

Heather Sperring MS, Glorimar Ruiz-Mercado MD, Jessica Taylor MD

## INTRODUCTION

- In 2015, # of new HIV cases attributed to injection drug use increased for the first time in two decades
  - Driven by the opioid and polysubstance use disorder crises and inadequate access to addiction treatment and harm reduction services.
- Ongoing HIV outbreak in Boston among people who inject drugs (PWID) since 2018.
- Undiagnosed HIV infection is primary driver of transmission.
  - Among people living with HIV, PWID have lower rates of viral suppression.
- The Centers for Disease Control and Prevention (CDC) guidelines recommend that PWID test for HIV infection at least annually.
  - ~ 55% of PWID report past-year testing.

## OBJECTIVE

To describe the interval between first positive and most recent negative HIV test among PWID at BMC in order to inform HIV screening recommendations for PWID.

## METHODS

- Retrospective chart review of adult patients with incident HIV infection at BMC between January 1, 2020 and August 31, 2022.
- Included only patients with documentation of intravenous drug use (IDU) as an HIV risk factor at the time of diagnosis.
- Demographic data (age, sex, race, and primary language), HIV transmission risk factors, date of first positive HIV test, and date of most recent prior negative HIV test were abstracted from the electronic health record (EHR).
- To evaluate for differences among those patients with and without prior HIV testing on file, we compared demographic characteristics between the two groups.
- Among those with a prior negative HIV test, descriptive statistics were used to evaluate mean time between most recent negative and first positive HIV test. The proportions of patients with a negative HIV test within 3 and 6 months of HIV diagnosis were calculated.

