XII. CERVICAL CANCER

Incidence rates of cervical cancer have declined substantially since 1988 in all racial/ethnic groups in the Greater Bay Area **(Figure 21)**. From 1988 through 2018, similarly steep declines were seen annually among Asian/Pacific Islander females (-3.2%), NH Black females (-3.8%), and Hispanic females (-3.5%). Significant, but lower magnitude, declines were also observed among NH White females of -2.0% per year. Cervical cancer screening ("Pap" testing), which detects precancerous cells and early cervical cancers, has contributed significantly to the decline in cervical cancer incidence [65, 66].

The most common risk factor for cervical cancer is human papillomavirus (HPV) infection; HPV types 16 and 18 are responsible for approximately 70% of all cervical cancers [65-67]. In 2006, three highly effective vaccines against these strains of HPV were approved by the Food and Drug Administration (FDA) for the prevention of HPV-caused cancers [68]. In combination with continued cervical cancer screening, these vaccines are likely to result in further declines in cervical cancer incidence in future years [69, 70].

In the Greater Bay Area, 2014-2018 incidence rates of cervical cancer were highest among Hispanic females (7.5 per 100,000) compared to other racial/ethnic groups, ranging from 4.8 per 100,000 among Asian/Pacific Islander females to 4.7 per 100,000 among NH Black females. The disproportionate burden of cervical cancer in Hispanic females can, in part, be attributable to low uptake of cervical cancer screening [71]. From 2014-2018, cervical cancer incidence rates were lower in the Greater Bay Area than in California among NH White, Asian/Pacific Islander, and Hispanic females, whereas rates were similar between the regions for NH Black females **(Figure 22)**.

From 1988 through 2018, mortality rates due to cervical cancer decreased significantly among Hispanic and NH White females, with annual declines of -2.8% per year and -3.1% per year, respectively. Previous declines in mortality rates among Asian/Pacific Islander females between 1988 and 2008 have stabilized since 2008. From 2014-2018, cervical cancer mortality rates in the Greater Bay Area were highest in Hispanic females (2.0 per 100,000), which was significantly higher than the rate in NH White females (1.2 per 100,000). In the Greater Bay Area, cervical cancer mortality rates for all racial/ethnic groups were lower than in all of California **(Figure 22).**

Although a vaccine against HPV has been available and recommended in the U.S. since 2006, its direct impact on cancer incidence and mortality rates remains unclear, in part, due to the targeting of vaccinations to primarily young populations, slow uptake in the U.S., and ~20 year latency between HPV infection and presentation of a pre-cancerous lesion. However, recent studies support the conclusion that HPV vaccination is effective in reducing cervical cancer [69, 70]. In addition, promising declines in HPV prevalence and related anogenital diseases have been recently documented in U.S. populations [72]. Additional ongoing surveillance and research will be able to determine the direct impact of HPV vaccination on population-level cervical cancer incidence and mortality over the next several years [73, 74].

Figure 21: Cervical Cancer Incidence Rates and Trends in the Greater Bay Area by Race/Ethnicity, 1988-2018

