



# **HIV Prevention in an Urban Hospital Center in New York City - STI Testing as a Potential Tool for PrEP Expansion**

**Robert Pitts, MD**

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# Disclosures

**No financial disclosures**

# Challenges in PrEP Uptake

- PrEP uptake has dramatically increased in the US, with ~120,000 individuals initiated on PrEP since 2012.
- Although PrEP use has increased, there remain disparities in PrEP uptake among populations at greatest risk for HIV infection.
- Tools to expand PrEP use and minimize racial disparities are needed to recognize the true potential of PrEP and prevent further infections.

# Health + Hospitals/Bellevue

- One of the oldest community hospitals in the US, located in Manhattan, New York.
- >80% racially and medically underserved patient populations.
- **Annually:** 455,348 non-ER outpatient clinic visits, 105,932 ER visits, and 30,311 inpatients.

# Study Design

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**Retrospective cohort study** to assess the use of STI testing to expand PrEP in an underserved population.

# Objectives

- ① **Describe the distribution of STI testing** across the Health + Hospitals/Bellevue clinical setting from **January 1<sup>st</sup> 2014 – July 30<sup>th</sup> 2017**.
- ① **Estimate the total number of patients eligible for PrEP** accessing care in the New York City Health + Hospitals/Bellevue.

# Objectives

- ③ Estimate the odds of being prescribed PrEP by race and sex across the Health + Hospitals/Bellevue clinical setting, controlling for other sociodemographic factors.**
- ④ To assess continuity of prophylaxis, estimated by the medication possession ratio.**

# Study Population

## Inclusion:

- ① Any patient  $\geq 18$  years old accessing care in the Health + Hospitals/Bellevue between **January 2014 to July 2017**.
- ② HIV negative upon entry into the study.
- ③ Documented positive STI test: **Gonorrhea, Chlamydia, and/or Syphilis**.

## Exclusion:

Age < 18	HIV+ upon study entry	STI negative testing
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# NYC Health+ Hospitals/Bellevue

January 2014 – July 2017

**29,065** patients HIV tested

- ① HIV negative at study entry
- ② > 2 HIV tests
- ③ >18yo

**17,985** patients STI tested

- ① Gonorrhea
- ② Chlamydia
- ③ Syphilis

# STI Testing By Location and Gender

## Gonorrhea/Chlamydia

## Syphilis

Location	Male (%)	Female (%)	Male (%)	Female (%)
<b>Emergency</b>	3,220 (44.1)	5,940 (13.7)	5,227 (42.1)	1,222 (10.3)
<b>Medicine</b>	2,734 (37.4)	1,624 (3.8)	1,994 (16.1)	1,282 (10.8)
<b>Specialty</b>	428 (5.9)	234 (0.5)	796 (6.4)	391 (3.3)
<b>Surgery</b>	96 (1.3)	16 (0.04)	103 (0.8)	51 (0.4)
<b>OB/GYN</b>	8 (0.1)	32,998 (76.2)	11 (0.1)	7,006 (58.9)
<b>HIV</b>	350 (4.8)	558 (1.3)	271 (2.2)	123 (1)
<b>Psychiatry</b>	176 (2.4)	246 (0.6)	3,463 (27.9)	1,115 (9.4)
<b>Pediatric</b>	220 (3)	580 (1.4)	77 (0.6)	74 (0.6)
<b>Rehab</b>	0	0	2 (0)	0
<b>NA</b>	74 (1)	1,098 (2.5)	471 (3.8)	629 (5.3)
<b>Total</b>	<b>7,306</b>	<b>43,294</b>	<b>12,415</b>	<b>11,893</b>

