Redefining HIV Preexposure Prophylaxis Failures

To the Editor—Failures of daily oral human immunodeficiency virus (HIV) preexposure prophylaxis (PrEP) with tenofovir disoproxil fumarate/emtricitabine are rare, with only 3 HIV seroconversions documented among patients adherent to PrEP at the time of infection [1–3]. However, PrEP failures could be defined more broadly as HIV infections that occur at any point along the PrEP continuum of care [4]. Here, we describe HIV infections among individuals who sought or were referred for PrEP within the Kaiser Permanente Northern California (KPNC) healthcare system.

KPNC provides comprehensive medical services to 4.1 million members; the KPNC PrEP program has been described previously [5]. In this analysis, we included KPNC members with patient- or provider-initiated referrals for PrEP from July 2012 through February 2017, as identified from outpatient encounter and referral data. Duration of PrEP use was estimated from first pharmacy fill to last day of PrEP in possession, regardless of gaps between fills. HIV infections were identified using the KPNC HIV registry. End of follow-up was the earliest of health plan disenrollment, HIV diagnosis in KPNC, or 28 February 2017.

We identified 7124 individuals who sought or were referred for PrEP. Of those, 26 (0.4%) were diagnosed with HIV infection during assessment for PrEP eligibility. Of the remaining 7098 individuals, 4991 (70%) started PrEP and 2107 (30%) did not start PrEP. Of the 2107 who did not start PrEP, 22 were later diagnosed with HIV infection, corresponding with an incidence rate of 1.1 per 100 person-years (95% confidence interval [CI], 0.7–1.7). Of the 4991 who started PrEP, there were no HIV infections during 5104 person-years of PrEP use (mean duration of use, 12.4 months; upper limit of 1-sided 97.5% CI, 0.1). Of 1303 (26%) who no longer had PrEP in possession at the end of follow-up, 11 were diagnosed with HIV infection between the last supply of PrEP and the end of follow-up, corresponding with an incidence rate of 1.3 per 100 person-years (95% CI, 0.8–2.4).

We identified no HIV infections during more than 5000 person-years of PrEP use, consistent with the high adherence previously observed in this setting [5]. However, HIV infections were identified among individuals who were being assessed for PrEP eligibility (ie, late to access PrEP), who sought or were referred for PrEP but did not start (ie, failure to initiate PrEP), or who discontinued PrEP (ie, failure to be retained in PrEP care). Strategies are critically needed to ensure that patients start, restart, or continue PrEP during periods of risk for HIV acquisition.

Notes

Financial support. This work was supported by a Kaiser Permanente Northern California Community Benefit research grant and the National Institute of Allergy and Infectious Diseases (K01 AI122853 to J. L. M.).

Potential conflicts of interest. J. L. M. has received research grant support from Merck. M. J. S. has received research grant support from Merck and Pfizer. All other authors: No reported conflicts. All authors have submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Conflicts that the editors consider relevant to the content of the manuscript have been disclosed.

Julia L. Marcus,1 Leo B. Hurley,2 Dong Phuong Nguyen,3 Michael J. Silverberg,4 and Jonathan E. Volk5
1Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Massachusetts; and 2Kaiser Permanente Division of Research, Oakland, and 3Kaiser Permanente San Francisco Medical Center, California

References


Correspondence: J. L. Marcus, 401 Park Dr, Ste 401, Boston, MA 02215 (julia_marcus@harvardpilgrim.org).

Clinical Infectious Diseases® 2017;XX(00):1–1
© The Author 2017. Published by Oxford University Press for the Infectious Diseases Society of America. All rights reserved.

For permissions, e-mail: journals.permissions@oup.com.
DOI: 10.1093/cid/cix593