

X. LIVER CANCER

Among all racial/ethnic groups and both sexes combined, the incidence of liver and intrahepatic bile duct cancer, herein referred to as liver cancer, in the Greater Bay Area increased substantially from 1988 through 2018. Furthermore, liver cancer is three times more common in males than females. To evaluate changes in incidence rates across racial/ethnic groups (1988-2018), liver cancer incidence rates are plotted across time points (**Figure 18**).

For NH Black males, the increase in incidence was consistent from 1988 through 2018, rising by an average of 3.3% per year. Incidence for NH White males increased by an average of 2.5% per year through 2018. For Hispanic males, the incidence increased by 2.5% per year from 1988 through 2018. Among Asian/Pacific Islander males, incidence decreased by -1.0% per year.

NH Black and Hispanic females experienced average yearly incidence increases of 2.2% and 3.5%, respectively. Incidence for NH White females also increased, at an average yearly rate of 2.4% (**Figure 18**). Incidence rates for Asian/Pacific Islander females decreased by -1.2% per year from 1988-2018.

The nationwide increasing trends in NH White, NH Black and Hispanic males and females that have been noted nationwide may reflect an increasing prevalence of risk factors such as hepatitis C infection, cirrhosis, alcohol abuse, and obesity in these populations [54, 55]. In contrast to these national patterns ,

recent data for GBACR suggest that for NH White and NH Black males, the increasing trends in liver cancer incidence rates may be slowing down. Incidence among Asian/Pacific Islander males and females were stable, and have declined in recent years (2009-2017), with rates of -4.5% per year and -8.7% per year, respectively.

Asian/Pacific Islander males and females historically have had the highest liver cancer incidence rates of all racial/ethnic groups due to higher prevalence of hepatitis B infection [56], although incidence differences across Asian/Pacific Islander groups have been noted [11, 57-60]. In the Greater Bay Area, the 2014-2018 incidence rate for all males was 13.8 per 100,000, and 4.3 per 100,000 in females (**Table 8a**). For males, rates were highest among NH Black males (22.5 per 100,000), followed by Hispanic (18.9 per 100,000), Asian/Pacific Islander (18.4 per 100,000) and NH White males (9.0 per 100,000). For females, rates were highest among Hispanic females (7.6 per 100,000), followed by Asian/Pacific Islander (5.7 per 100,000), NH Black (5.2 per 100,000) and NH White females (2.5 per 100,000) (**Table 8a**).

Liver cancer incidence rates from 2014-2018 were higher for NH Black males in the Greater Bay Area compared to California, and lower among Hispanic females while all other racial/ethnic groups had incidence rates that were comparable to the rates in California (**Table 8a**).

Figure 18: Liver Cancer Incidence Trends in the Greater Bay Area by Sex and Race/Ethnicity, 1988-2018

