



# Community Health Assessment Quarterly

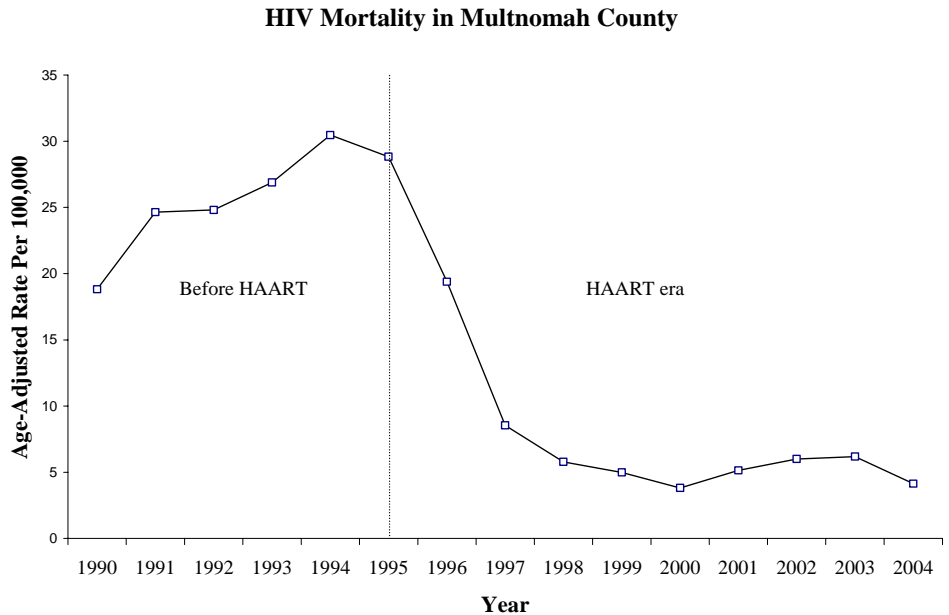
Volume 1, Issue 2

Summer 2006

## HIV at 25: Mortality Decline in the HAART Era

This summer marks the 25<sup>th</sup> anniversary of HIV in America, an occasion which compelled us at the Health Department to reflect on this disease and its impact on Multnomah County residents. Nationally, the HIV epidemic has caused 500,000 deaths and more than a million cases of HIV-related illness over the past 25 years; this year alone, 40,000 new HIV infections are expected to occur (1). Fortunately, the death rate from HIV disease has plummeted in the last ten years, mostly as a result of a combination of medications dubbed highly active anti-retroviral therapy (HAART) (2). HAART is a drug “cocktail” of several antiviral medications that act together to lower the HIV count in the body, allowing those with the disease to live longer, and with less illness.

There are downsides, however. First, the medication is not a cure and does not completely rid someone of HIV. This has led some experts to fear that individuals will mistakenly believe that the HIV crisis is over, and that infection and death rates will grow as a result. Further concerns relate to the long-term effectiveness of HAART. Some researchers claim that HAART is simply delaying HIV-related deaths, and that the death rate will again climb as HIV resistance to HAART increases (3). There is also growing evidence of disparities in access and adherence to HAART. Recent studies have shown that African Americans, Hispanics, women, the less educated, and



Graph 1. HIV Disease Deaths.

those in poverty are less likely than their more advantaged counterparts to access HAART. Researchers have shown that such disparities are contributing to a higher burden of HIV-related disease and death among disadvantaged groups (4-5).

### Mortality Decline, Demographic Changes

We sought to examine HIV disease deaths in Multnomah County from 1986 to 2005, with particular attention paid to HAART availability, in order to 1) show trends in death rates, and 2) highlight any changes that would suggest disparities in HIV disease deaths to disadvantaged groups.

Analysis of death data—using HIV disease as the underlying cause of death\*—shows that, as with data nationally, there has been a substantial decline in the HIV disease death rate from 1990 to 2004 (linear test for trend,  $p < 0.001$ ). The most dramatic declines occurred in 1996 and 1997, immediately following the availability of HAART (Graph 1). Between 1990 and 2004, 1,292 Multnomah County residents died from HIV-Related Illnesses. Examining deaths per 100,000 population, the HIV disease death rate declined from its peak of 30 in 1994 to 4.1 in 2004, an 86% drop. This is an extraordinary decline, larger than for any other major cause of death in Multnomah County. As a way to emphasize this, consider that in 1994,

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HIV disease was the 6<sup>th</sup> leading cause of death in Multnomah County; by 2004, it was no longer in the top 20. Between 1998 and 2004, HIV disease death rates remained fairly stable (hovering at a rate of 5 per 100,000), contrary to forecasts that the death rate would creep back up.

