HIV Pre-exposure Prophylaxis (PrEP) Adoption in Primary Care: An Online Survey of Ontario Physicians.

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Introduction:

- As of 2016, an estimated 63,110 people are living with human immunodeficiency virus (HIV) in Canada[1], approximately 82% of whom have acquired the infection through sexual transmission[2].
- HIV risk is estimated to be 151 times greater in gbMSM compared to other men[3]. Use of pre-exposure prophylaxis (PrEP) is one method of HIV prevention shown to be highly effective for reducing sexually transmitted HIV, particularly in gbMSM[4-8].
- Currently, PrEP is prescribed primarily by specialist physicians and clinics within Canada, creating a bottleneck for access to the medication and limiting availability outside of urban centres[9]. To advance PrEP implementation and reach rural populations, a transition to administration through primary care is needed[10].
- The aim of this study is to assess the perspective of family physicians in the Greater Hamilton and Niagara area regarding awareness and adoption of PrEP and associated care, existing barriers to PrEP prescription, and desired resources and supports to help support the transition of PrEP to family practice administration.

Methods:

- An anonymous, cross-sectional, online survey of family physicians in the greater Hamilton and Niagara area of Ontario was conducted from February 2019 to December 2019.
- The survey was distributed via direct email through physician directories, online newsletters to family physicians, and delivery of flyers to clinics.
- The survey consisted of 29 questions including:
  - Opening demographic questions
  - Five questions on awareness of PrEP and its perceived impact on family practice.
  - Six questions on physician comfort with HIV and sexual risk assessments
  - Eleven questions on physician comfort with PrEP and related aspects of care, including management of sexually transmitted infections and monitoring of side effects.
  - Three final questions on 1) perceived barriers to PrEP implementation, in addition to 2) desired topics and 3) desired formats of future resources developed to help family physicians prepare their practice for PrEP prescription.

Results

Respondent Demographics:

- A total of 40 family physicians completed the survey within the data collection period.

Current awareness of PrEP: (Table 1)

- While 90% of physicians were aware of PrEP, only 27.5% had prescribed PrEP.
- Only 62.5% of physicians were aware of the Canadian PrEP & nPEP guidelines, and 25% had reviewed them.

Comfort with PrEP and Associated care: (Figure 4)

- 35.9% (n=14) of physicians felt comfortable prescribing PrEP, and 30.8% (n=12) felt comfortable monitoring for its side effects.
- 77.5% (n=31) disagreed (n=24) or strongly disagreed (n=7) with being comfortable using tools such as HIV Incidence Risk Index (HIRI) or recent STI's to risk stratify gbMSM patients.
- STI management is a central source of discomfort in associated care, with lack of comfort in the diagnosis and management of pharyngeal (62.5%, n=25) and rectal (57.5%, n=23) STI's.

Barriers to Prescription: (Figure 1)

- Most commonly-reported barriers included: Lack of general education around PrEP (73.7%, n=28), difficulties managing patient adherence (60.5%, n=23), issues with medication cost / insurance coverage (55.3%, n=21), and frequency of lab monitoring (52.6%, n=20).
- Least reported barriers included negative perception of PrEP (2.6%, n=1) and insufficient research on PrEP (2.6%, n=1), suggesting physicians have confidence in the utility of the medication.

Desired resources moving forward: (Figures 2 and 3):

- Most desired resource topics: guidance in diagnosis and treatment of rectal STI's (86.5%, n=32), diagnosis and treatment of syphilis (83.8%, n=31), monitoring of PrEP patients (83.8%, n=31), and HIV risk stratification (81.1%, n=30).
- Most desired resource formats: short "at-a-glance" guides for PrEP (n=29, 76.3%) and STI management (n=28, 73.7%), as well as e-consult availability (n=23, 60.5%).

Table 1: Physician Current Practices and Awareness of PrEP

Have you heard of using tenofovir/emtricitabine (Truvada or generic equivalents) as Pre-Exposure Prophylaxis (PrEP), which is a way of preventing HIV infection?	N (%)
Yes, I prescribe it for my patients	11 (27.5)
Yes, I have patients on it but it was prescribed by another physician	7 (17.5)
Yes I'm aware but do not have any patients using it	18 (45)
No I'm not familiar with PrEP	4 (10)
Are you aware of the Canadian PrEP and nPEP guidelines?	
Yes, I have reviewed them	10 (25)
I'm aware of them but haven't reviewed them	15 (37.5)
No, I am unaware of the guidelines	15 (37.5)
Do you feel comfortable providing PrEP to patients who meet high-risk criteria for HIV?	
Yes	14 (35.9)
No	25 (64.1)
Do you feel comfortable monitoring for side effects of tenofovir/emtricitabine?	
Yes	12 (30.8)
No	27 (69.2)
Do you I feel comfortable assessing renal function and risk of renal disease for patients on PrEP?	
Yes	20 (51.3)
No	19 (48.7)
Do you routinely screen for STI's?	
Yes, on a regular schedule	23 (57.5)
Only if the patient asks for testing	15 (37.5)
Only if the patient complains of symptoms	0 (0)
No	2 (5%)
What anatomic locations do you test for STI's?	
Pharyngeal	19 (48.7)
Rectal	20 (51.3)
Urethral	17 (43.6)
Vaginal	35 (89.7)
Urine analysis	37 (94.9)

