

PREVALENCE OF VIRAL AND BACTERIAL STIs IN PATIENTS WITH PrEP TESTING

Dusica Curanovic,* Charles Walworth

Monogram Biosciences, Laboratory Corporation of America® Holdings, South San Francisco, CA, USA. *curanod@labcorp.com

1. Introduction

- The Centers for Disease Control and Prevention (CDC) HIV preexposure prophylaxis (PrEP) guidelines recommend evaluation of HIV, HCV, HBV, and bacterial sexually transmitted infections (STIs) prior to prescribing HIV PrEP, and testing for HIV and bacterial STIs while monitoring patients on PrEP¹
- Diagnostic panels were developed based on 2017 CDC guidance² to facilitate baseline evaluations and monitoring of patients on PrEP
- We investigated the prevalence of STIs among patients for whom PrEP panels were ordered in the United States

2. Methods

- This was a retrospective database analysis of results reported for PrEP panels ordered from August 2019 through December 2021
- PrEP Baseline panels tested for HIV-1/2, syphilis, chlamydia, gonorrhea, HBV, and HCV infections
- PrEP Monitoring panels tested for HIV-1/2, syphilis, chlamydia, and gonorrhea
- All assays included reflex cascades to confirmatory antibody and/or nucleic acid testing, as recommended by the CDC³
- Tests with valid results were interpreted per CDC guidelines³
- Prevalence of infection among patients with valid test results was determined using combined data from PrEP Baseline and PrEP Monitoring panels

3. Results

Table 1. Patient Characteristics.

Test Panels Ordered (n)	Median Patient Age, Years (Range)
PrEP Baseline Panel	
Male (1,363)	42 (1-88)
Female (576)	42 (9-77)
PrEP Monitoring Panel	
Male (720)	37 (16-74)
Female (121)	44 (19-86)

- PrEP panels were ordered for 2,316 unique patients and were ordered more than once for 332 patients
- Median patient age at time of testing was 42 years and most patients (71%) were male

4. Summary and Discussion

- The prevalence of STIs in patients with PrEP testing was high compared to the general population, which may reflect a bias toward testing symptomatic individuals, and/or high-risk behavior in this patient group
- HIV-1 infection was observed in 2.7% of patients, similar to the proportion of subjects with positive HIV results at screening for some PrEP trials,⁴⁻⁶ and similar⁴ or higher^{5,6} than the on-study breakthrough infection rates
- Syphilis was the most frequent co-infection; however, our data could not distinguish between past/treated and present syphilis infection, as clinical history is needed for this assessment
- Nearly 50% of this patient population would benefit from HBV vaccination
- Continued vigilance for STIs, even among asymptomatic PrEP users, is warranted

