



INFANT MORTALITY

Disease Information Packets – Slide Set
Public Health Services, Community Health Statistics
08/2022



What is Infant Mortality



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SAN DIEGO

- Infant mortality is defined as the death of a baby before his or her first birthday.
- It is often used as an indicator of the health status of a society as well as maternal and infant health.



What is Infant Mortality?



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- In 2020, the 10 leading causes of infant death that accounted for 67.5% of all infant deaths in the United States were:
 - Congenital malformations,
 - Low birth weight,
 - Sudden infant death syndrome,
 - Unintentional injuries,
 - Maternal complications,
 - Cord and placental complications,
 - Bacterial sepsis of newborn,
 - Respiratory distress of newborn,
 - Diseases of circulatory system, and
 - Neonatal hemorrhage.

Demographic Risk Factors



■ Maternal Age

- Infant mortality rates are highest among births to individuals under the age of 20 and over the age of 40.

■ Race/Ethnicity

- Infants born to Black and Native Hawaiian/Pacific Islander are at double the risk of infant mortality compared to those born to White women.
- Black, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander women have higher rate of preterm births, low birthweight births, or births for which they received late or no prenatal care compared to White women.

Demographic Risk Factors



- **Maternal Pregnancy Complications**
 - Women with hypertension are at a higher risk for poor birth outcomes, including preterm delivery, low birth weight, and infant death.
- **Plural/multiple births**
 - Infant mortality rate increases with multiple births.



Social and Behavioral Risk Factors



- **Lack of prenatal care**
- **Smoking during pregnancy**
 - The risk for sudden unexpected infant death more than doubles with any maternal smoking during pregnancy.
- **Poor nutrition**
 - Maternal malnutrition is a key contributor to short- and long-term infant morbidity and mortality.
 - Obesity during pregnancy is associated with adverse maternal health and infant outcomes, including preterm delivery, low birthweight, and infant death.
- **Alcohol use**
 - Maternal alcohol-use disorder increases the risk for sudden infant death syndrome (SIDS) and infant mortality excluding SIDS.



Source: Ely DM, Driscoll AK. Infant mortality in the United States, 2019: Data from the period linked birth/infant death file. National Vital Statistics Reports; vol 70 no 14. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: <https://dx.doi.org/10.15620/cdc:111053>

Kaiser Family Foundation. (2020). *Racial Disparities in Maternal and Infant Health: An Overview*. <https://www.kff.org/report-section/racial-disparities-in-maternal-and-infant-health-an-overview-issue-brief/>.

Anderson TM, Lavista Ferres JM, Ren SY, Moon RY, Goldstein RD, Ramirez JM, Mitchell EA. Maternal Smoking Before and During Pregnancy and the Risk of Sudden Unexpected Infant Death. *Pediatrics*. 2019 Apr;143(4):e20183325. doi: 10.1542/peds.2018-3325. Epub 2019 Mar 11. PMID: 30858347; PMCID: PMC6564075.

Imdad A, Bhutta ZA. Maternal nutrition and birth outcomes: effect of balanced protein-energy supplementation. *Paediatr Perinat Epidemiol*. 2012 Jul;26 Suppl 1:178-90. doi: 10.1111/j.1365-3016.2012.01308.x. PMID: 22742610.

Driscoll AK, Gregory ECW. Prepregnancy body mass index and infant outcomes by race and Hispanic origin: United States, 2020. National Vital Statistics Reports; vol 70 no 16. Hyattsville, MD: National Center for Health Statistics. 2021. DOI: <https://dx.doi.org/10.15620/cdc:112077>.

O'Leary CM, Jacoby PJ, Bartu A, D'Antoine H, Bower C. Maternal alcohol use and sudden infant death syndrome and infant mortality excluding SIDS. *Pediatrics*. 2013 Mar;131(3):e770-8. doi: 10.1542/peds.2012-1907. Epub 2013 Feb 25. PMID: 23439895.