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**1,143** patients STI+

Gonorrhea	125
Chlamydia	561
Syphilis	517

# +STI Testing By Location and Gender

Location	Gonorrhea		Chlamydia		Syphilis	
	Male (%)	Female (%)	Male (%)	Female (%)	Male (%)	Female (%)
<b>Emergency</b>	39 (53.4)	21 (40)	62 (46)	63 (14.8)	167 (44)	30 (22)
<b>Medicine</b>	16 (22)	1 (2)	41 (30.4)	25 (5.9)	59 (16)	26 (19)
<b>Specialty</b>	4 (5.5)	0	11 (0.8)	1 (0)	39 (10.3)	10 (7.3)
<b>Surgery</b>	1 (1.4)	0	2 (1.5)	1 (0)	6 (1.6)	3 (2.2)
<b>OB/GYN</b>	0	24 (46)	0	303 (71.1)	0	28 (20.4)
<b>HIV</b>	6 (8.2)	2 (3.8)	6 (4.3)	11 (2.6)	13 (3.4)	3 (2.2)
<b>Psychiatry</b>	0	1 (2)	3 (2.2)	6 (1.4)	72 (19)	29 (21.2)
<b>Pediatric</b>	7 (9.6)	2 (3.8)	10 (7.4)	11 (2.6)	2 (0.5)	0
<b>Rehab</b>	0	0	0	0	0	0
<b>NA</b>	0	1 (2)	0	5 (1.2)	22 (6)	8 (5.8)
<b>Total</b>	<b>73</b>	<b>52</b>	<b>135</b>	<b>426</b>	<b>380</b>	<b>137</b>

**Represent patients with positive tests, not number of tests**

# NYC Health+ Hospitals/Bellevue

January 2014 – July 2017

1,143 patients STI+

40 patients prescribed tenofovir

<b>HIV seroconversion</b>	<b>4</b>
Acute HIV infection	1
Post-exposure prophylaxis	8

**27** prescribed PrEP

**1,142** PrEP Eligible Pts

# PrEP Prescriptions by Gender

## Prescribed PrEP

Gender	No (%)	Yes (%)	p-value
Female	591 (100)	0	<0.001
Male	524 (95.1)	27 (4.9)	
<b>Total</b>	<b>1,115</b>	<b>27</b>	

**No women with +STI received PrEP**

# PrEP Prescriptions by Race/Ethnicity

## Prescribed PrEP

Race/Ethnicity	No (%)	Yes (%)	p-value
Black	462 (99.7)	1 (0.3)	<0.001
Hispanic/Latino	422 (97.9)	9 (2.1)	
White	105 (87)	16 (13)	
Other	126 (99.2)	1 (0.8)	
<b>Total</b>	<b>1,115</b>	<b>27</b>	

## Prescribed PrEP

	No (%)	Yes (%)	
<b>Age at first PrEP visit</b>	38.2 (SD 15.6)	37.5 (SD 11.3)	0.785
<b>Insurance type</b>			
Commercial	35 (100)	0	0.506
Medicaid	181 (98.9)	2 (1.1)	
Medicare	51 (98.1)	1 (1.9)	
Metroplus	147 (99.3)	1 (0.7)	
Self-pay	339 (96.8)	11 (3.2)	
Unknown	330 (97.3)	9 (2.6)	
<b>Marital Status</b>			
Single, Divorced, Widowed	991 (97.8)	22 (2.2)	0.559
Married	124 (95.4)	6 (4.6)	



# PrEP by Location and Gender

Location	Patients with +STI	Males +STI Prescribed PrEP (%)	Females +STI Prescribed PrEP (%)
Emergency	358	6 (22)	0
OB/GYN	353	0	0
Medicine	159	17 (63)	0
Psychiatry	111	0	0
Specialty	63	0	0
Not available	37	0	0
Pediatrics	32	0	0
HIV	31	4 (15)	0
Surgery	13	0	0