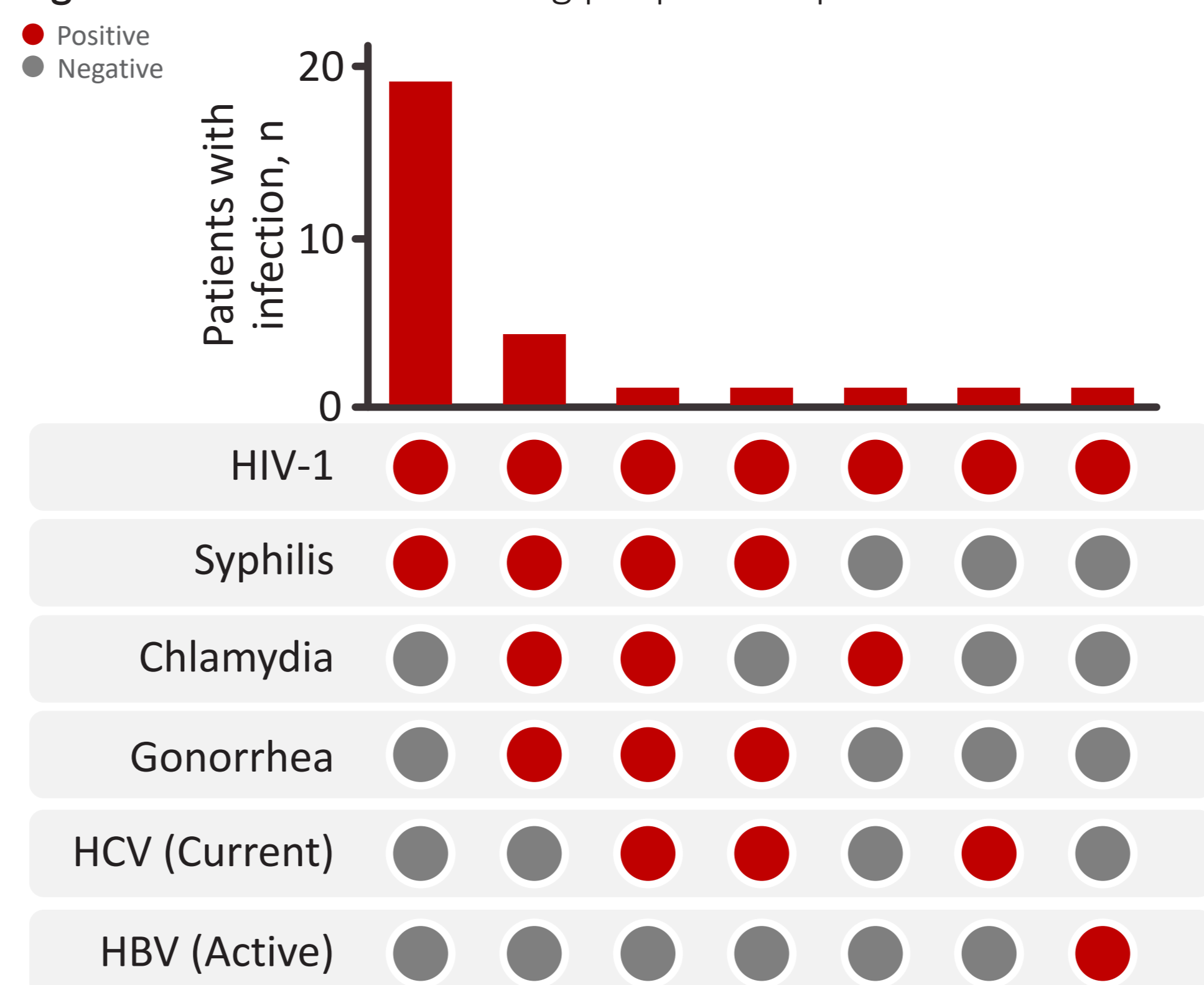
3. Results (continued)

Table 2. STI prevalence.

Patients Tested (n)	% positive (n)
HIV-1 (2,188)	2.7 (59)
Syphilis (2,182)	
TP Ab confirmed	16.8 (367)
RPR reactive	9.7 (212)
Chlamydia (2,021)	4.1 (83)
Gonorrhea (2,022)	2.2 (44)
HCV (1,660)	
Active	1.3 (22)
Past	7.2 (119)
HBV (1,653)	
Active	1.0 (17)
Past	13.4 (222)
Vaccinated	38.1 (629)
Unvaccinated	47.5 (785)