National Statistics and Disparities

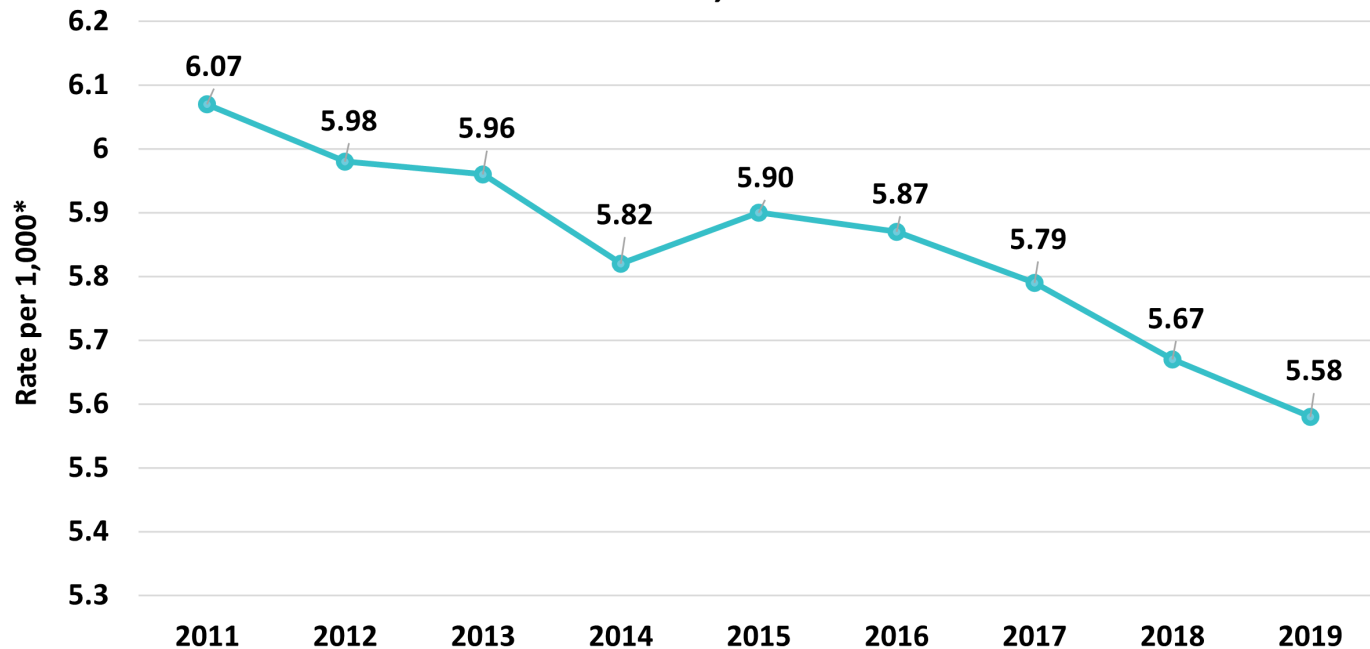


- In 2019, there were 20,927 infant deaths in the United States.
- In 2019, infant mortality rates were higher than the U.S average in the South and Midwest regions of the United States and lower than the U.S average in the Northeast and West regions.

National Statistics and Disparities



Infant Mortality Rates*
United States, 2011 - 2019



*Rates calculated per 1,000 live births.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database. Data are from the Linked Birth / Infant Deaths Records 2007-2019, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/lbd-current.html>.

