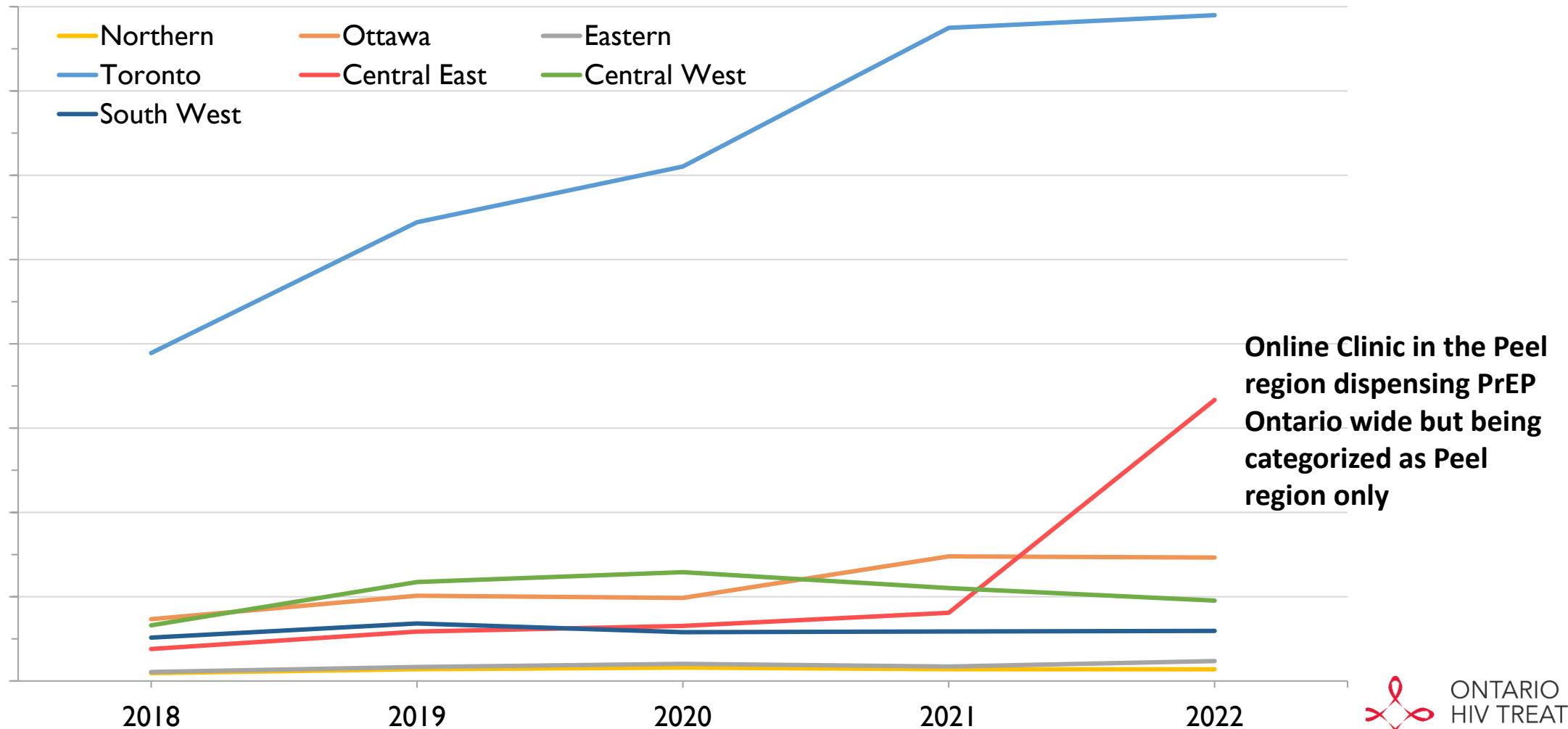
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Estimated number of individuals dispensed