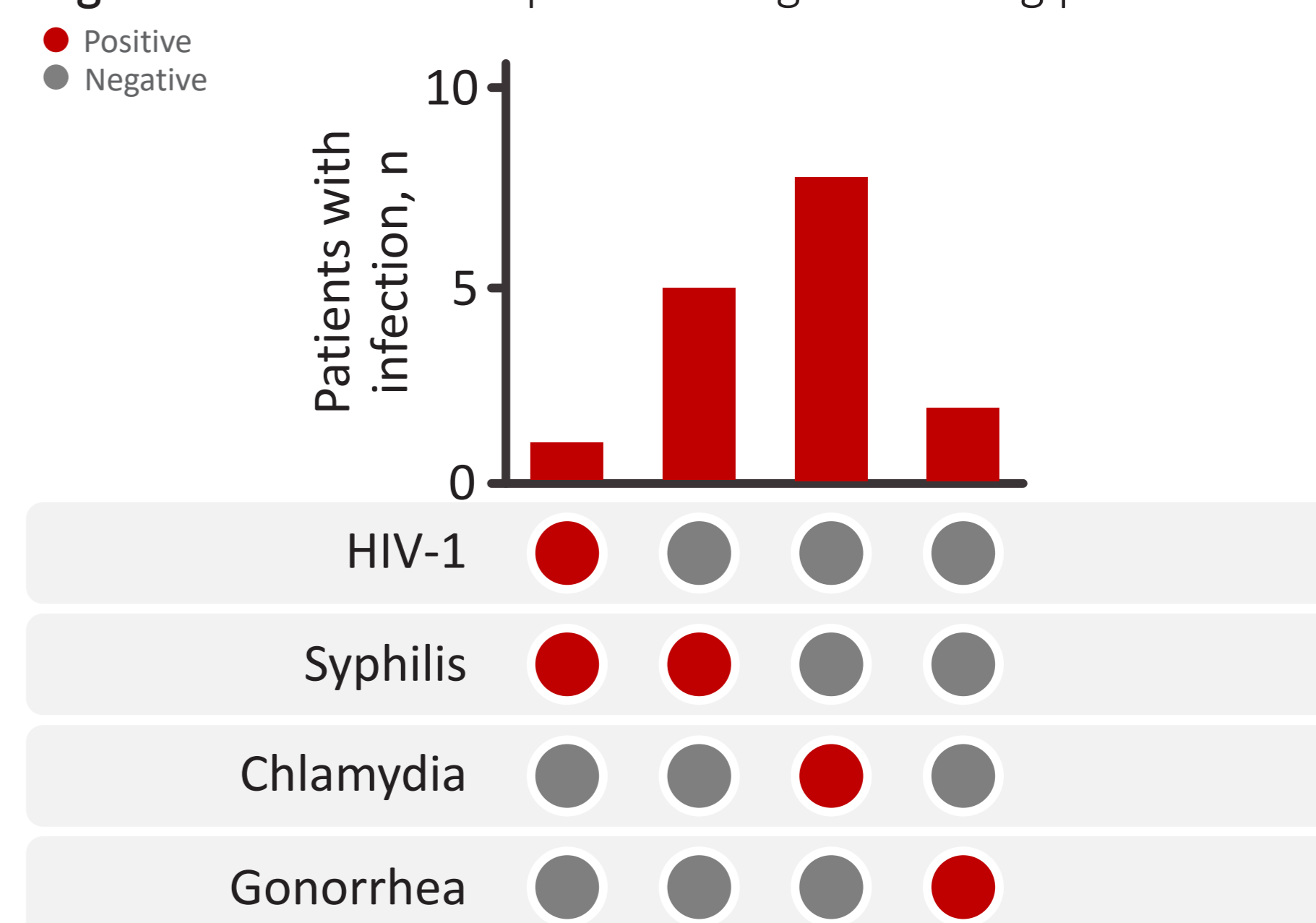
- The most frequent STI among the patient population was syphilis, with 16.8% (367/2,182) of patients with valid test results demonstrating positivity for treponemal antibodies; among these, 212 patients had reactive RPR results
- HIV-1 was seen in 2.7% (59/2,188) of patients
- The prevalence of past HCV was high at 7.2% (119/1,660); only 1.3% (22/1,660) had laboratory evidence of active HCV infection
- The prevalence of active HBV infection was 1.0% (17/1,653), while biomarkers consistent with past HBV infection were seen in 13.4% (222/1,653) of patients; 47.5% (785/1,653) of patients had no evidence of HBV immunity

Figure 1. Co-infections among people with positive HIV-1 results.



- Among people with positive HIV-1 results, 47.4% (28/59) had at least 1 co-infection
- The most frequent co-infection with HIV-1 was syphilis (25/59), followed by chlamydia and gonorrhea (6/25 each), active HCV (3/59) and active HBV (1/59)

Figure 2. Infections acquired during the testing period.



- Among patients for whom testing was ordered more than once, acquisition of at least one infection was seen in 4.8% (16/332; 14 males, 2 females) over an average of 103 days
- Among patients who acquired at least one infection during the testing period, 31% (5/16) had a previous infection documented on their first test panel

5. References

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