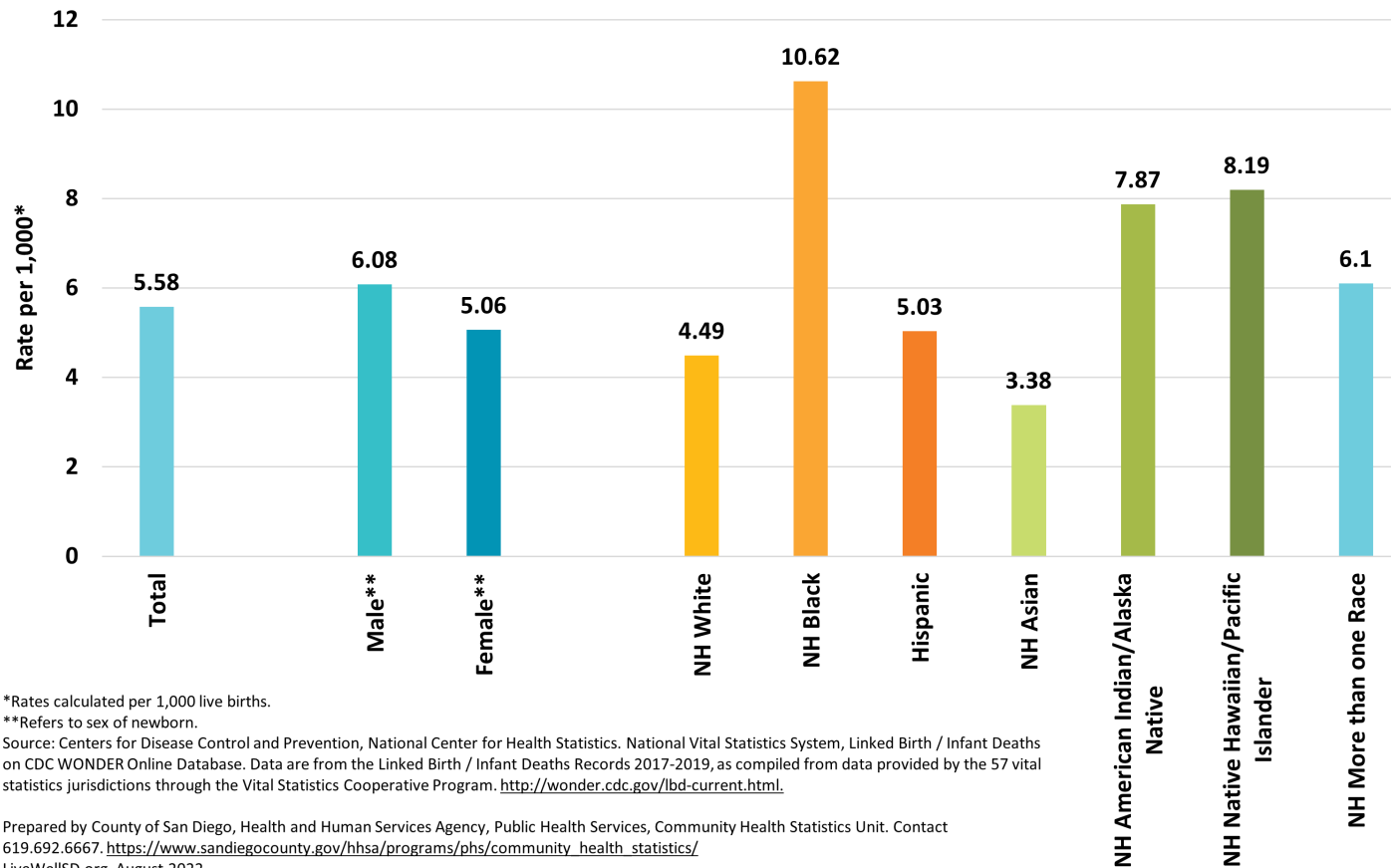
Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.
https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/
LiveWellSD.org. August 2022.

- Between 2011 and 2020, the infant mortality rate in the United States decreased every year except for between 2014 and 2015.

National Statistics and Disparities



Infant Mortality Rates*
United States, 2019



*Rates calculated per 1,000 live births.

**Refers to sex of newborn.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database. Data are from the Linked Birth / Infant Deaths Records 2017-2019, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/lbd-current.html>.

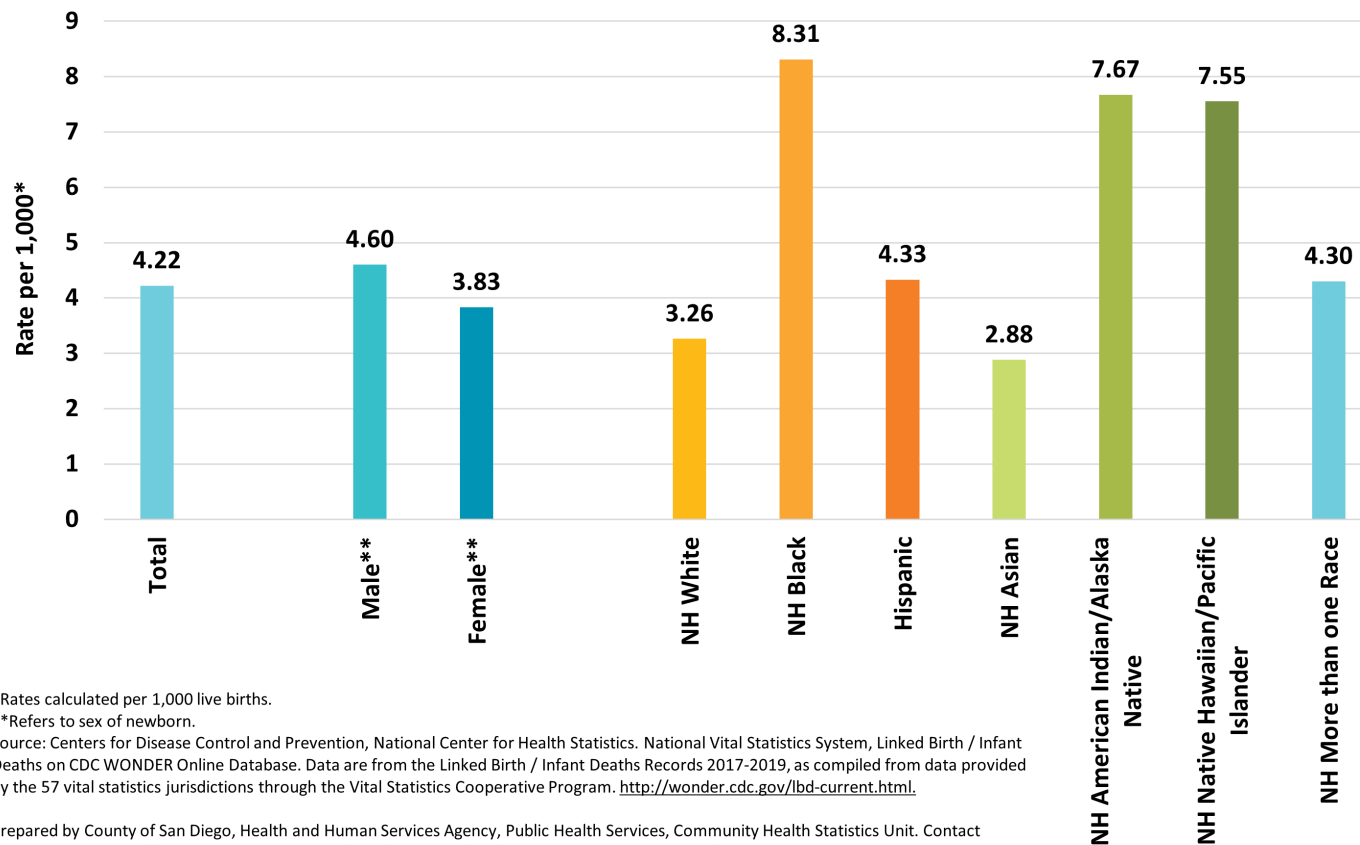
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- In 2019, the infant mortality rate in the United States was higher among male infants compared to female infants.
- In 2019, the infant mortality rate in the United States was highest among infants born to non-Hispanic Black mothers.
- In 2019, the infant mortality rate in the United States was the lowest among infants born to non-Hispanic Asian mothers.