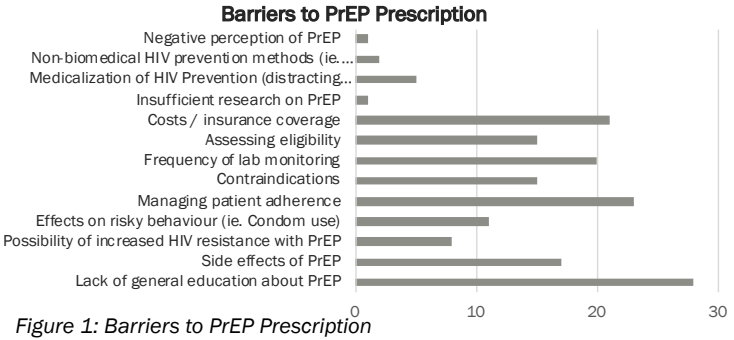

Figure 1: Barriers to PrEP Prescription

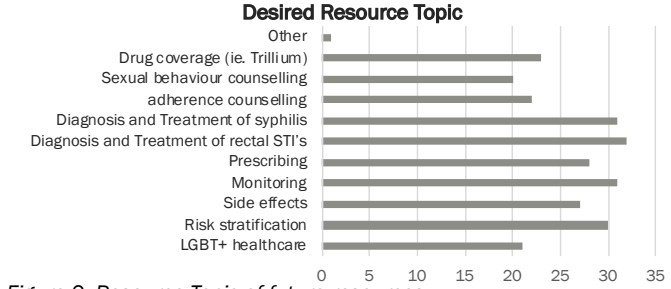

Figure 2: Resource Topic of future resources

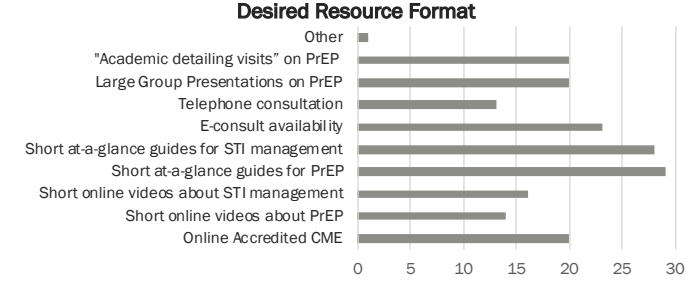

Figure 3: Desired format of future resources

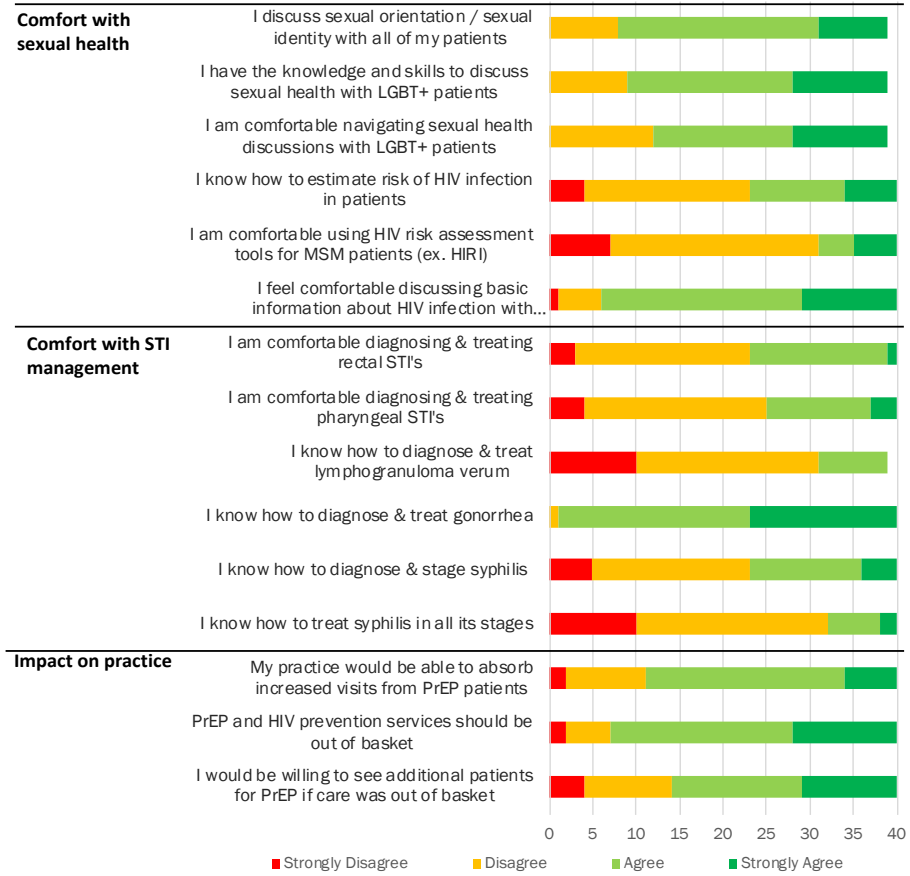

Figure 4: Physician reported comfort with PrEP and associated care

Conclusions:

While most family physicians surveyed were aware of PrEP, the majority had not prescribed PrEP for their patients or reviewed the Canadian PrEP and nPEP guidelines. Physicians reported low comfort with assessing HIV risk, managing STI's, and monitoring the side effects of PrEP. Perceived barriers to PrEP prescription included lack of education and concerns about patient adherence and monetary cost. To improve access and delivery of PrEP for high risk individuals, a transition to management through primary care is needed. Education, possibly in the form of short "at-a-glance" guides or e-consult availability, around HIV, PrEP, STI management and patient monitoring will be vital to assist family physicians as they adopt the task of implementing HIV prevention in primary care.

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