**3 areas** responsible for PrEP prescriptions among patients considered PrEP eligible

- ① Medicine
- ② Emergency Department
- ③ HIV Specialty clinic

# Multivariate Analysis

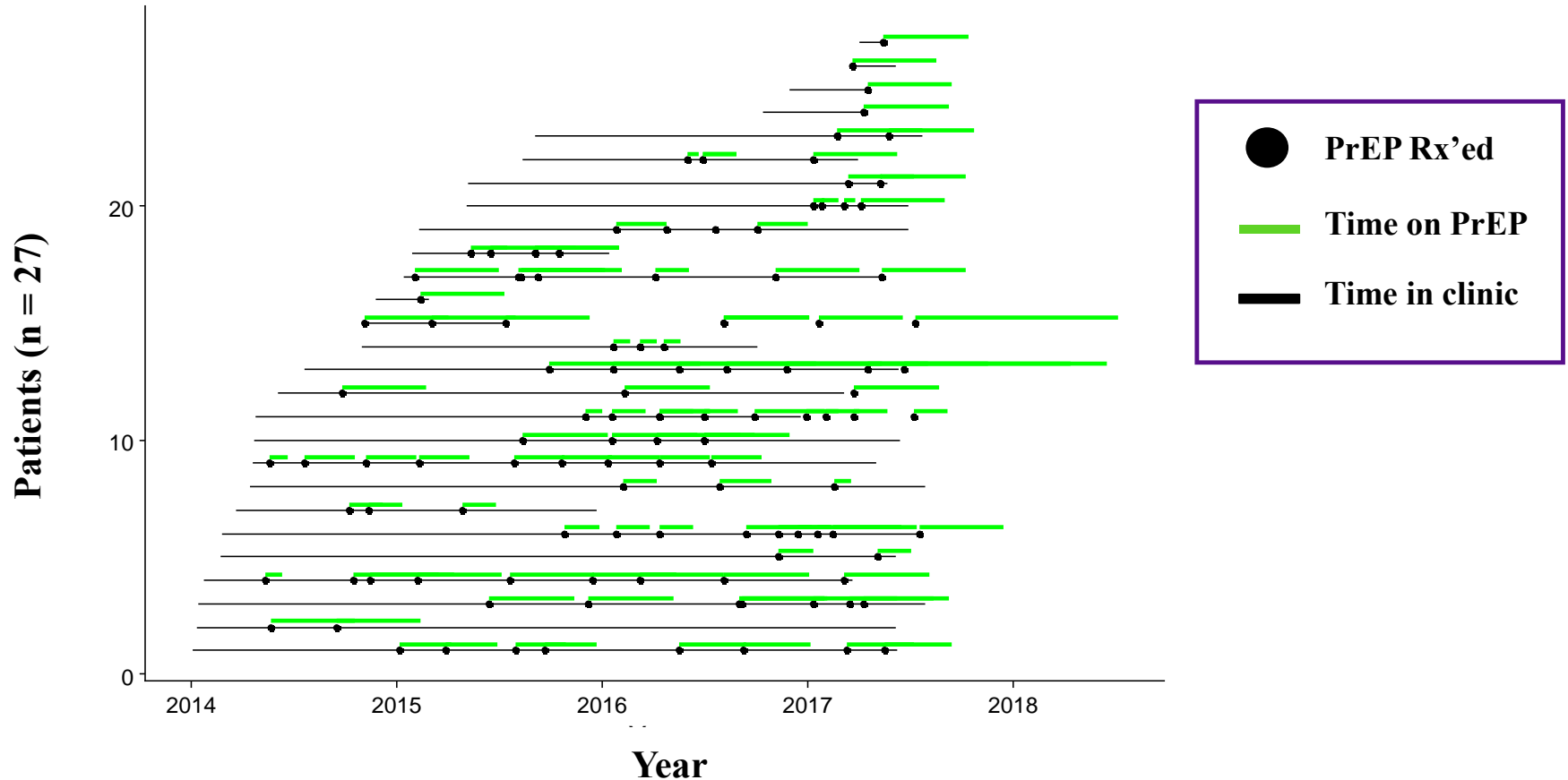
Race/Ethnicity	OR	aOR	p-value
Black	Ref	Ref	-
Hispanic	9.5 (1.2 – 75.1)	14 (1.6 – 117)	0.015
Other	3.4 (0.2 - 54.6)	8.9 (0.5 – 151.8)	0.131
White	43.8 (5.6 - 345.93)	47.8 (5.7 - 400.7)	< 0.001

- Adjusted for age, marital status, and insurance type.
- **White patients had 47.8 greater odds of being prescribed PrEP than Black patients.**