State Statistics and Disparities



Infant Mortality Rates*
California, 2018 - 2019



*Rates calculated per 1,000 live births.

**Refers to sex of newborn.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database. Data are from the Linked Birth / Infant Deaths Records 2017-2019, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/lbd-current.html>.

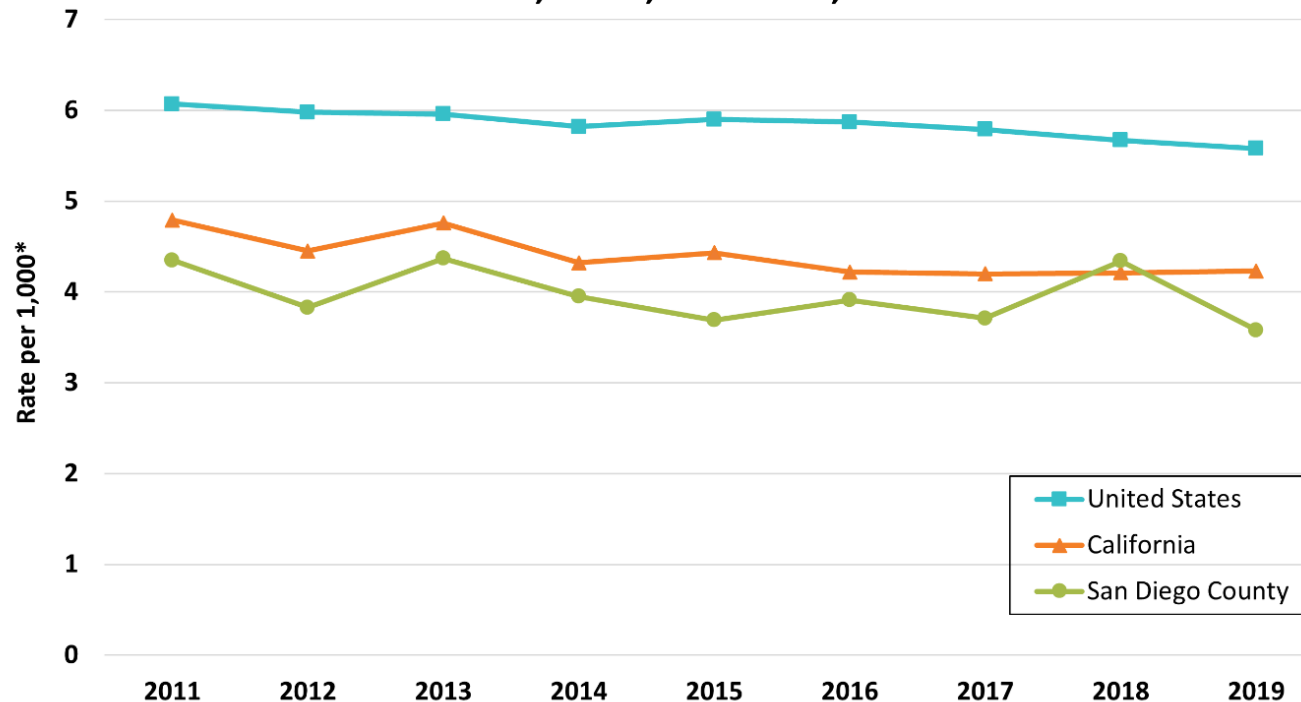
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- From 2018-2019, the infant mortality rate in California was higher among male infants compared to female infants (4.60 vs. 3.83 deaths per 1,000 live births)
- From 2018-2019, the infant mortality rate in California was highest among infants born to non-Hispanic (NH) Black mothers (8.31 deaths per 1,000 live births) and lowest among infants born to NH Asian mothers (2.88 deaths per 1,000 live births).

