

ASSESSING THE POTENTIAL OF REDUCING HOMELESSNESS ON HCV ELIMINATION AND ENDING THE HIV EPIDEMIC AMONG PEOPLE WHO INJECT DRUGS IN SAN DIEGO COUNTY

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ABSTRACT:

Background: The burden of homelessness is high among people who inject drugs (PWID) in the U.S., an exposure associated with HIV and hepatitis C virus (HCV) incidence among PWID. In 2020, San Diego California launched an HCV elimination initiative, but modeling indicates the county is not on track to reach the incidence elimination target by 2030. To inform potential structural approaches to elimination, we estimate how reducing homelessness among PWID could impact HCV and HIV transmission among PWID in San Diego County.

Methods: We calibrated a dynamic joint HCV and HIV transmission model among PWID to historical HCV and HIV data among PWID from San Diego County. Using data from the San Diego sample of a longitudinal cohort of PWID (La Frontera), we estimate the prevalence of homelessness among PWID in San Diego. We model transitions into/out of homelessness, with homelessness associated with a relative injecting risk for HCV of 1.6 (95%CI 1.39-1.83) and HIV of 1.39 (95%CI 1.06-1.84), based on systematic review data. We estimate the impact of reducing homelessness on new HIV and HCV infections by simulating the status quo (existing levels of homelessness) compared to a scenario with no entry into homelessness from 2025-2030.

Findings: Over two-thirds of PWID residents in San Diego report recent homelessness (68% in 2021, 74% in 2022, 64% in 2023). We estimate removing entry into homelessness could prevent 18% (95%CI 15-21) of new HCV infections and 6% (95% 1-14) of new HIV infections among PWID in San Diego over 2025-2030.

Implications: Homelessness is high among PWID in San Diego, and interventions to address homelessness among PWID could aid elimination efforts. Local, state, and federal initiatives to reduce homelessness should be studied to assess their intended and unintended consequences among PWID.