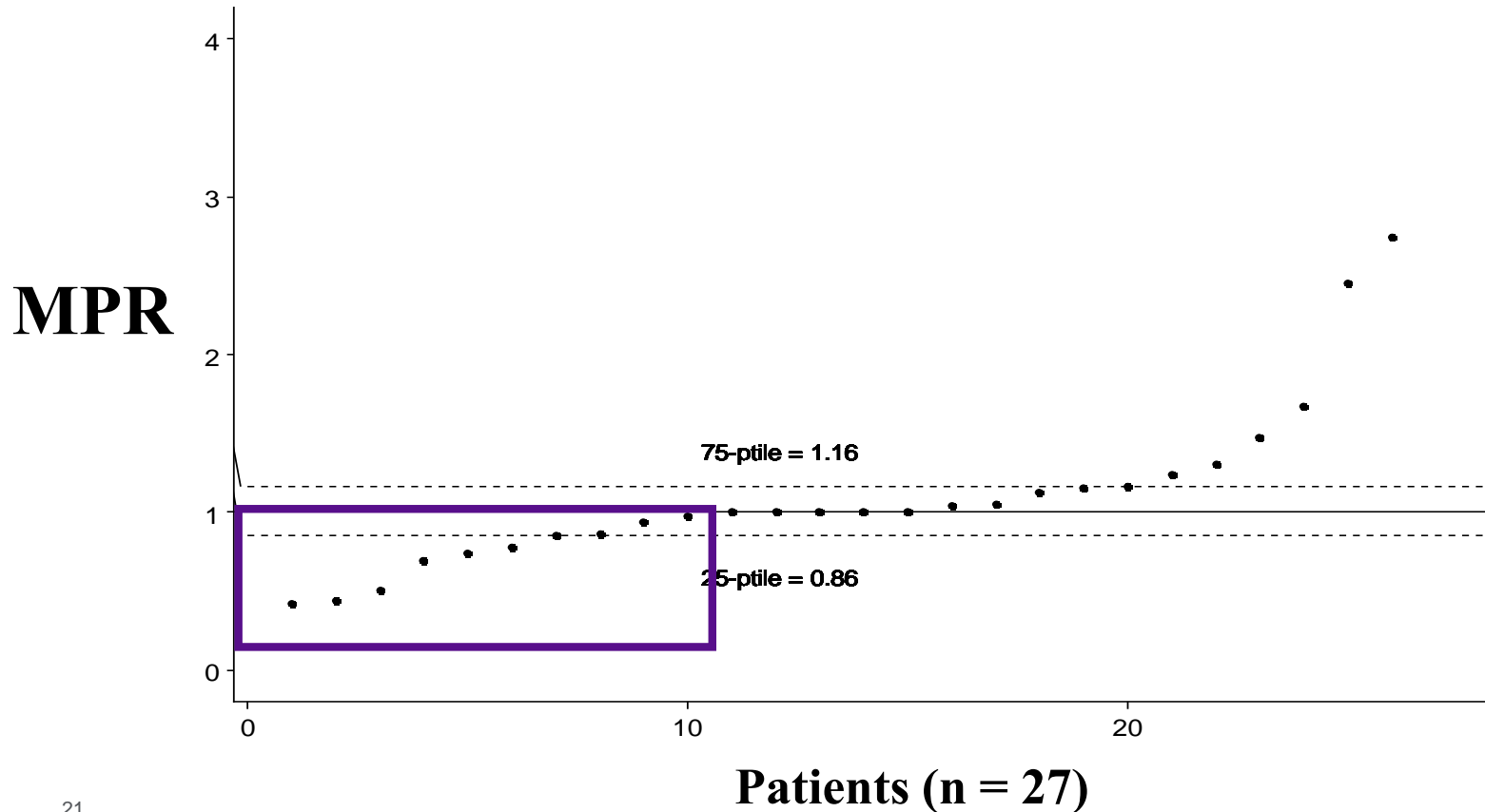
# Result Summary

- ① **PrEP underutilized** among PrEP eligible patients, especially among women and people of color.
- ① STI testing largely performed in the **Emergency Department and OB/GYN clinics**, however few PrEP prescriptions originated from these areas.