Local Statistics and Disparities



Infant Mortality Rates*
National, State, and Local, 2011 - 2019



*Rates calculated per 1,000 live births.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database. Data are from the Linked Birth / Infant Deaths Records 2007-2019, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/lbd-current.html>.

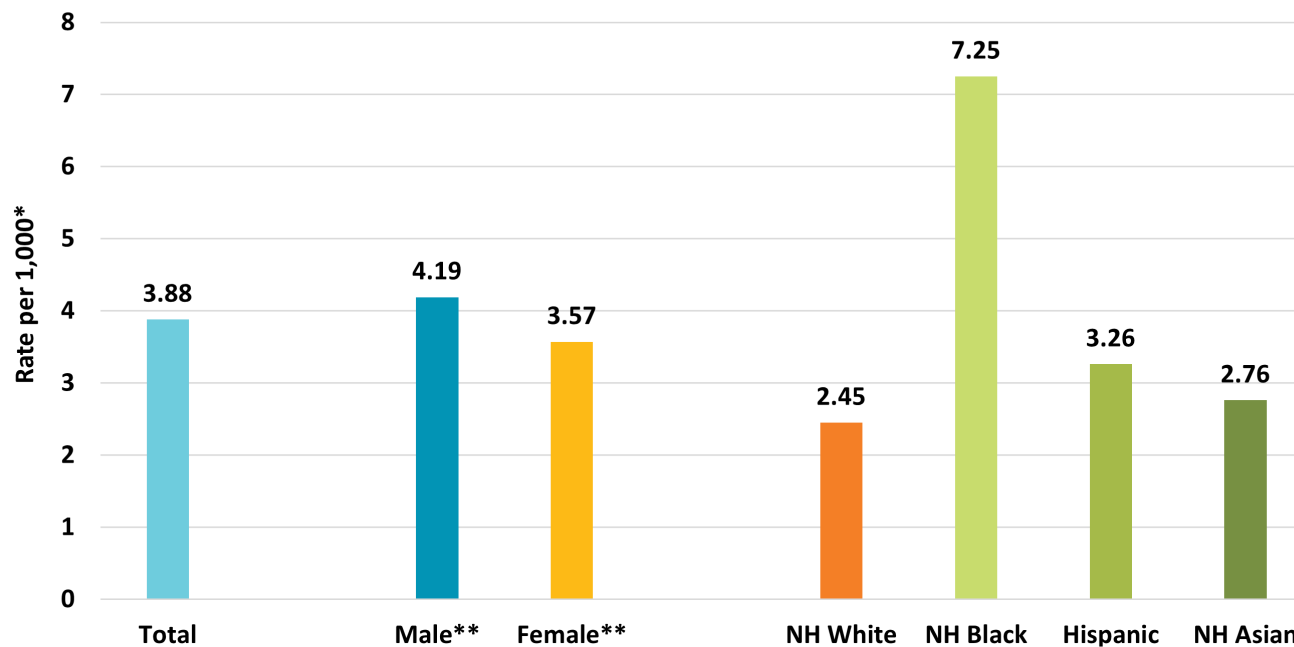
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LiveWellSD.org. August 2022.

- From 2011-2019, California and San Diego County both had lower infant mortality rates than the national rate.
- From 2011-2019, the infant mortality rate in San Diego was lower than the infant mortality rate in California every year except 2018.

