

## **Projecting Future Catchment Area Burden Among Racial and Ethnic Groups**

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### **1. Background**

The UC San Diego Moores Cancer Center's (MCC) serves San Diego County, which includes a racially and ethnically diverse population of approximately 3.3 million residents. Cancer is the number one cause of death in San Diego County. Hispanics make up 35 percent and Asian American and Pacific Islander (AAPI) residents make up 19 percent of the total population. These two groups experience overall lower cancer incidence and mortality rates compared to Non-Hispanic White (NHW) individuals. However, Hispanic and AAPI communities are experiencing demographic changes that could lead to future increases in cancer burden, including population growth and aging. As has been shown globally, demographic transitions in low- and middle-income countries are a key driver of the future cancer burden. The same analogy can be made for certain racial and ethnic populations in the US. Estimates of future cancer burden could help guide Cancer Center strategic plans to ameliorate this burden.

### **2. Goals**

The MCC Community Outreach and Engagement (COE) component assesses and monitors the catchment area cancer burden using data-driven approaches. COE assessed the future cancer burden in San Diego County using data from the Surveillance, Epidemiology, and End Results (SEER) Research Plus delay-adjusted database and SEER\*Stat software to export annual counts, focusing on all invasive cancers. Projections were made for Hispanic, AAPI, Black, and NHW racial and ethnic groups.

### **3. Solutions and Methods**

Using JoinPoint software, the annual number of invasive tumors from all sites in San Diego County in 2001-2021 (delay adjusted; excluding 2020) were used to estimate a regression line with up to three join points, using Poisson variance and the weighted Bayesian Information Criterion model selection method. The number of tumors in 2030 was projected using the last four years' (2018-2021) annual average percent change for the total population and by race and ethnicity.

### **4. Outcomes**

Based on projecting current cancer trends, it is predicted that 20,165 cancer tumors will occur in San Diego County in 2030, a 21 percent increase from the 16,689 tumors observed in 2021, with variation across racial and ethnic groups. The highest percent increase was among Hispanic residents (47 percent; from 3,530 tumors observed in 2021 to 5,192 tumors predicted in 2030), followed by AAPI individuals (34 percent; from 1,634 to 2,195 tumors), and Black individuals (27 percent; from 703 to 889 tumors). NHW residents had the lowest projected increase (3 percent; from 10,093 to 10,440 tumors).

### **5. Lessons Learned and Future Directions**

NCI-designated Cancer Centers that serve diverse racial and ethnic groups should consider projecting the future cancer burden in these populations, which could help tailor prevention strategies and interventions to intercept the future increases. Our results show that the greatest increase in the number of future cases in San Diego County is predicted among Hispanic individuals, a large proportion of the catchment area. Future analysis will be conducted to assess changes by specific cancer sites to guide targeted interventions according to modifiable risk factors and screening.