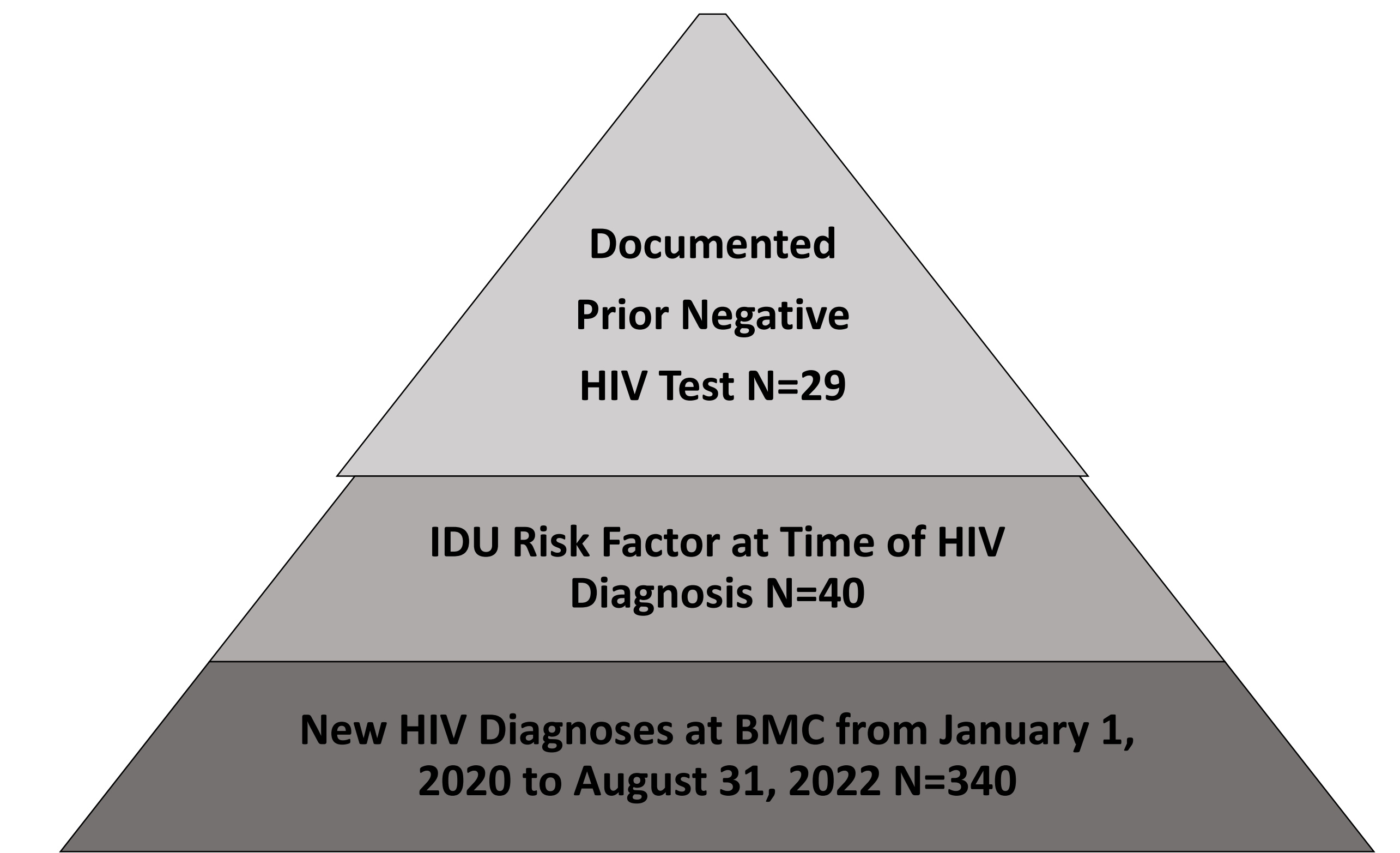
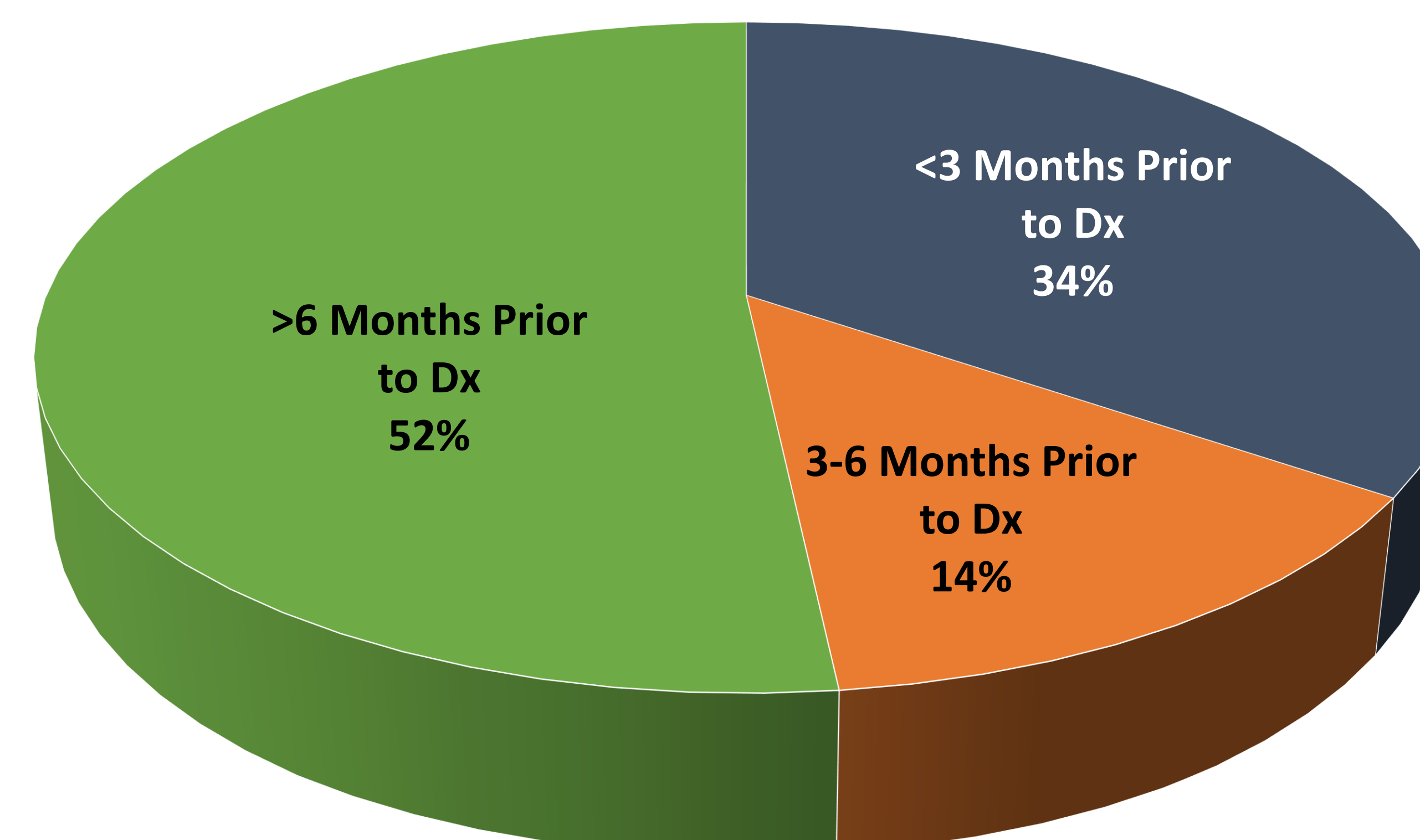
## RESULTS