Local Statistics and Disparities



Infant Mortality Rates*
San Diego County, 2017 - 2019



*Rates calculated per 1,000 live births.

**Refers to sex of newborn.

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. National Vital Statistics System, Linked Birth / Infant Deaths on CDC WONDER Online Database. Data are from the Linked Birth / Infant Deaths Records 2017-2019, as compiled from data provided by the 57 vital statistics jurisdictions through the Vital Statistics Cooperative Program. <http://wonder.cdc.gov/lbd-current.html>.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

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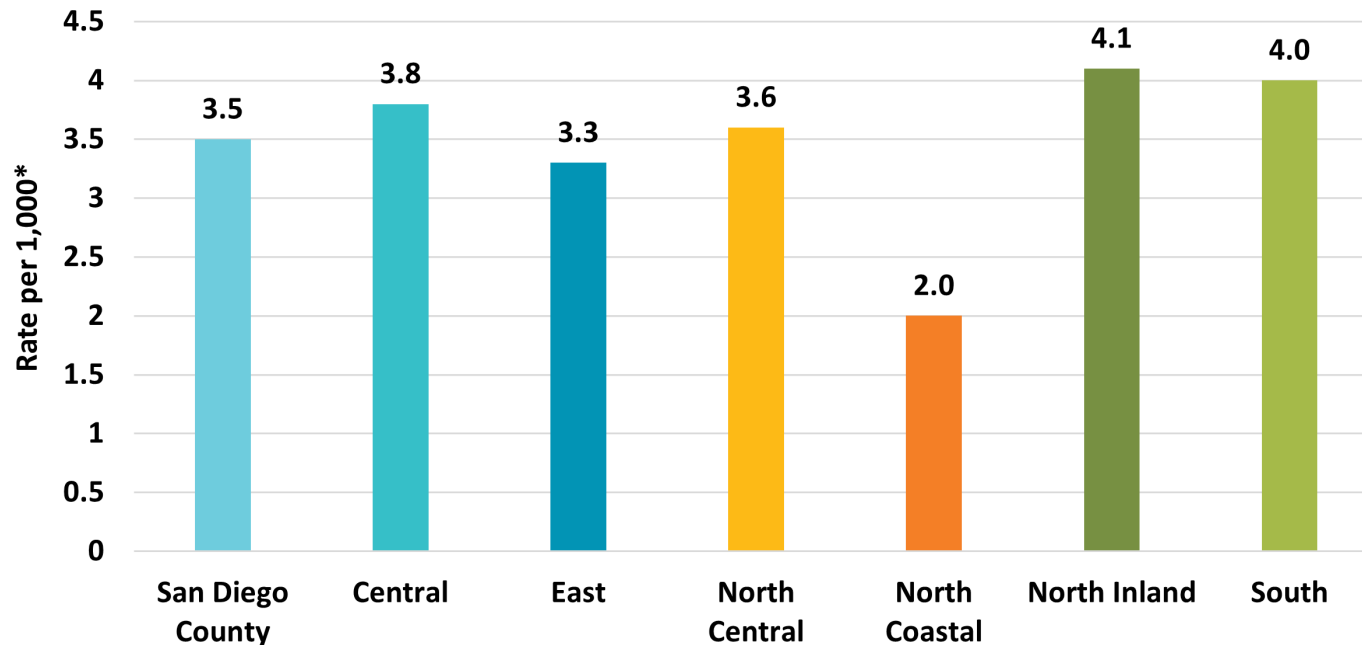
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- In 2017-2019, the infant mortality rate in San Diego County was higher among male infants compared to female infants (4.19 vs. 3.57 deaths per 1,000 live births)
- In 2017-2019, the infant mortality rate in San Diego County was highest among infants born to non-Hispanic (NH) Black mothers (7.25 deaths per 1,000 live births) and lowest among infants born to NH White mothers (2.45 deaths per 1,000 live births).

Local Statistics and Disparities



**Infant Mortality Rates* by HHSA Region
San Diego County, 2019**



*Rates calculated per 1,000 live births.

