

Racial, socioeconomic disparities fuel increased infant mortality rates in California

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While infant mortality rates (IMR) decreased overall from 2007 to 2015 in California, disparities in infant death rates have increased in some groups, including among obese mothers, those who smoke and African

American women, according to a new study published in *PLOS One*.

The goal of this study was to better clarify the maternal and infant predictors of infant deaths in California. The study analyzed data from the Birth Statistical Master Files in California, compiled by the California Department of Public Health (CDPH). Files from a total of 4,503,197 single births, with 19,301 infant deaths, were reviewed.

Key findings of the study include:

- Children of African American [women](#) had almost twice the risk of infant mortality when compared with children of white women.
- Infants of women with bachelor's degrees or higher were 89% less likely to die, compared to women with less than a [high school education](#).
- Infants of [mothers](#) who smoked during the first and second trimester of pregnancy were 75% more likely to die than infants of nonsmokers.
- Infants of women who were overweight and obese during pregnancy account for 55% of the infant mortalities in the study.
- More than half of the infant deaths were to children of women with lower socioeconomic status.
- Infants of mothers who participate in WIC, the Special Supplemental Nutrition Program for Women, Infants and Children, were 59% more likely to die than infants of non-WIC participants.
- Infants with [low birth weight](#) and preterm birth were more than six times and almost four times more likely to die than [infants](#) who had normal births, respectively.
- Infants born to mothers under the age of 20 represented 10.9% of infant deaths. Mothers over the age of 40 were associated with 5.6% of the total cases of infant deaths.

- In rural San Joaquin Valley region, women were 51% more likely to experience infant deaths compared to urban women living in the San Diego area.

"Infant mortality is a widely-reported indicator of population health, which can potentially be reduced by addressing racial/ethnic and geographic disparities and morbidities of clinical significance," said Anura Ratnasiri, first author and research scientist at the State of California's Department of Health Care Services. "Our study showed that taking steps to reduce infant mortality is likely to have a spillover effect on improving the overall health of the population in generations to come."

The study speculates that the most effective health interventions may be social and public health initiatives that mitigate disparities in sociodemographic, economic and behavioral risks for mothers.

Public education focusing on maternal obesity and smoking cessation may also make a positive impact on all aspects of infant mortality. Empowering women to attain higher educational goals will likely also improve their socioeconomic status and employment opportunities, which are major indicators of health disparities.

"These results clearly show that we need to focus on the well-being of African American mothers and mothers in the San Joaquin Valley and address issues such as maternal obesity to achieve improvement in IMR," said Satyan Lakshminrusimha, a study author and physician-in-chief at UC Davis Children's Hospital.

More information: Anura W. G. Ratnasiri et al, Maternal and infant predictors of infant mortality in California, 2007–2015, *PLOS ONE* (2020). [DOI: 10.1371/journal.pone.0236877](https://doi.org/10.1371/journal.pone.0236877)

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