



# Comparing HIRI-MSM Scores and New STI Diagnosis in PrEP patient follow-up

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CAHR  
2020



## Introduction

- PrEP is prescribed as an effective means of preventing HIV transmission.<sup>1</sup> HIV Incidence Risk Index for Men who have Sex with Men (HIRI-MSM) score has been validated for new HIV diagnosis, but has not been validated for other STIs.<sup>2</sup>
- Current Canadian guidelines require PrEP patients to undergo rigorous STI screening schedule, including baseline, 30 day and 3 month evaluation.<sup>3</sup>
- Some studies found self-reported decreased condom use and have measured increased new STI diagnosis among patients beginning PrEP.<sup>4, 5, 6.</sup>
- Our goal with this study was to analyze new STI diagnosis among patients on PrEP, and determine correlations between patient data, including intake HIRI score.

**Conflict of Interest Disclosure:** This project and team had no conflicts of interest.

## Methods

- We conducted a retrospective chart review of all patients at the Hamilton PrEP clinic from its initiation in 2013, including those who discontinued PrEP
- Patient HIRI score, baseline STI history and demographic data were collected at intake appointment
- For patients who started PrEP, all new STIs diagnosed, either through screening from regular follow ups or from alternate primary care referrals, were recorded and analyzed.
- HIRI scores, STI history, new STI dx, and demographic data were compared in both clinics using a Pearson correlation.
- Chi-squared calculation was used to determine correlation between positive and negative hx of STI and new diagnosis

# Results – New STI Diagnosis

Table 1:

New STI Diagnosis by Type / Anatomic Location

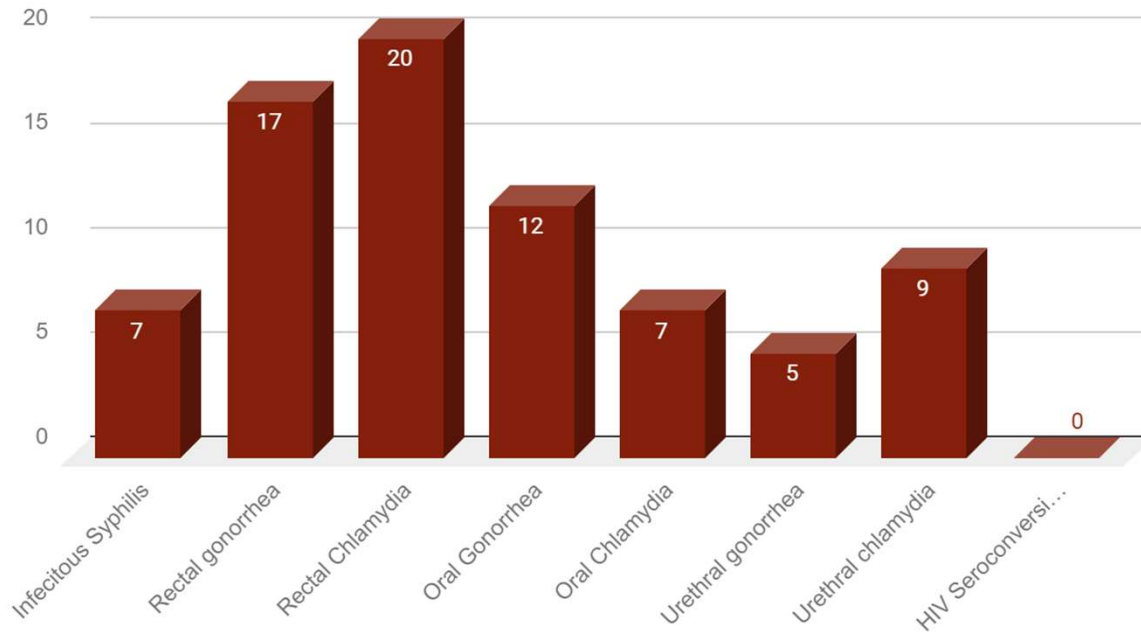


Figure 1: Hamilton Heatmap

Table 2: New STI Anatomic Location comparison

Location	Total New Infections
Rectal	37 (48.1%)
Oral	19 (24.7%)
Urethral	14 (18.1%)
Syphilis	7 (9%)
<b>Total</b>	<b>77</b>

Table 3: New STI organism comparison

Organism	Total New Infections
Chlamydia	36 (46.7%)
Gonorrhoea	35 (45%)
HIV	0 (0%)
Syphilis	7 (9%)
<b>Total</b>	<b>77</b>

## Results – HIRI Score Calculations

- No correlation between age and HIRI score, or age and new STI diagnosis.
- Chi-squared calculation between previous diagnosis of STI and new diagnosis while on PrEP was shown to be not statistically significant ( $p=0.0865$ )
- Correlation between baseline HIRI Score and number of new STI diagnosis was shown to only have a low correlation value ( $r=0.192$ ,  $p=0.005$ ).
- Of the 38 patients with new STI diagnosis while taking PrEP, 52.6% had no baseline history of STI.

Table 4:

Baseline HIRI vs New STI diagnosis

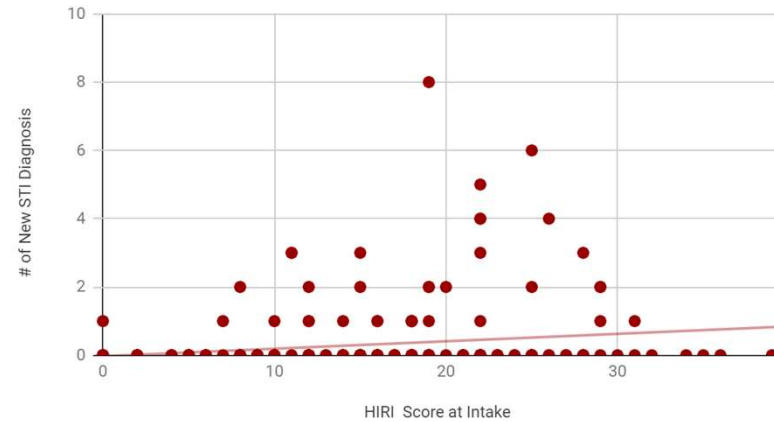


Table 5: Comparison of STI Hx and New STI Dx

	New STI Diagnosis while on PrEP	No New STI Diagnosis while on PrEP
Past STI Dx	18 (47.4%)	76
No Past ST DX	20 (52.6%)	154
Total	38	230
Chi-square = 2.938, $p=0.08648$ , not statistically significant.		

## Discussion and Conclusions

- The majority of new STI diagnosis among PrEP patients in this study were *Neisseria gonorrhoea* (46.7%) and *Chlamydia trachomatis* (45%), with fewer new syphilis diagnosis (9%) and no HIV seroconversions.
- Most new STI diagnosis were rectal (48.1%), but new oral (24.7%), urethral (18.1%) and serological (9%) diagnosis were still significant.
- This evidence supports **thorough screening** recommended by the Canadian guidelines that includes **rectal, urethral, oral and serological** STI screening every 3 months for **all patients**, regardless of demographic data, HIRI risk and STI history.
- Age and past STI diagnosis were shown to not be correlated to new STI diagnosis. Baseline HIRI-MSM was shown to have a low correlation with future STI diagnosis. These factors cannot be used clinically to direct screening and provides further evidence for universal STI screening among PrEP users.

### References:

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