



OFFICE OF DISEASE PREVENTION AND EPIDEMIOLOGY

AGE AND HIV IN OREGON

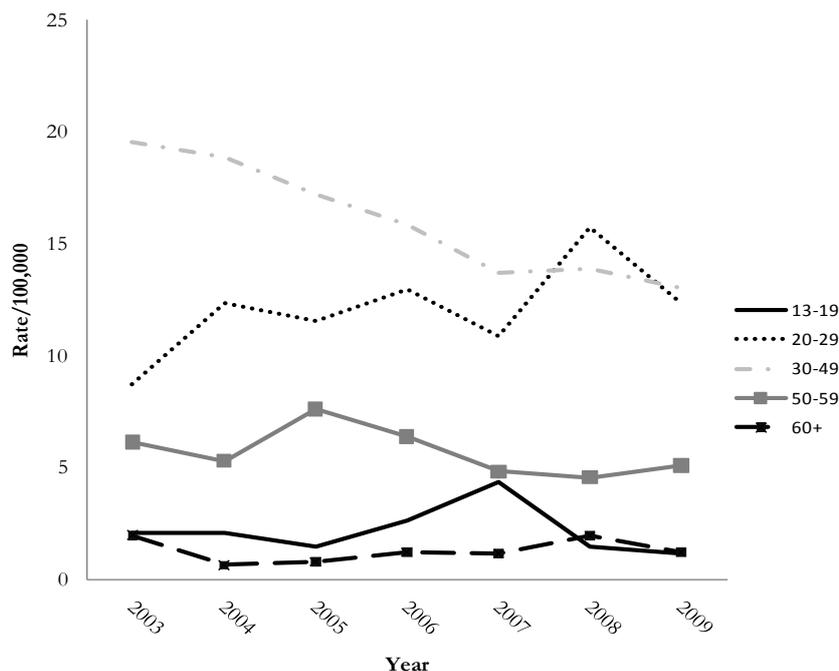
Introduction

On average, the interval between HIV infection and diagnosis appears to be decreasing in Oregon. This is encouraging because earlier diagnosis equates with earlier treatment, longer life expectancy, and reduced risk of transmitting HIV to others. Overall, the number of newly diagnosed HIV infections in Oregon each year is holding steady if not declining slightly, and greater numbers of new cases among people aged 20–29 years have been offset by declines among people aged 30–49 years. Taken together, these observations suggest that on average, the same total number of new infections occur each year, but the period between infection and diagnosis has likely been decreasing (Figure 1).

AGE AND HIV FACTS AT A GLANCE:

- Precise time of infection is rarely known, but increases in numbers of new diagnoses before age 30 and decreases in diagnoses among people aged 30–49 years suggest that HIV diagnoses are being made a little sooner after infection in Oregon.
- A small (about 18), but stable number of Oregonians acquire HIV after age 50 each year.
- The most common age group for new HIV diagnoses in Oregon is 35–39 years.
- HIV diagnosis is still made very long after actual infection (CD4 count ≤ 200 cells/ ml^3) in over a third of cases.

Fig. 1 HIV cases and age at diagnosis, 2003–2009



HIV in People Aged 50 Years or More

Although the total number of new infections in Oregon each year has not been increasing, people already living with HIV are living longer. This is, of course, a positive development. As a consequence, the number of Oregonians aged ≥ 50 years and living with HIV continues to increase. This fact sometimes leads people to conclude, erroneously, that more people are becoming newly HIV-infected after age 50. This is not the case. No increase in the rate of new diagnoses among Oregonians aged ≥ 50 years was observed during 2003–2009. Most Oregonians aged ≥ 50 years and living with HIV were actually infected and subsequently diagnosed when they were much younger. The average age at HIV diagnosis during 2003–2009 was 37 years. The actual date that HIV infection is contracted is rarely known precisely, but it can occur as many as 10 or more years before it is recognized

(i.e., diagnosed). That means that the average age at infection in Oregon is likely to be somewhere around 30 years.