Source: State of California, Department of Public Health, Center for Health Statistics and Informatics, Birth Cohort Statistical Master Files.
County of San Diego, Health and Human Services Agency, Public Health Services, Maternal, Child and Family Health Services (www.sdmcfhs.org), 6/21/2022.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/

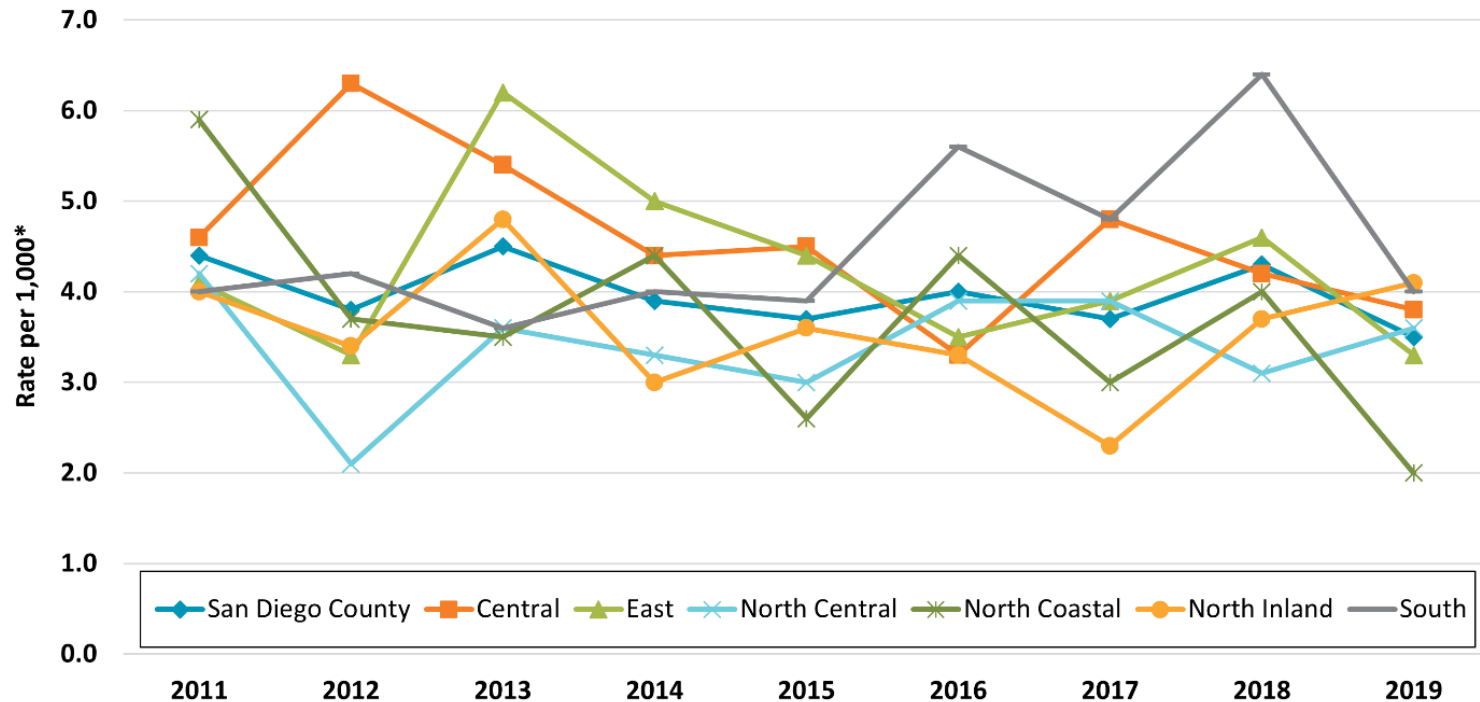
LiveWellSD.org. August 2022.

- In 2019, the infant mortality rate was the highest in North Inland Region (4.1 deaths per 1,000 live births) and lowest in North Coastal Region (2.0 deaths per 1,000 live births)

Local Statistics and Disparities



**Infant Mortality Rates* by HHSA Region of Mother
San Diego County, 2011 - 2019**



*Rates calculated per 1,000 live births.

Source: State of California, Department of Public Health, Center for Health Statistics and Informatics, Birth Cohort Statistical Master Files.

County of San Diego, Health and Human Services Agency, Public Health Services, Maternal, Child and Family Health Services (www.sdmcfhs.org), 6/21/2022.

Prepared by County of San Diego, Health and Human Services Agency, Public Health Services, Community Health Statistics Unit. Contact 619.692.6667.

https://www.sandiegocounty.gov/hhsa/programs/phs/community_health_statistics/

LiveWellSD.org. August 2022.

- Between 2011 and 2019, the infant mortality rate had an overall decrease in San Diego County and every HHSA region, except North Inland and South Region.
- Between 2011 and 2019, the infant mortality rate in North Coastal Region decreased by nearly 3 times.