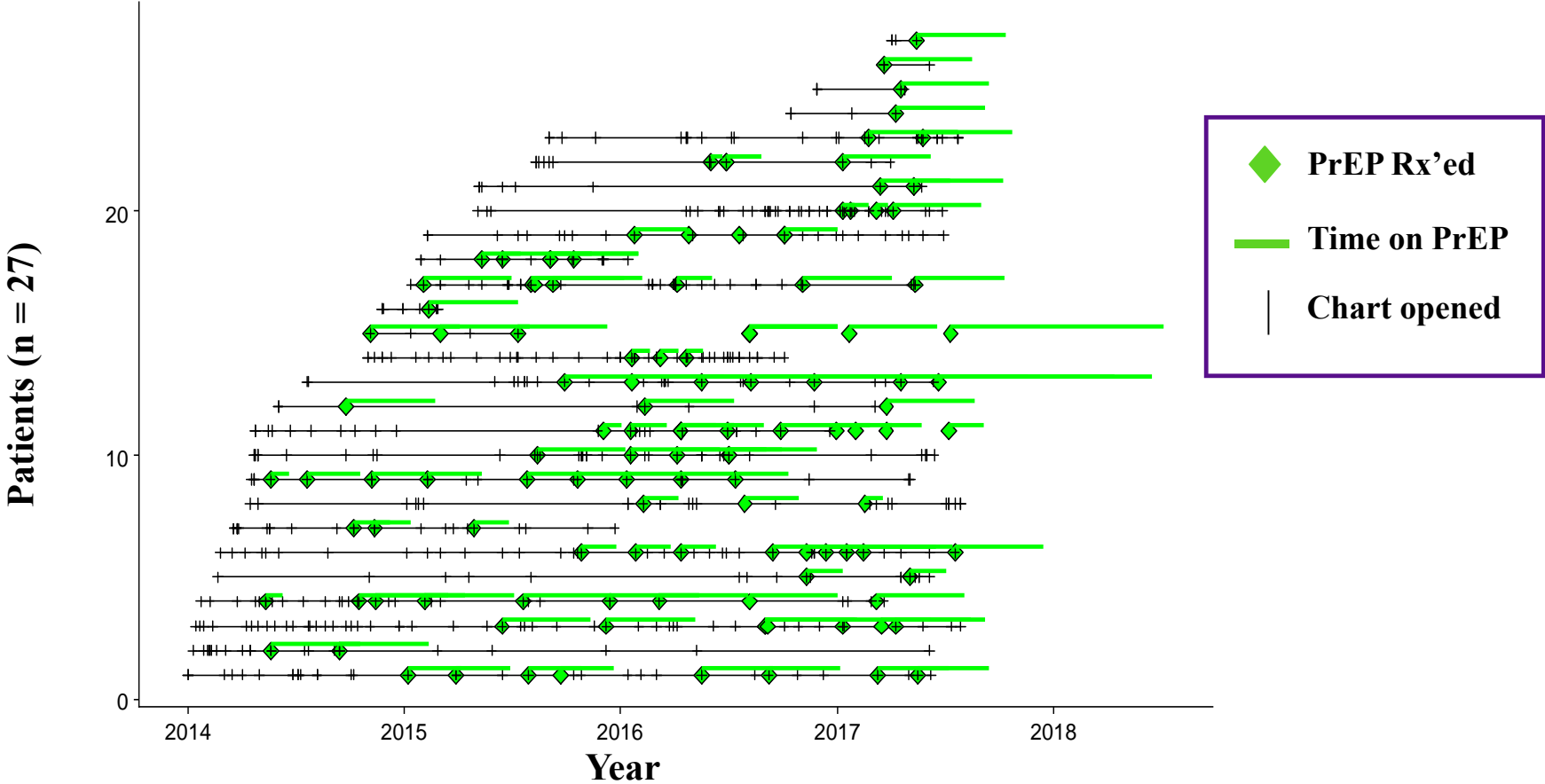
# PrEP Prescriptions and Refills



# Medication Possession Ratio (MPR)



# PrEP Prescriptions and Chart Activity



# Conclusions and Summary

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- ① PrEP underutilized among eligible patients, especially for women and people of color.
- ② Once patients start PrEP, they remain in care and receive good PrEP coverage.
- ③ **STI testing is a tool that can be used to identify eligible patients and expand PrEP.**

# Limitations

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- Retrospective review with limited clinical data
- **Only used STI+ results as an indicator for PrEP eligibility**
- Unable to assess sexual preference/practices, number of partners, and recreational drug use
- Did not account for site of STI infection
- No information on transgender patients



# Strengths

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- Large racially diverse patient population
- Real world PrEP use in an urban underserved clinical setting

# Thank you!

**Principal investigator:** Richard Greene

**Co-investigators:** Ellie Carmody, Gregory Lee, Emily Lam, Robert Holzman, and Scott Braithwaite

Organizers of the **Adherence Conference 2018**