PrEP in Ontario increased 2.3 times between 2018 and 2022
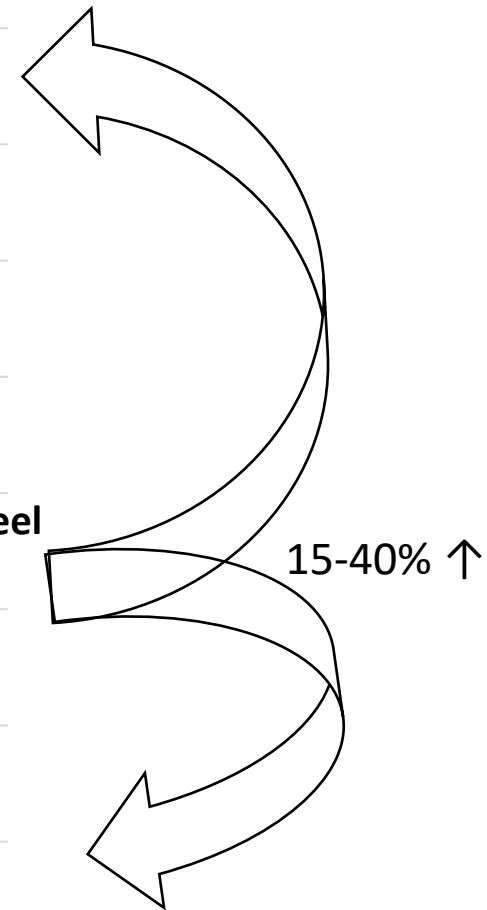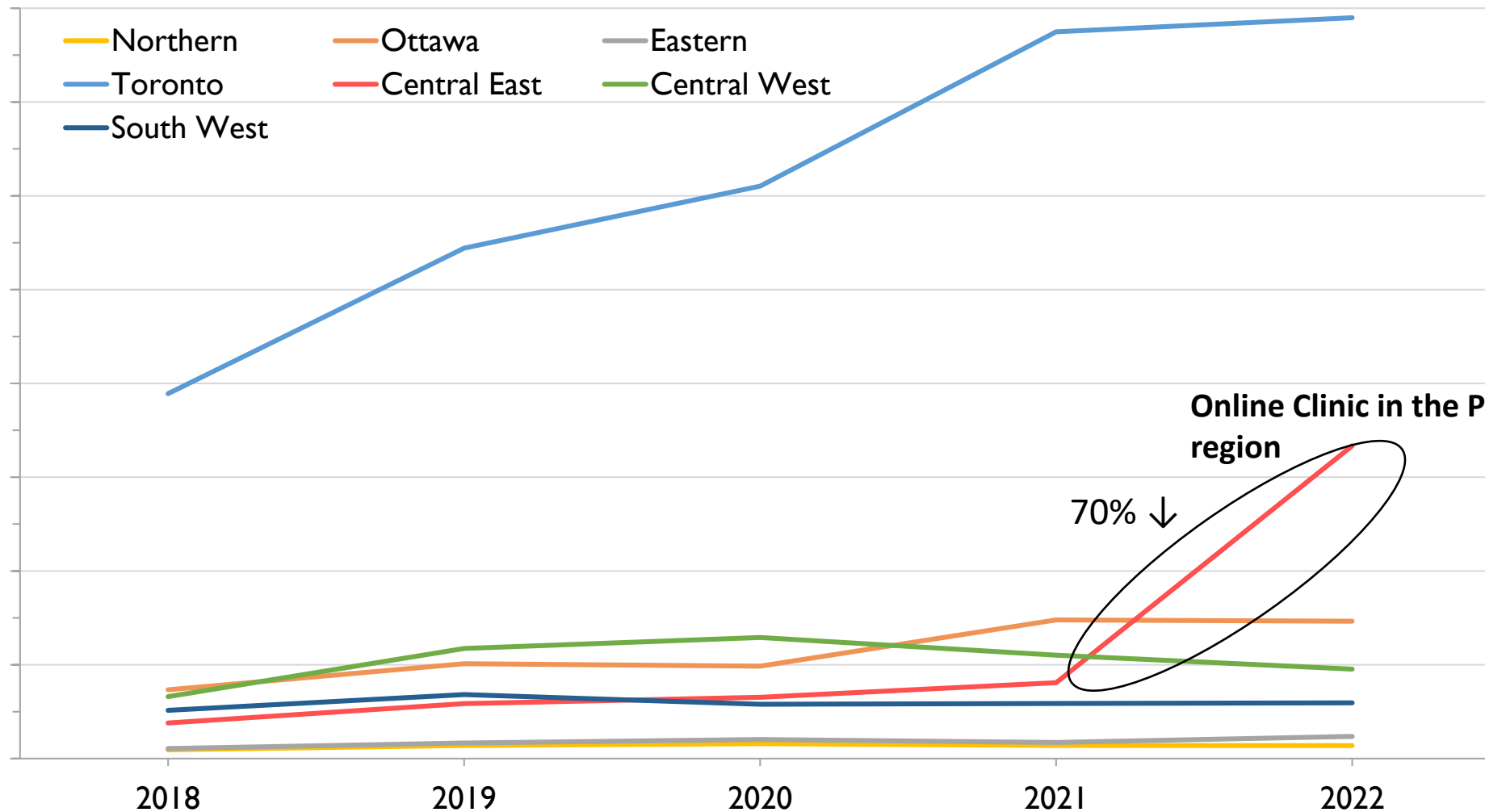