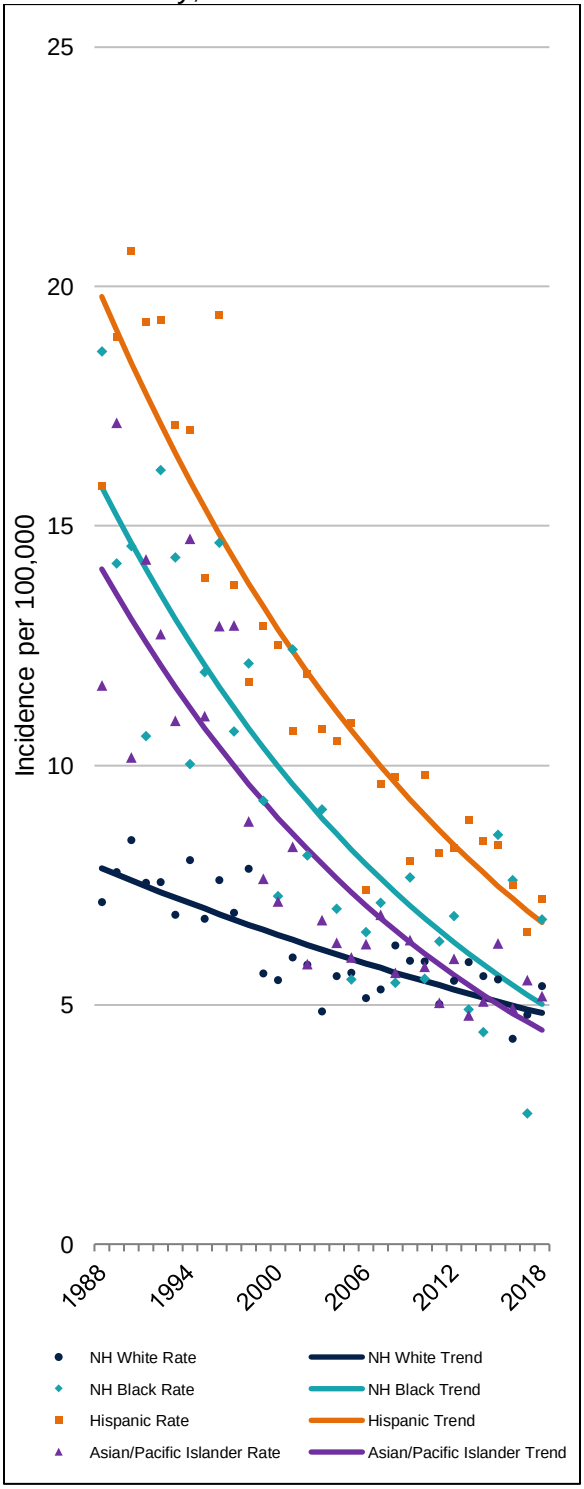
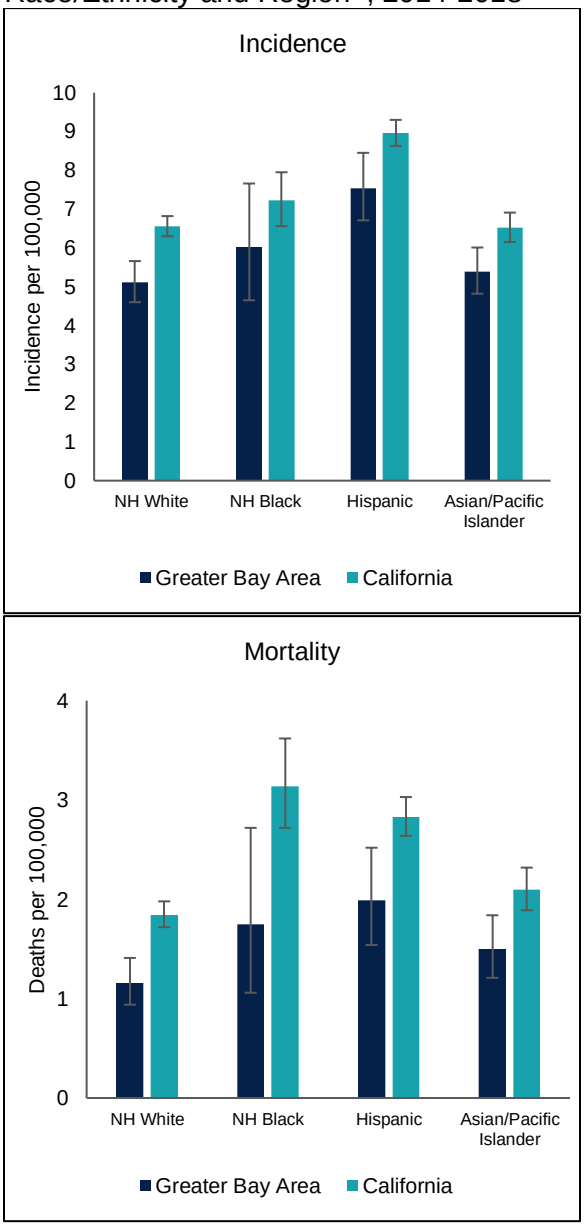


Figure 22: Cervical Cancer Age-Adjusted Incidence and Mortality Rates[1] by Race/Ethnicity and Region[2], 2014-2018



[1] Error bars (in black at the top of the bars) indicate 95% confidence intervals surrounding the corresponding incidence and mortality rates.
[2] The two regions represented include: (1) the Greater Bay Area (nine-county region), and (2) all of California (including the nine-county region of the Greater Bay Area).