- Forty patients (11.8% of 340 new diagnoses) had EHR documentation of IDU and met study inclusion criteria.
- The majority (72.5%) had a negative HIV test result documented in the EHR prior to HIV diagnosis.
- Compared to those without prior HIV testing on file (n=11), those with a prior negative HIV test (n=29) were older, more likely to be female, more likely to identify as non-Hispanic white, and more likely to speak Spanish as their primary language.

	No Previous HIV Test N (%) (n=11)	Known Previous HIV Test N (%) (n=29)
Age at Dx (mean, sd)	35.9 (7.1)	37.2 (9.6)
Female	2 (18.2%)	11 (37.9%)
Race/Ethnicity		
Black, non-Hispanic	2 (18.2)	2 (6.9)
Hispanic	2 (18.2)	5 (17.2)
White, non-Hispanic	7 (63.6)	22 (75.9)
Primary Language		
English	11 (100.0)	27 (93.1)
Spanish	0 (0.0)	2 (6.9)

- Among patients with a prior negative HIV test, mean duration of time between most recent negative and first positive HIV test was 204.0 days.

Time From Last HIV- Test Prior to HIV Diagnosis



## CONCLUSIONS

- This evaluation of HIV testing cadence among PWID at an institution with robust low-barrier testing infrastructure indicated that over 1 in 3 PWID with incident HIV infection had tested negative in the three months prior to diagnosis.
  - Because we were only able to evaluate HIV tests in the BMC EHR, the actual proportion with past-3 month negative testing is likely higher.
- Results indicate ongoing opportunities to shorten the window between HIV acquisition and diagnosis and demonstrate that annual HIV screening is insufficient to interrupt ongoing HIV transmission among PWID.
- We recommend consideration of monthly HIV testing among PWID in areas with increased HIV transmission and suggest amending guidelines to be responsive to the interconnected public health crises of opioid and polysubstance use, injection drug use, and HIV infection.

## AUTHORS & DISCLOSURES

Heather Sperring, MS<sup>1</sup>: Department of Medicine, Section of Infectious Diseases, Boston Medical Center, Boston, MA, USA  
 Glorimar Ruiz-Mercado, MD<sup>1</sup>: Department of Medicine, Section of Infectious Diseases, Boston Medical Center, Boston, MA, USA  
 Jessica Taylor, MD<sup>2</sup>: Department of Medicine, Section of General Internal Medicine, Boston University Chobanian & Avedisian School of Medicine, & Boston Medical Center, Boston, MA, USA; Clinical Addiction Research & Education (CARE) Unit & Grayken Center for Addiction, Boston Medical Center, Boston, MA, USA

<sup>1</sup> Partially funded by a Frontlines of Communities in the United States (FOCUS) grant from Gilead Sciences that supports HIV, hepatitis C virus, and hepatitis B virus screening and linkage to care. Gilead Sciences had no role in the development of this commentary.  
<sup>2</sup> Nothing to disclose.

## REFERENCES

- Fauci AS, Redfield RR, Sigounas G, Weahkee MD, Giroir BP. Ending the HIV Epidemic: A Plan for the United States. *JAMA*. 2019;321(9):844-845. doi:10.1001/jama.2019.1343
- Frieden TR, Foti KE, Mermin J. Applying Public Health Principles to the HIV Epidemic — How Are We Doing? *N Engl J Med*. 2015;373(23):2281-2287. doi:10.1056/NEJMms1513641
- June 02 CSH gov D last updated; 2021. U.S. Statistics. HIV.gov. Published June 2, 2021. Accessed August 15, 2022. <https://www.hiv.gov/hiv-basics/overview/data-and-trends/statistics>
- Taylor JL, Ruiz-Mercado G, Sperring H, Bazzi AR. A collision of crises: Addressing an HIV outbreak among people who inject drugs in the midst of COVID-19. *J Subst Abuse Treat*. 2021;124. doi:10.1016/j.jsat.2021.108280
- Branson BM, Handsfield HH, Lampe MA, et al. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. *MMWR Recomm Rep Morb Mortal Wkly Rep Recomm Rep*. 2006;55(RR-14):1-17; quiz CE1-4.