Although the overall numbers do not appear to be increasing, sadly, a small number of people do acquire HIV at or beyond 50 years of age. Noting once again that precise age at time of infection is almost never known, we can make some educated estimates of the number of people newly infected in this age group. To do this, we can make use of first CD4-positive lymphocyte count after diagnosis, a laboratory test that is recorded for all reported cases.¹ To come up with very rough estimates of this number, we will assume that the average CD4 count at the time of infection is 1,000 and that counts decline by an average of 75 cells/ml³ per year for each full year of HIV infection. Combining this information with the information about initial CD4 counts by age group in Table 1, we can say in very rough

Table 1. CD4 count at diagnosis, by age group reported HIV cases, diagnosed 2007–2009, Oregon

Age-group at first diagnosis (yrs.)	CD4 count (cells/ml ³) (row percent[%])					Total
	0-199	200-499	500-999	1000+	Missing	
13–19	3(12.5)	10(41.7)	8 (33.3)	3(12.5)	0(0)	24(100)
20–24	18(22.8)	35(44.3)	19(24.1)	2(2.5)	5(6.3)	79(100)
25–29	31(24.8)	55(44.0)	30(24.0)	3(2.4)	6(4.8)	125(100)
30–34	23(19.3)	47(39.5)	40(33.6)	5(4.2)	4(3.4)	119(100)
35–39	42(35.9)	40(34.2)	25(21.4)	4(3.4)	6(5.1)	117(100)
40–44	47(51.1)	18(19.6)	19(20.7)	2(2.2)	6(6.5)	92(100)
45–49	42(45.2)	28(30.1)	18(19.4)	2(2.2)	3(3.2)	93(100)
50–54	28(56.0)	10(20.0)	9(18.0)	1(2.0)	2(4)	50(100)
55–59	16(55.2)	9(31.0)	3(10.3)	0(0)	1(3.4)	29(100)
60–64	14(70.0)	5 (25.0)	0(0)	1(5.0)	0(0)	20(100)
65+	8(73.0)	3(27.3)	0(0)	0(0)	0(0)	11(100)
Total	272(35.7)	261(34.3)	171(22.5)	24(3.2)	33(4.3)	761(100)

¹In healthy, uninfected individuals, the normal CD4 count is somewhere between 500 and 1500 cells/ml³ of blood. In the absence of anti-HIV treatment, the CD4 cell count decreases, on average, about 50 to 100 cells/ml³ each year. CD4 counts among untreated older people fall more quickly than among younger people.

terms that an average of 18 Oregonians aged ≥ 50 years newly acquired HIV infection each year during 2007–2009.²

Mode of infection and at-risk groups don't differ much by age. That is to say, HIV continues to be mostly sexually transmitted. As in other age groups, most new HIV infections in Oregon among people aged ≥ 50 year occur in men who have sex with men, with fewer among women and injection drug users of either sex. People in this age group do have some unique challenges that might increase their risk for infection if they happen to be exposed. These include:

- lower rates of condom use than younger people;
- vaginal atrophy (thinning, dryness);
- less frequent testing for HIV and other sexually transmitted diseases than younger people;

