Oregon Health Authority

Office of Disease Prevention and Epidemiology

HIV and Mortality in Oregon

HIV mortality in Oregon 1981–2010

Of 8,753 cumulative cases* of HIV infection diagnosed in Oregon through the end of 2010, 3,540 (40%) had died. The advent of antiretroviral medications in the mid-1990s dramatically improved treatment outcomes with five-year survival increasing from about 42 percent of people diagnosed in 1990 to roughly 88 percent in 2004. From 2006–2010, an average of 260 people each year were diagnosed in Oregon with HIV, and during the same period an average of 73 deaths per year occurred among Oregon HIV cases (Figure 1). The number of recent HIV diagnoses and deaths had not been this low in Oregon since prior to 1987.

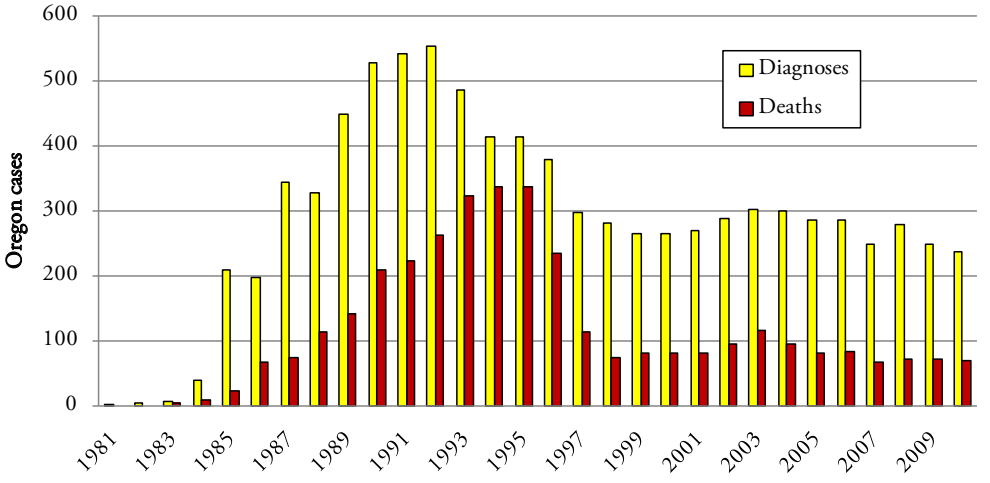
HIV and Mortality facts at a glance:

- The annual number of deaths among people with HIV declined (from 338 cases in 1994 to 66 cases in 2010).
- Survival was shorter among people with HIV who are presumed to have acquired HIV via injection drug use (IDU) relative to survival among people with other modes of transmission (126 vs. 143 months).
- The average number of months survived by American Indian/Alaska Natives after HIV diagnosis was over one year less than survival among whites (126 months vs. 139 months).

Survival among HIV cases in Oregon

Among HIV cases diagnosed from 1998–2010 American Indian/Alaska Natives survived an average of 13 months fewer than whites (126

Fig. 1 Oregon cases of HIV infection, diagnoses and deaths, 1981-2010



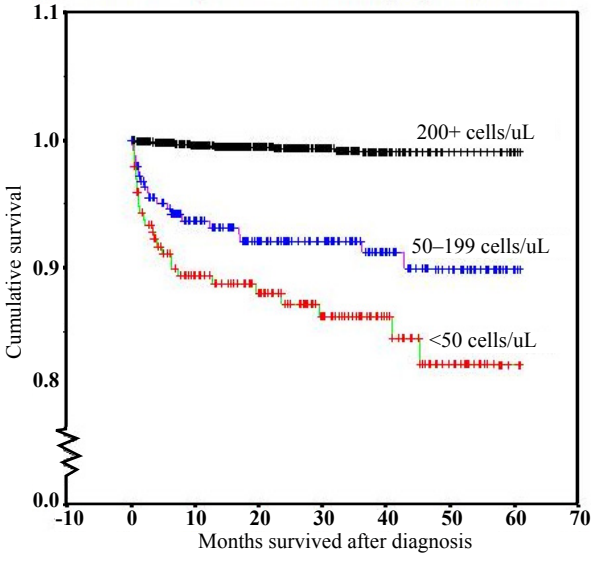
*For this report, a "case" is defined as an Oregon resident diagnosed with HIV/AIDS before being diagnosed in another state. Only those cases reported to the Oregon Health Authority HIV Program were included. People living with HIV in Oregon not counted in this report include those who resided in another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

months vs. 139 months). Male cases with injection drug use (IDU) as presumed mode of transmission survived on average 17 months less than men who have sex with men (126 months vs. 143 months). During 2006–2010, Hispanic HIV cases were more likely than whites to progress to AIDS within 12 months of testing positive (46% vs. 40%), yet no more likely on average to die each year.

Indicators of Disease Severity

HIV cases whose first CD4 count** following diagnosis was low were less likely to survive five years than cases with higher CD4 counts following diagnosis. As seen in Fig. 2, 82 percent of cases with a first CD4 count below 50 cells/uL were alive after five years compared to 91 percent of cases with a first CD4 count between 50 –199 cells/uL, and 99 percent of cases with a first CD4 count above 200 cells/uL.

Fig. 2 Survival rates by first CD4 count following diagnosis, 2007–2011



Underlying cause of death with HIV/AIDS infection in Oregon 2006–2010

Data from Oregon Vital Statistics on underlying causes of death among people with HIV who died during 2006–2010, show that HIV disease was the underlying cause of death in 59 percent of deaths among people with known HIV infection (Table 1). As a proportion of deaths among people with known HIV disease, cancer increased (51/391 cases) as a primary cause presumably due to increased survival with HIV overall. Those whose underlying cause of death was not HIV disease most commonly died of unrelated cancers, heart disease, chronic liver disease or unintentional injury.

Table 1 Underlying cause of death, 2006–2010†

Underlying Cause	Count	Percent
HIV Disease	230	59%
Tuberculosis	1	0%
Septicemia	2	1%
Viral hepatitis	2	1%
Cancer	51	13%
Benign neoplasm	1	0%
Diabetes mellitus	4	1%
Nutritional deficiencies	1	0%
Parkinson disease	1	0%
Heart disease	15	4%
Hypertension	2	1%
Pneumonia or influenza	1	0%
Chronic lung disease	9	2%
Chronic liver disease	14	4%
Congenital anomalies	1	0%
Unintentional injury	14	4%
Suicide	12	3%
Homicide	1	0%
All other causes	29	7%
Total	391	100%

**CD4 cells are a type of white blood cell that fights infection. The CD4 count is indicative of the strength of the immune system and when less than 200 copies/uL is definitive for AIDS. The normal range of CD4 counts among healthy individuals is 750–1,500 copies/uL.

†Final determination of underlying cause of death is not available for some HIV/AIDS cases that died during 2009 and 2010. These cases are not included in the table, and the table excludes deaths of Oregon cases that occurred outside of Oregon.

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