



## Acute myeloid leukemia in the Greater Bay Area, 1989-2006

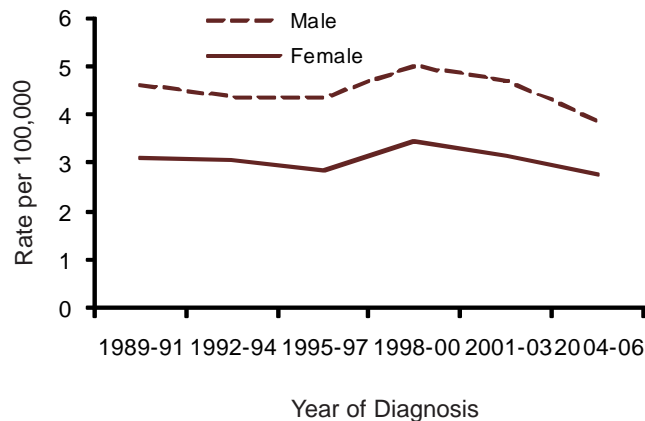
Spring 2009

Acute myeloid leukemia (AML) is a cancer of the blood and bone marrow, and is the most common acute leukemia affecting adults (1). It was projected that in the United States in 2008 there would be 44,270 new cases of leukemia, about one-third of which are AML, or 13,290 new cases of AML and 8,820 deaths due to AML nationwide (2). Most AML patients are adults, as the disease is rare before the age of 40, and the average age of diagnosis is 67 (2). Smoking may contribute to about 20% of AML cases, although other risk factors are exposure to certain environmental chemicals (e.g., benzene), high radiation exposure, having certain blood problems (e.g., making too many red blood cells or not enough platelets), having undergone chemotherapy for another form of cancer, and being male (2). Leukemia and lymphoma will account for about 9% of new male cancer cases and 7% of new female cancer cases in California in 2009 (3).

### Incidence Trends

In the Greater Bay Area, incidence rates of AML peaked in 1998-2000, but have declined in more recent years. Rates dropped by 16% in men and 11% in women from 1989 to 2006, though incidence rates are consistently higher among men than women (Figure 1).

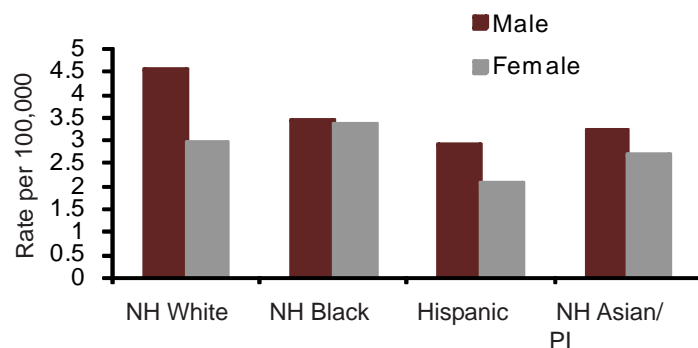
Figure 1. Age-adjusted incidence rates of acute myeloid leukemia by year of diagnosis, Greater Bay Area, 1989-2006



### Racial/Ethnic Patterns

In the Greater Bay Area, incidence rates of AML were the highest among non-Hispanic (NH) White men, with NH Blacks and NH Asians/Pacific Islanders (PI) having similar rates. Among women, NH Blacks have the highest rates, followed by NH White and NH Asian/PI women. Hispanics have the lowest rates of AML, for both men and women (Figure 2).

