



OFFICE OF DISEASE PREVENTION AND EPIDEMIOLOGY

HIV AND VIRAL HEPATITIS CO-INFECTION IN OREGON

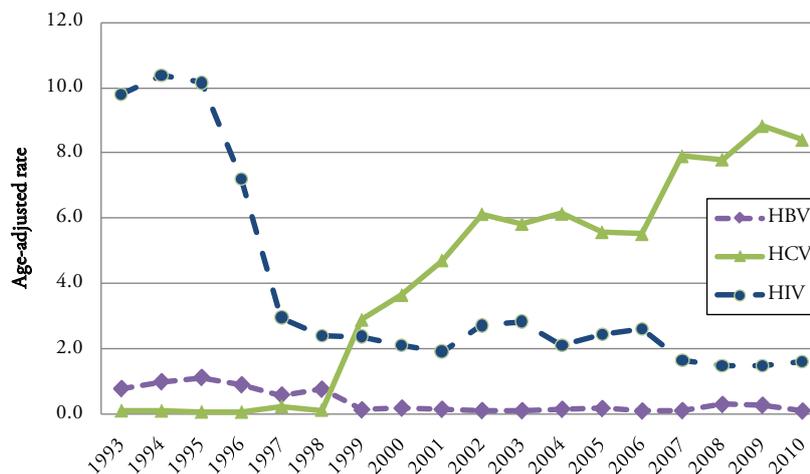
Liver-related mortality in people with HIV

Approximately 15 percent of global deaths in people with HIV are liver-related. In Oregon, hepatitis C (HCV) is an increasingly prevalent factor in mortality of HIV-infected people.* For example, from 2006–2010, chronic hepatitis was among the underlying causes of death for five percent of HIV-infected people (21/391) who died in Oregon. The rate of age-adjusted deaths due to HCV in Oregon is climbing at 8 deaths per 100,000 in 2007 compared to the national average of 4 HCV deaths per 100,000 in the general population (Fig 1). As people live longer with HIV infection and detection and public health monitoring of both diseases improves, we expect the proportion of HIV-infected people with hepatitis related deaths to increase.

OREGON HIV AND VIRAL HEPATITIS FACTS AT A GLANCE:

- At least 5 percent of deaths in people with HIV are liver-related, most of these from chronic hepatitis C.
- Fifteen percent of Oregonians with HIV report ever having hepatitis C and 20 percent of Oregonians with HIV report ever having hepatitis B.** Prevalence of hepatitis among Oregonians with HIV might be higher because of under-reporting.
- Chronic HCV is a more severe infection in people with HIV than in people who are not HIV-infected.

Fig. 1. Age-adjusted death rate for HIV, HCV, and HBV as multiple causes of death, 1993–2010



*For this report, an “HIV-infected person” is defined as an Oregon resident diagnosed with HIV/AIDS before being diagnosed in another state. Only those cases reported to the Oregon Health Authority HIV Program were included. People living with HIV in Oregon not counted in this report include those who resided in another state when they were diagnosed and approximately 1,043 who are infected but have yet to be tested (MMWR Vol60, No21: 689-693).

**Data collected by Medical Monitoring Project (MMP) during 2009–2010 interviewed 539 people receiving HIV medical care in Oregon. MMP examines clinical outcomes and behaviors of adults receiving HIV care in the US.

HCV-RELATED MORBIDITY IN PEOPLE WITH HIV

HCV, a blood borne infection, is endemic among people who use injection drugs (IDU), as the virus is ten times more likely to be transmitted than HIV after a single bloodborne exposure. Consequently, HCV infection is often acquired before HIV among IDU, and it is vastly more prevalent among HIV-infected people who have IDU than among people who are thought to have acquired their HIV infection via sexual transmission. While sexual transmission of HCV is rare, it can occur. HIV infection does appear to increase risk of sexual acquisition of HCV among men who have sex with men, perhaps because of HIV-related changes in the lining of the rectum that make it more vulnerable to hepatitis C infection.¹

HCV outcomes are generally worse in people who also have HIV. Individuals who are co-infected with HIV and HCV are more likely to experience chronic HCV, faster progression of fibrosis, faster hepatic decomposition, and reduced expectation of sustained viral response after treatment for HCV.

HBV-RELATED MORBIDITY IN PEOPLE WITH HIV

Like HIV, hepatitis B (HBV) is transmitted vertically from mother to newborn, sexually, and through IDU. Because of efficient screening of the U.S. blood supply, neither is commonly transmitted anymore through transplants or transfusion. Worldwide, up to 90 percent of HIV infected persons had evidence of past HBV infection and 10 percent had chronic HBV in studies done during the later 1980's.² Like HCV, HBV is more efficiently transmitted via bloodborne exposure than HIV, and consequently, evidence of past HBV infection is widespread among networks of IDU, many of

whom were infected by HBV prior to HIV acquisition. Unlike HCV, HBV is preventable by vaccination, and everyone with HIV who does not have evidence of HBV infection should be immunized. As HBV vaccination becomes more prevalent worldwide, public health officials hope to see these proportions of HBV infection decline.

HIV AND VIRAL HEPATITIS CO-INFECTION IN OREGON

In Oregon, HIV, HBV, and HCV are all mandatory notifiable diseases for licensed health care providers and laboratories. Chronic HCV infection is the most recent addition to this list in 2005 (previously, only acute HCV infection was reportable). As of December 31, 2010, out of 8,753 cases of HIV reported among Oregon residents since 1981, 5,213 were still living. Of those living cases, over 10 percent (539/5,213) participated in the 2009–2010 Oregon Medical Monitoring Project (MMP). Among MMP participants, 15 percent reported ever having HCV and 20 percent ever having HBV. Oregon-based estimates of the proportions of people with HIV co-infected with HBV or HCV were believed to be similar to the proportions observed by the MMP. These findings were congruent with national averages of 20–30 percent of people with HIV/AIDS are co-infected with HCV. Among people with HIV who report IDU, up to 80 percent of cases nationally may have HCV. Although Oregon's reported HIV/HCV prevalence was lower than national estimates, distribution of cases does follow expectations in that HIV/HCV co-infection is about 10 times more prevalent among people living with HIV who report IDU than among those who do not. No substantial racial differences were noted in prevalence of HCV co-infection.

¹Kim, A.Y. and R.T. Chung, Coinfection with HIV-1 and HCV—a one-two punch. *Gastroenterology*, 2009. 137(3): p. 795-814.

²Lacombe, K., et al., HIV/hepatitis B virus co-infection: current challenges and new strategies. *Journal of Antimicrobial Chemotherapy (JAC)*, 2010. 65(1): p. 10-17.

Epidemiologic resources:

Oregon Health Authority, HIV/AIDS epidemiology: <http://public.health.oregon.gov/DiseasesConditions/CommunicableDisease/DiseaseSurveillanceData/HIVData/Pages/index.aspx>

Centers for Disease Control and Prevention: www.cdc.gov/hiv