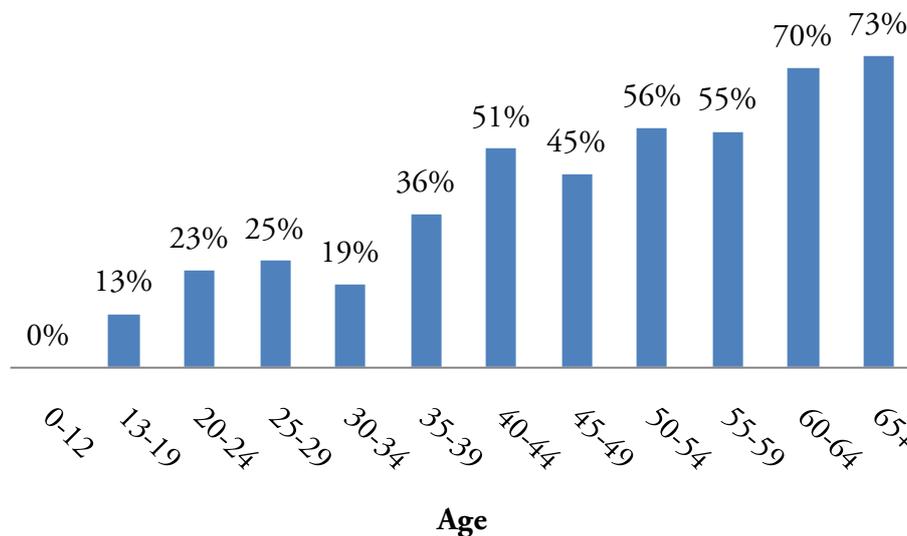
- inaccurate perception of risk of infection by both individuals and their medical providers;
- similarity of some HIV symptoms to those of aging;
- reduced willingness to seek testing or advice about safe sex because of fear of disrupting tightly knit social and familial relationships upon which they might be highly dependent.

Information About Duration of Infection Prior to Diagnosis

As Table 1 indicates, 36% of all Oregon cases diagnosed during 2007–2009 had initial CD4 counts of fewer than 200 cells/ml³, suggesting prolonged HIV infection prior to diagnosis.

Figure 2 shows that the proportion of Oregon HIV cases diagnosed 2007–2009 with CD4 counts less than 200 cells/ml³

Fig. 2 Oregon cases of HIV infection by age at diagnosis and initial CD4 counts of less than 200 cells/ml³, 2007–2009



²Let's assume that people with CD4 count of <200 cells/ml³ at the time of diagnosis have been infected an average of 10 years before they were diagnosed. Similarly, let's assume that people with CD4 counts from 200 to 499 cells/ml³ have been infected for 7 years and people with CD4 counts of 500 cells/ml³ and above have been infected for 3.5 years on average. As Table 1 indicates, during 2007–2009, 50 people aged 50–54 years were newly diagnosed with HIV, but only 10 of them had CD4 counts ≥ 500 cells/ml³ indicating that they had been infected (on average) for 3.5 years and might have acquired their infection after age 50 years. Thirteen people aged 55–59 years were newly diagnosed during 2007–2009 and had initial CD4 counts ≥ 200 cells/ml³, indicating that they had been infected for an average of 7 years and might have been infected after age 50. Thirty one people were diagnosed when they were aged 60 years or more; we'll assume that all of them were infected after age 50. This leads us to estimate (again, in very rough terms) that 54 (31+13+10) people, or an average of 18 Oregonians aged ≥ 50 years newly acquired HIV infection during 2007–2009.

increased with age at diagnosis. Lower CD4 counts at diagnosis may be due to delayed diagnosis and/or age-related immunological differences. As expected, proportions of people with low CD4 counts increase with age at diagnosis, meaning that newly diagnosed younger people have typically been infected for shorter period than people who are older at time of diagnosis.

among people 30–39 years of age. Whites made up the majority of these new diagnoses (72%) followed by Hispanics (17%). On average, Hispanics newly diagnosed with HIV tended to be younger than whites as they are in the general population: average age at HIV diagnosis among Hispanics was 34 years compared to 39 years among whites. Average age at diagnosis was marginally higher among people whose likely mode of transmission was injection drug use compared to men whose likely transmission mode was sex with other men (38 vs. 36 years). There were no regional differences.

Recent HIV diagnoses by Age, Sex, Race/Ethnicity and Geography 2005–2009

Figure 3 shows the distribution of recently diagnosed Oregon HIV cases by age and sex. A third (32%; 370/1,327) of all new HIV diagnoses from 2005–2009 in Oregon were

Fig. 3 Age at diagnosis among Oregon HIV cases, 2005–2009

