

Assessing Chronic Hepatitis B and Hepatitis C Coinfection with HIV/AIDS Using Registry Matching, California, 2011



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Background

- Persons living with HIV/AIDS (PLWHA) and chronic infection with hepatitis B virus (HBV) or hepatitis C virus (HCV) are at increased risk for liver-related disease and death
- Surveillance data on HIV coinfection with HBV and HCV are not routinely collected, so it is difficult to estimate burden of coinfection at the population level

Objectives

- Match population-based HIV/AIDS and HBV and HCV case registries for the state of California through 2011
- Compare demographic and risk profiles of coinfecting persons to persons with no known coinfection

Methods

- Data Sources:
 - California Office of AIDS Enhanced HIV/AIDS Reporting System (eHARS)
 - California Office of Viral Hepatitis Prevention, Chronic Viral Hepatitis Surveillance Registry
- PLWHA were included if living through the end of 2011 in California
- The probabilistic matching algorithm assigned points based on first name, last name, date of birth, race, sex, and social security number
 - Points were also awarded for partial matches on first name, last name, and date of birth
 - Cut-points were determined based on manual review of matched records
- Risk ratios were calculated to compare PLWHA coinfecting with HBV or HCV to PLWHA with no known coinfection with HBV or HCV

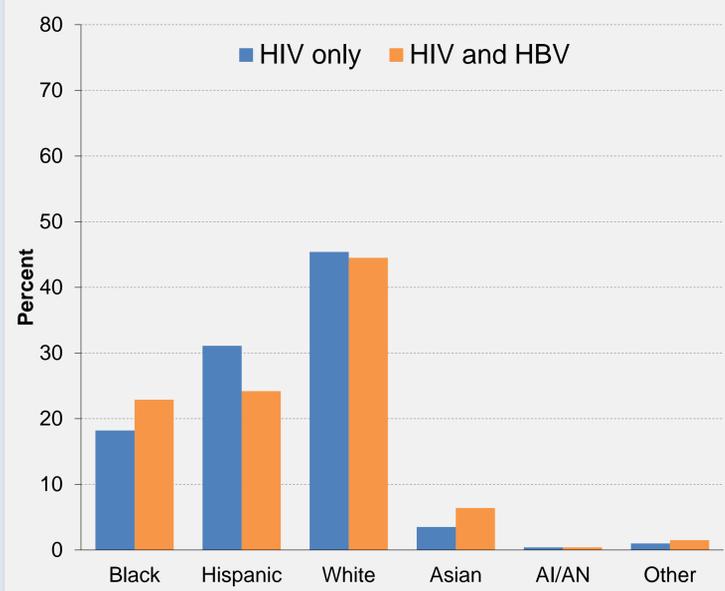
Abbreviations: Persons living with HIV/AIDS (PLWHA); hepatitis B virus (HBV); hepatitis C virus (HCV); men who have sex with men (MSM); injection drug use (IDU)

* Centers for Disease Control and Prevention. "HIV and Viral Hepatitis." Fact sheet. Atlanta, G.A. 3/2014. Web.

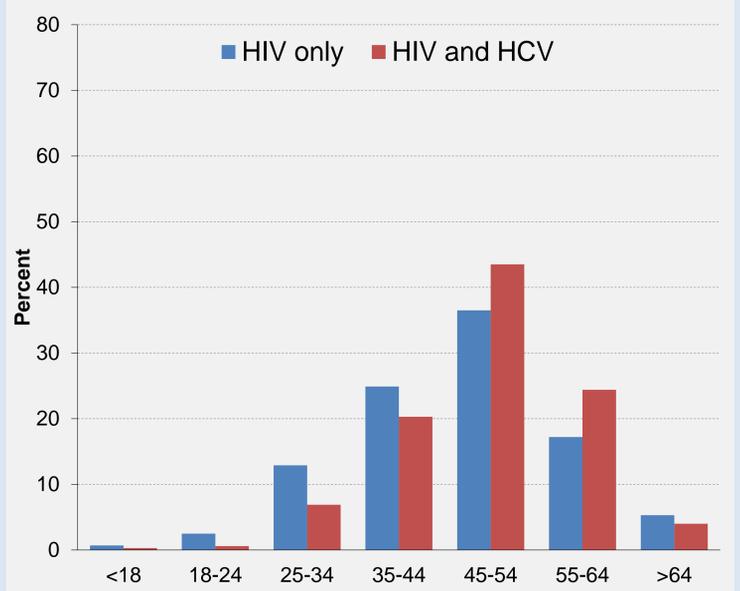
Results

- There were 120,921 known PLWHA at the end of 2011 in California
 - 5% were found to be coinfecting with HBV and 14% were found to be coinfecting with HCV
- For the below figures
 - All comparisons are between PLWHA coinfecting with HBV or HCV to PLWHA with no known coinfection
 - Statistical difference not indicated due to large registry denominators