We also examined demographic characteristics of HIV disease from 1990 to 2004. The percentages of racial and ethnic minorities, those age 50 and over, and those with less than a high school education have increased significantly in the past 15

years among Multnomah County residents. Table 1 shows, for example, that of all HIV disease deaths in the 2000-2004 period, 20% were racial and ethnic minorities, compared to only 10% in the 1990-1994 period (p<0.001). Examination of incidence data (the number of new cases of HIV in any given year) reveals that these changes are most likely due to increased proportions of racial and ethnic mi-

*In 1994, HIV disease was the 6<sup>th</sup> leading cause of death in Multnomah County; by 2004, it was no longer in the top 20.*

norities with the disease over the years, compared to White non-Hispanics. Also of interest is the significant increase in the percentage of

**Table 1.** Demographic Characteristics of HIV Disease Deaths Multnomah County: 1990-2004

Demographic	1990-1994	2000-2004
	%	%
Age 50 and over	13.1	24.5*
Minority ethnicity/race	10.1	19.5*
Female gender	4.0	7.0
Less than high school educ.	8.6	21.9*
Died at home	37.3	29.1*
N	702	179

Note: Mortality data from Oregon Department of Human Services, Center for Health Statistics.  
\* Difference between the two time periods is significant at p<0.05.

deaths to those ages 50 and older (p=0.001), indicating that those with HIV disease are growing older, and/or living longer.

### No Differences in Access to HAART Found

We also sought to determine whether differences in HAART treatment can explain any of the demographic changes that have occurred over the years. As will be shown below, no such disparities in

HAART access were found. In particular, we wanted to know whether higher percentages of minority and female deaths in 2000-2004 are a result of disparities in access to HAART, compared to Whites and males, respectively. We reasoned that reduced access to HAART for disadvantaged groups would result in higher death rates for those diagnosed with HIV. For example, recent national estimates show that the odds of African Americans receiving HAART are less than half that for whites (5). If this is the case in Multnomah County, we should expect to see relatively little change before and after HAART in death rates for this group. We compared a ten year time period immediately preceding the introduction of HAART to a ten year period immediately after. Analysis of the percentage of deaths among those with HIV disease shows significant declines for most all racial, ethnic, and gender groups before and after HAART (Table 2). For example, 9.7% of African Americans diagnosed with HIV died before HAART (1986-1995). In the HAART era, HIV positive African Americans showed a significant decrease (p<0.01) in deaths, with 3.0 % dying in the later time period (1996-2005).

**Table 2.** Mortality of HIV Positive Individuals by Race, Ethnicity, and Gender Multnomah County: 1986-2005

Race	Pre HAART: 1986-1995	HAART era: 1996-2005
	%	%
White Non-Hispanic	11.9	3.2*
African American	9.7	3.0*
Hispanic	10.3	3.2*
<b>Gender</b>		
Male	11.8	3.2*
Female	7.2	2.2*

Note: HIV incidence and prevalence data kindly provided by Oregon Department of Human Services, HIV/AIDS Reporting System.  
Numbers for Asians and American Indians not included due to small numbers of cases.  
\* Difference between pre HAART and HAART era is significant at p<0.05.  
No significant differences were found in the HAART era by race, ethnicity, and gender.

### Conclusion

Multnomah County has seen a sub-

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stantial decline in HIV disease deaths since 1996, primarily due to the availability of HAART. No evidence was found to suggest that disparities in access to HAART exist among racial/ethnic groups or women in Multnomah County. The demographic changes indicating a higher burden of HIV disease death falling on disadvantaged groups is a possible cause of concern, and is most likely due to changes in incidence of the disease.

\* The following ICD codes for HIV disease were used:

ICD-10: B20-B24.

ICD-9: 042-044

## References

1. Centers for Disease Control and Prevention. Twenty-Five Years of HIV/AIDS-United States, 1981-2006. *MMWR* 55(21); 585-589. June 2, 2006.
2. Palella FJ, Delaney KM, Moorman AC, Loveless MO, Fuhrer J, Satten FA. Declining Morbidity and Mortality Among Patients with Advanced HIV Infection. *New England Journal of Medicine* 1998; 338: 853-860.
3. Garrett L. *Betrayal of Trust: The Collapse of Global Public Health*. New York: Hyperion Books, 2000.
4. Wood E, Montaner J, Bangsberg DR, Tyndall MW, et al. Expanding Access to HIV Antiretroviral Therapy Among Marginalized Populations in the Developed World. *AIDS* 2003; 17(17): 2419-2427.
5. Anderson R, Bozette S, Shapiro M, et al. Access of Vulnerable Groups to Antiretroviral Therapy Among Persons in Care for HIV Disease in the United States. *Health Services Research* 2000; 35(2): 389-416.

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**Community Health Assessment Quarterly** is published four times per year by:

Multnomah County Health Department  
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