**DIFFERENTIAL COVID-19 CASELOAD AND MORTALITY RATE AMONG AGE, SEX, AND RACE GROUPS IN CALIFORNIA**

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**BACKGROUND** The COVID-19 pandemic is a public health crisis that has caused overwhelming morbidity and mortality worldwide, but this burden has not been an even distribution within the population of California. The objective of this study is to measure the variation of COVID-19 case and death rates between different race, sex, and age groups in the state.

**METHODS** To quantify the variation in COVID-19 morbidity and mortality rate among different groups in California(race: White, Black, Asian, American Indian, Hispanic/Latino, Hawaiian/Pacific Islander, Multi-race, and Other; age: 0-17, 18-49, 50-64, and 65 and up; sex: male, female), we conducted a repeated cross-sectional study comparing odds ratios of COVID-19 cases and deaths between groups from April 2020 to May 2023. We also compared these outcomes across different time periods (I: Delta Wave, II: Omicron Wave, III: Omicron BA.4/BA.5 Wave). Ages 0-17, white race, and female sex were used as baseline odds groups.

**RESULTS** The 18-49 age group had the highest odds for COVID-19 cases (OR1.91 [95% CI 1.90, 1.91]), while ages 65 and up had the lowest case odds (OR 0.968 [0.965, 0.970]) and the highest mortality odds (OR 1250 [95% CI 1015, 1539]). Hawaiians/Pacific Islanders had the highest case odds (OR 4.290 [4.245, 4.334]) and mortality odds (OR 1.65 [95% CI 1.52, 1.78]). Males had a lower odds of a COVID-19 case than females (OR 0.865 [95% CI 0.864, 0.867]), but a higher odds of death (OR 1.40 [1.38, 1.42]).

**CONCLUSION** 18 to 49-year old adults, Hawaiian/Pacific Islanders, and females have a higher odds of contracting COVID-19, while adults 65 and older, Hawaiian/Pacific Islanders, and males have higher odds of dying from COVID-19.

**PUBLIC HEALTH IMPLICATIONS** We recommend further public health interventions, including vaccinations and mask-wearing, for these at-risk groups against unfavorable COVID-19 outcomes.

**DATA SOURCE UTILIZED** California Department of Public Health