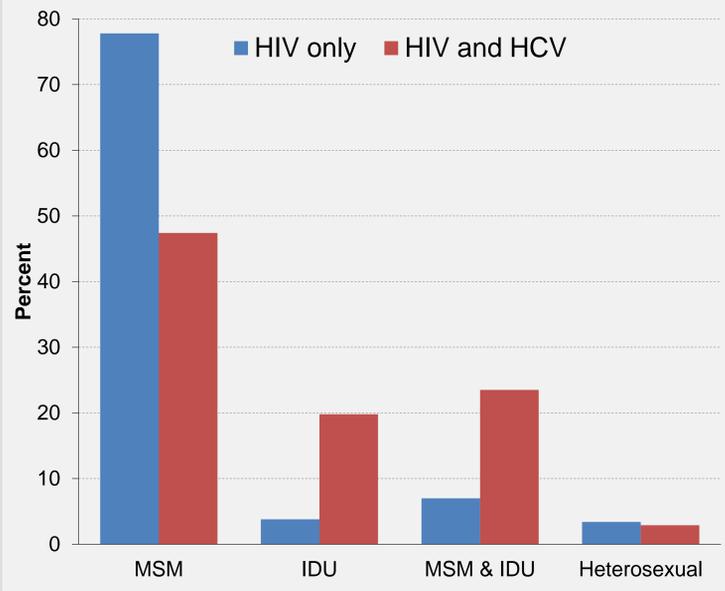
HBV coinfecting persons were more likely to be Asian/Pacific Islander (RR = 1.8)



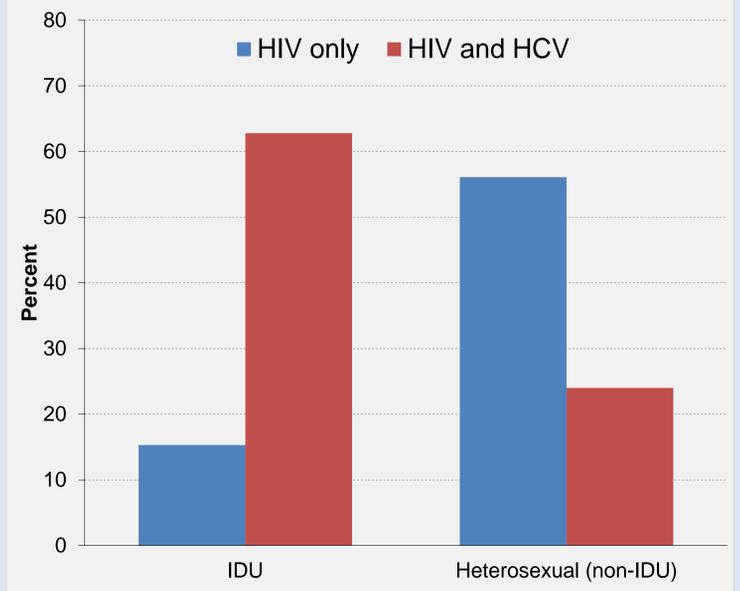
HCV coinfecting persons were more likely to be 45-64 years of age (RR = 1.3)



HCV coinfecting males were more likely to report injection drug use (IDU) as HIV risk factor (RR = 5.2)



HCV coinfecting females were more likely to report IDU as HIV risk factor (RR = 4.1)



Conclusions

- Known coinfection with viral hepatitis among PLWHA in California was common: 5% for HBV, 14% for HCV
- Coinfecting persons had risk factors consistent with known risk factors for HBV and HCV
 - HBV: Asian/Pacific Islander
 - HCV: Baby boomers and IDU

Limitations

- Surveillance data were limited, especially for HBV and HCV
 - Most persons with HBV/HCV remain undiagnosed
 - Limited to cases reported to local health departments (HCV only laboratory reportable since 2007)
 - Not all cases reported to the state due to high volume of paper-based laboratory reports and case reports
 - Case reports often missing race/ethnicity (68 to 79%) and/or sex (1 to 11%) information
 - HBV and HCV registries missing date of death
- Probabilistic matching is not exact
- The true prevalence of coinfection was likely underestimated (national coinfection estimates are 10% for HBV and 25% for HCV)*

Implications

- Public health agencies can use matched surveillance data to identify high risk population subgroups for targeted and integrated HIV/viral hepatitis prevention interventions and help estimate the need for HBV and HCV treatment resources for PLWHA in their communities
- PLWHA at risk for viral hepatitis should be tested regularly for HCV, vaccinated against HBV, and counseled on reducing viral hepatitis risk
- Medical providers should ensure that coinfecting persons are aware of their status and linked to appropriate care

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