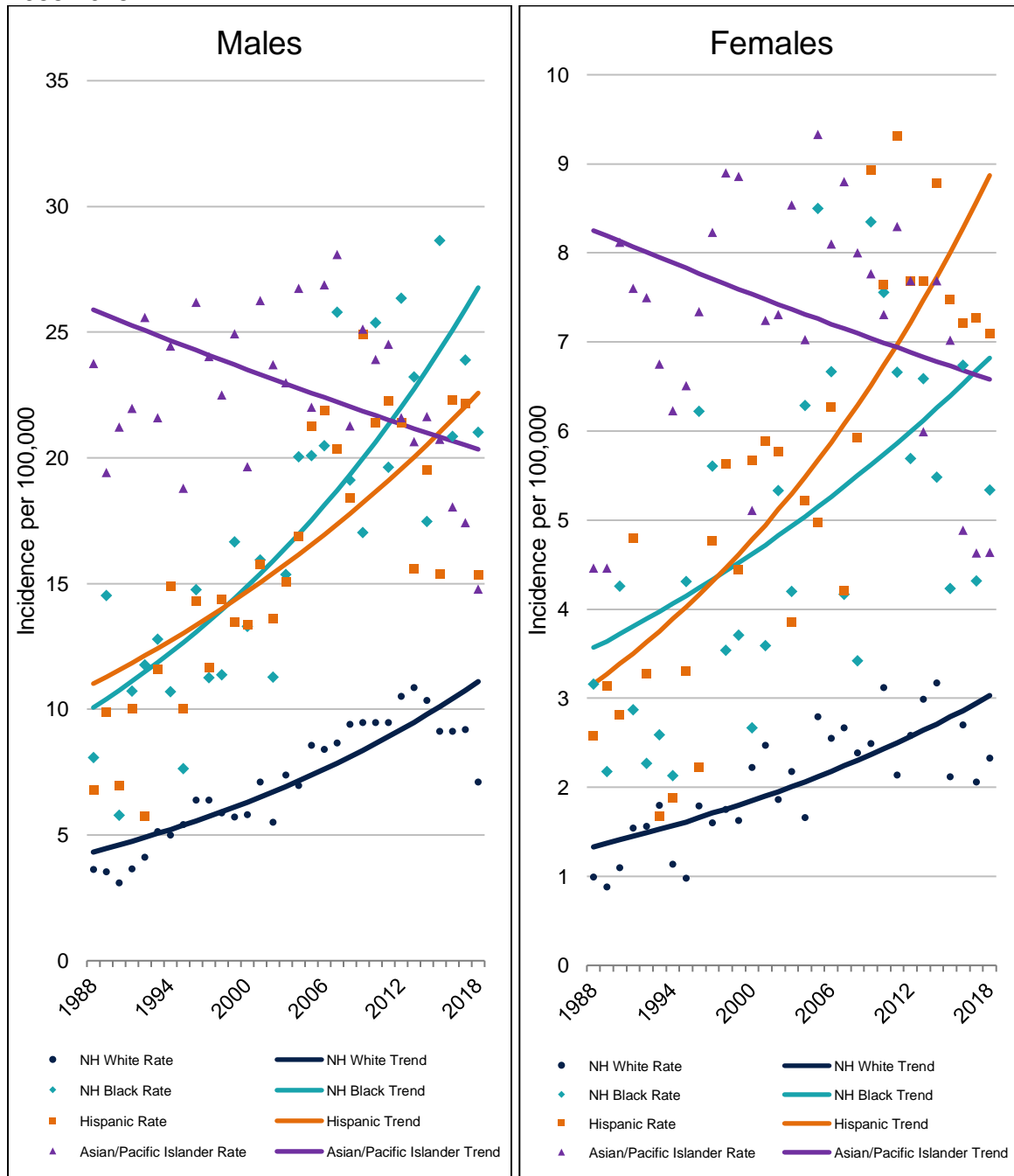


Table 8a and 8b: Liver Cancer Age-Adjusted Incidence and Mortality Rates per 100,000 by Sex, Race/Ethnicity, and Region¹, 2014-2018

8a: Incidence

Race/Ethnicity	Greater Bay Area		California	
	Males	Females	Males	Female
All Racial/Ethnic Groups	13.8	4.3	13.3	4.4
NH White	9.0	2.5	9.3	2.9
NH Black	22.5	5.2	16.8	5.0
Hispanic	18.9	7.6	18.3	7.0
Asian/Pacific Islander	18.4	5.7	17.9	5.8

8b: Mortality

Race/Ethnicity	Greater Bay Area		California	
	Males	Females	Males	Female
All Racial/Ethnic Groups	8.5	2.7	9.0	3.2
NH White	6.1	1.5	6.4	2.2
NH Black	14.7	3.9	11.7	4.0
Hispanic	9.7	4.6	12.4	5.1
Asian/Pacific Islander	10.9	3.7	11.9	3.9

¹ The two regions represented include: (1) the Greater Bay Area (nine-county region) and (2) all of California (including the nine-county Greater Bay Area region).

Liver cancer mortality rates increased overall by 1.0% per year for males and 1.1% for females from 1988 through 2018 in the Greater Bay Area. Mortality rate increases over time were similar for NH White and NH Black males (~2% per year), with a slightly lower rate of increase among Hispanic males (0.7%). Mortality rates also increased for NH White and NH Black females by 2.4% and 2.1% per year, respectively, and was stable for Asian/Pacific Islander females. For 2014-2018, mortality rates were more than three times higher for males than for females in the Greater Bay Area (8.5 and 2.7 per 100,000, respectively; **Table 8b**). During this time, NH Black (14.7 per 100,000), Hispanic (10.0 per 100,000) and Asian/Pacific Islander (10.9 per

100,000) males experienced markedly higher rates of mortality due to liver cancer than NH White males (6.1 per 100,000). Females experienced a much lower mortality rate, ranging from 1.5 per 100,000 in NH White females to 4.6 per 100,000 in Hispanic females. For 2014-2018, liver cancer mortality rates for NH Black males were notably higher in the Greater Bay Area (14.7 per 100,000) compared to California (11.7 per 100,000) (**Table 8b**) and liver cancer mortality rates of Hispanic females were notably higher in California (12.4 per 100,000) compared to the Greater Bay Area (9.7 per 100,000). For all other racial/ethnic groups, Greater Bay Area mortality rates were similar to those in California.