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Ontario geographic regions

Estimated rate of individuals dispensed PrEP by Ontario region, 2018 to 2022 (annual)

Legend:
- Northern
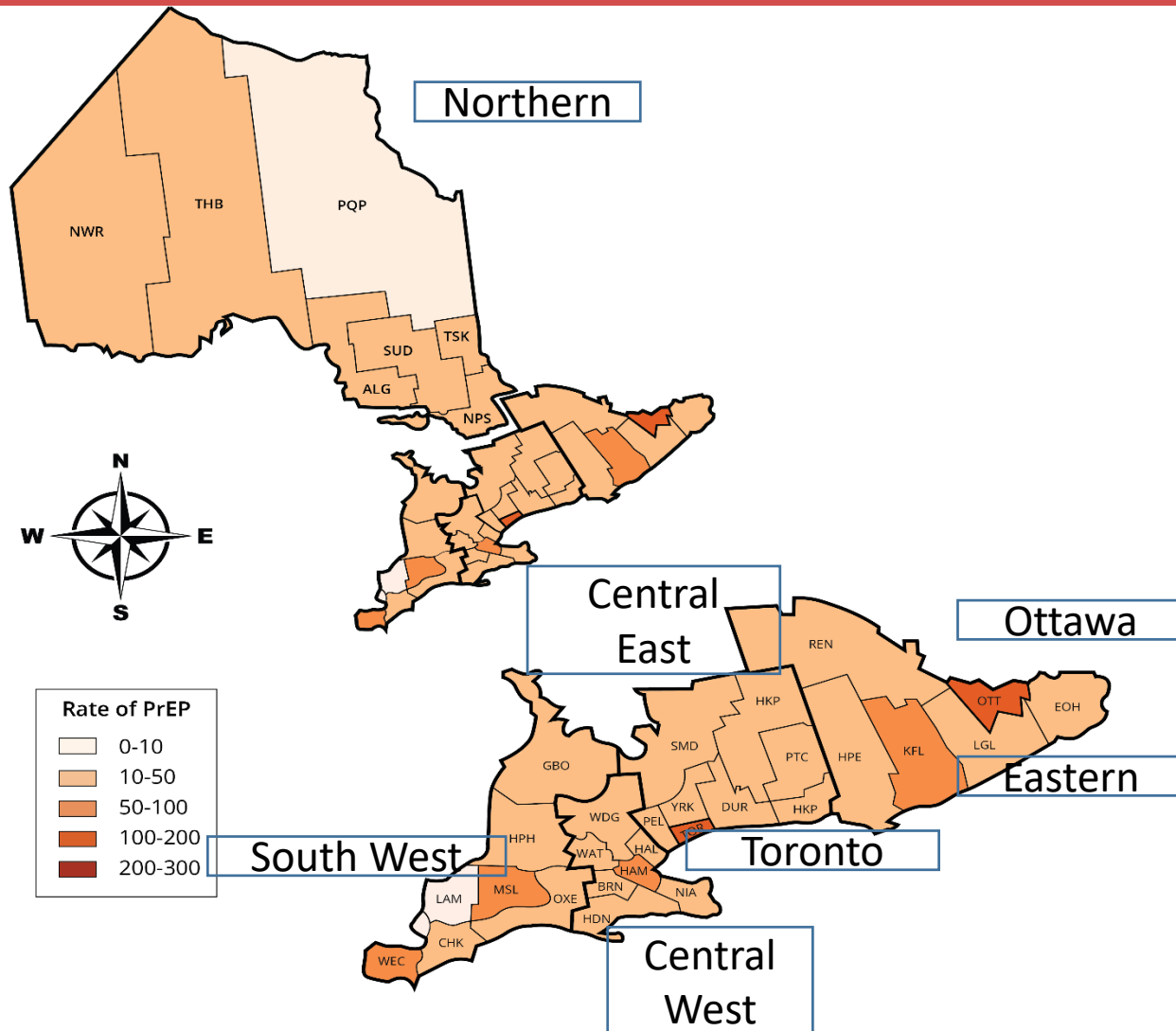- Ottawa
- Eastern
- Toronto
- Central East
- Central West
- South West

Online Clinic in the Peel region dispensing PrEP Ontario wide but being categorized as Peel region only

2018 2019 2020 2021 2022

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Adjustment made to IQIVA data to compensate for an online PrEP dispensing clinic

Legend: Northern, Ottawa, Eastern, Toronto, Central East, Central West, South West

Online Clinic in the Peel region

70% ↓

15-40% ↑

2018   2019   2020   2021   2022

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Results: Adjusted estimated rate of individuals dispensed PrEP per 100,000 people by Ontario region, 2022

- Toronto (299.1)
- Ottawa (159.3)
- Central West (41.9)
- South West (41.7)
- Eastern (32.4)
- Northern (23.8)
- Central East (22.8)