Figure 2. Age-adjusted incidence rates of acute myeloid leukemia by race/ethnicity, Greater Bay Area, 2002-2006

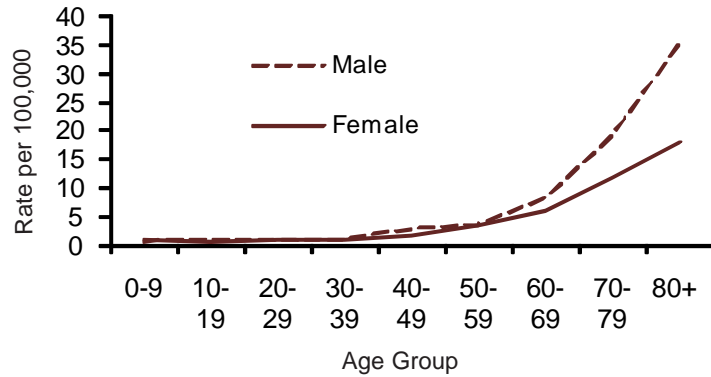




### Age-Specific Incidence

AML is very rare before the ages of 40-49, but rates steadily increase after this age group, though at a higher rate among men (Figure 3).

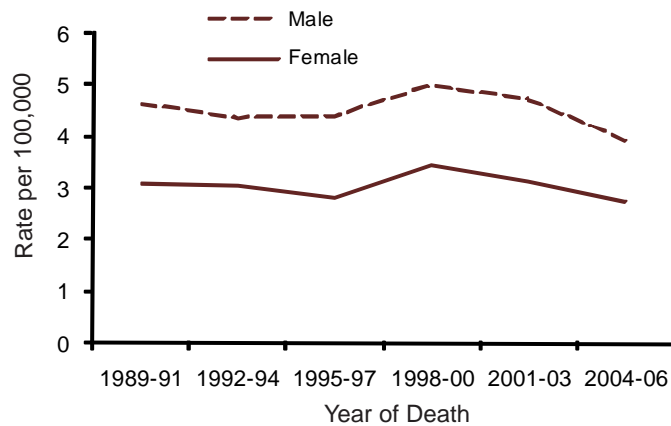
Figure 3. Age-specific incidence rates of acute myeloid leukemia by age group, Greater Bay Area, 2002-2006



### Mortality

Mortality rates for AML are higher among men than women. Rates in the Greater Bay Area have been stable from 1989 to 2006 (Figure 4).

Figure 4. Age-adjusted mortality rates of acute myeloid leukemia by year of death, Greater Bay Area, 1989-2006



References:

1. Jemal A, Thomas A, Murray T, Thun M (2002). "Cancer statistics, 2002". CA Cancer J Clin 52 (1): 23-47.
2. American Cancer Society (2009). "Overview: Leukemia-Acute Myeloid (AML)". Located at: [http://www.cancer.org/docroot/CRI/CRI\\_2\\_1x.asp?dt=82](http://www.cancer.org/docroot/CRI/CRI_2_1x.asp?dt=82).
3. American Cancer Society, California Division and Public Health Institute, California Cancer Registry. "California Cancer Facts and Figures 2009". Oakland, CA: American Cancer Society, California Division, September 2008.

Technical Notes: Because age distributions vary by population, a standard statistical procedure called "age-adjustment" was used so that we can examine differences in cancer incidence and mortality rates due to factors other than age. Rates are age-adjusted (using the Year 2000 population standard) unless noted to be age-specific. Race/ethnicity was categorized as four mutually-exclusive racial/ethnic groups: non-Hispanic whites (whites), non-Hispanic blacks (blacks), Hispanics, and non-Hispanic Asians/Pacific Islanders (Asians/Pacific Islanders).

About the data: Cancer data have been collected in Alameda, Contra Costa, Marin, San Francisco, and San Mateo counties since 1973, and in Monterey, San Benito, Santa Clara, and Santa Cruz counties since 1988, forming two parts (Regions 1 and 8) of the California Cancer Registry. These counties, referred to as the Greater San Francisco Bay Area are also part of the National Cancer Institute's Surveillance, Epidemiology, and End Results (SEER) registry program.

Founded in 1974, the mission of the Northern California Cancer Center is to reduce the burden of cancer through surveillance, epidemiology, prevention research and education. Essential to this mission is collaboration with partners in cancer research, education and the community.