Prevention



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- *Seek pre-pregnancy and prenatal care*
 - Reaching a healthy weight, getting proper nutrition, managing chronic health conditions, and seeking help for substance use can help a woman achieve better health before pregnancy.
- *Prevent birth defects*
 - Alcohol, tobacco, and drug use can increase risk for birth defects
- *Create a safe infant sleep environment*
 - Always place a baby on their back to sleep and keep the sleep area clear of toys and loose bedding
- *Use newborn screening to detect conditions that are not noticeable at the time of birth*



Source: National Institutes of Health. National Institute of Child Health and Human Development. (2021). *Are there ways to reduce the risk of infant mortality?*
<https://www.nichd.nih.gov/health/topics/infant-mortality/topicinfo/reduce-risk#>.

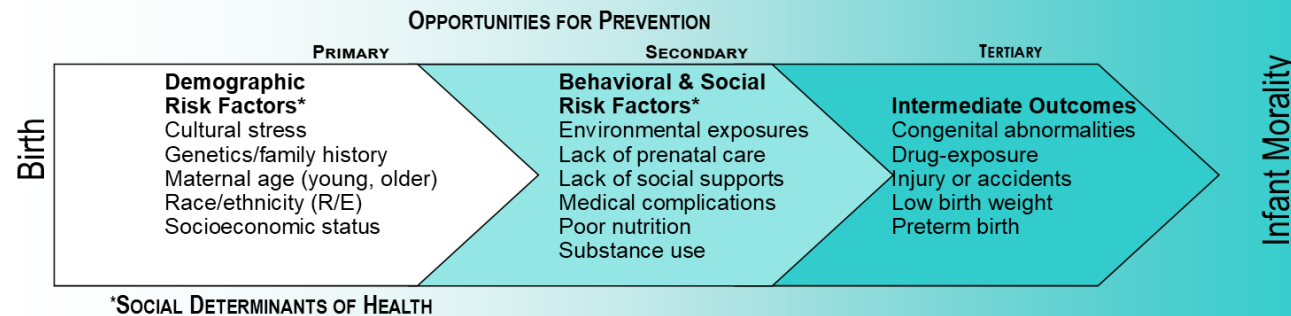
National Institutes of Health. National Institute of Child Health and Human Development. (2022). *How many people are affected by/at risk for birth defects?*
<https://www.nichd.nih.gov/health/topics/birthdefects/conditioninfo/risk>.

Critical Pathway for Infant Mortality

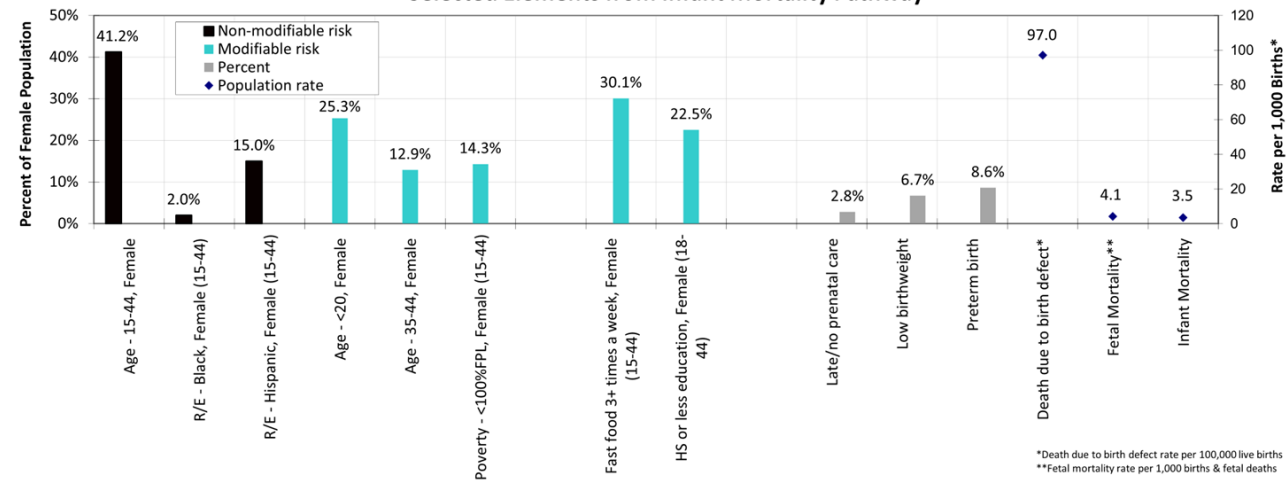


Critical Pathway

Infant Mortality



Characteristics of Female Residents, San Diego County Selected Elements from Infant Mortality Pathway



Contact Us



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For more information, including data, resources and reports from the
County of San Diego's Community Health Statistics Unit:

www.SDHealthStatistics.com

(619)692-6667