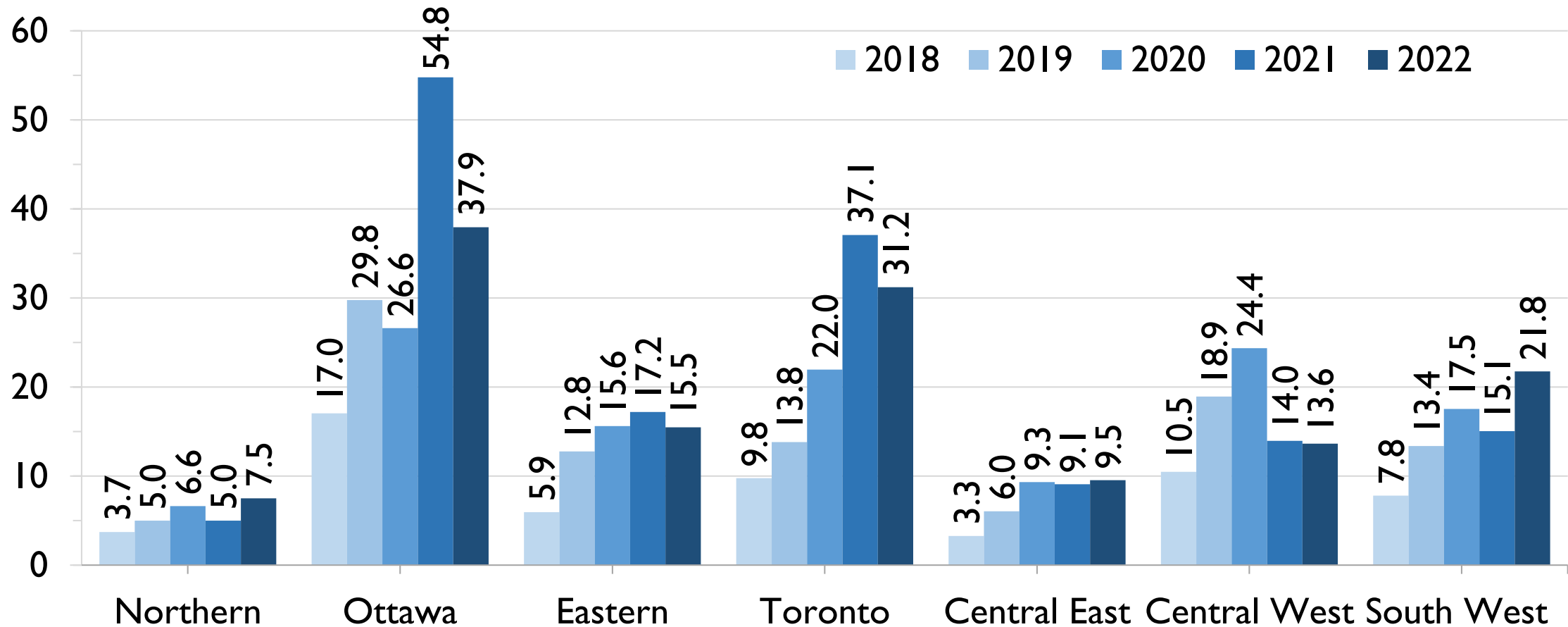# How do we estimate if PrEP uptake meets the needs of a community?

- The number of PrEP users should relate to the number of people at risk for HIV.

- A measure for risk of HIV is the number of first-time diagnoses.

$$\frac{\text{Number of PrEP users}}{\text{Number of First-time Diagnoses}} = \text{PrEP to need ratio}$$

- Larger number indicates a more optimal amount of PrEP use but no known cut-off that indicates ideal coverage of PrEP has been reached.

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PrEP-to-need ratio by geographical region, 2018 to 2022

Limitations to our data

- Lacks data on race/ethnicity, gender identity, HIV risk factor and geographic location of individual dispensed PrEP.

- In-patient hospital pharmacies, clinical/trials/other research and provided at no cost (e.g. by a health unit) are not included in estimates.

- Does not assess PrEP eligibility or PrEP appropriateness.

- No known number for the PrEP-to-need ratio that signifies a threshold of optimal coverage has been reached.

- 2023 data will have PrEP dispensation by region and sex and total prescriptions dispensed along with counts of individuals dispensed.

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Overall PrEP uptake has increased over time

- Between 2018 and 2022, PrEP use has increased in all Ontario regions – by counts, rates and PrEP-to-need ratios

- The majority of dispensations happen in Toronto followed by Ottawa; Ottawa has the highest PrEP-to-need ratio

- Different trends in PrEP uptake by region needs to be monitored for more focused uptake campaigns – with a focus on PHU level data

- PrEP surveillance measures must be in place to account for any new and ongoing online PrEP dispensing clinics whose dispensing pharmacies are located in Ontario

- This data helps us improve our understanding of where PrEP is being used in Ontario and identify implementation gaps to guide future work.

Full PreP report available at:

https://www.ohtn.on.ca/hiv-pre-exposure-prophylaxis-prep-in-ontario-2022/

Thank you!

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