

Infant Mortality Brief

What is Infant Mortality?

Infant mortality is defined as the death of a baby less than one year of age.¹ It is often used as an indicator of health status of a nation and to compare health conditions of different populations. Nearly half of all infant deaths are caused by congenital malformations, low birthweight, and sudden infant death syndrome (SIDS).² Preterm birth (birth before 37 weeks of gestation) accounts for over two-thirds of all infant deaths.³

Within the United States, there are drastic disparities in infant mortality by race/ethnicity. In 2005, the infant mortality rate among African Americans was nearly twice the national rate. Native Americans/Alaska Natives and Puerto Ricans also had infant mortality rates that were higher than the national rate.³

In 2005, nearly 30,000 infants died before the age of one year in the United States.² The national infant mortality rate was 6.68 per 1,000 live births in 2006.⁴

Risk Factors for Infant Mortality

Demographic Risk Factors

- **Maternal Age**
 - Births to teenagers less than 16 years of age or to mothers aged 44 years and older have a higher risk of infant mortality.³
- **Race/Ethnicity**
 - African Americans, Native Americans/Alaska Natives, and Puerto Ricans have higher rates of infant mortality.¹
- **Marital Status**
 - Mothers who are married have lower rates of infant mortality than single mothers.³
 - Marital status may be an indicator of social, emotional, and financial support.

Social and Behavioral Risk Factors

- **Lack of Prenatal Care**
- **Smoking During Pregnancy**
 - Mothers who smoke during pregnancy have nearly double risk of infant mortality than mothers who do not smoke during pregnancy.³
- **Poor Nutrition**
- **Alcohol and Drug Use**
- **Medical Complications**
 - Maternal complications of pregnancy or newborn complications may increase risk of mortality to infant.³
- **Plural/Multiple Births**
 - The risk of infant death increase with multiple births.³
- **Live Birth Order**

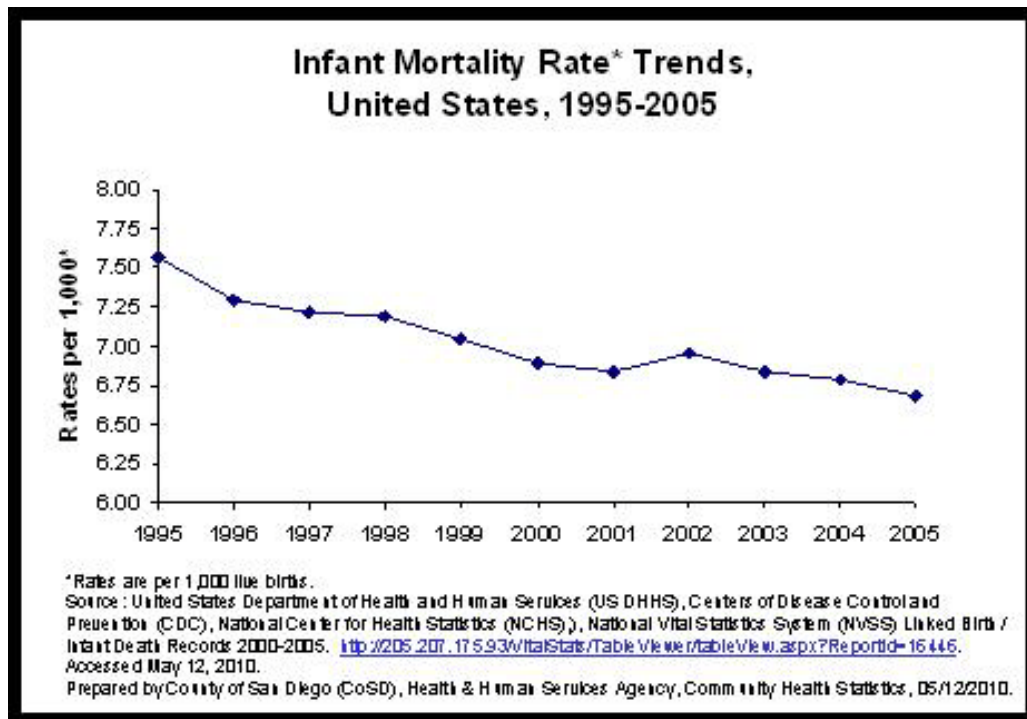
- Infant mortality is lower in second births, than first births. However risk increases again after second births, for higher order births.³ The lower risk maybe due to experience or behavior with second vs first birth, while the higher order birth risk association may be due to older maternal age, multiple births (also associated with older age), and lower socioeconomic status.

National Statistics and Disparities

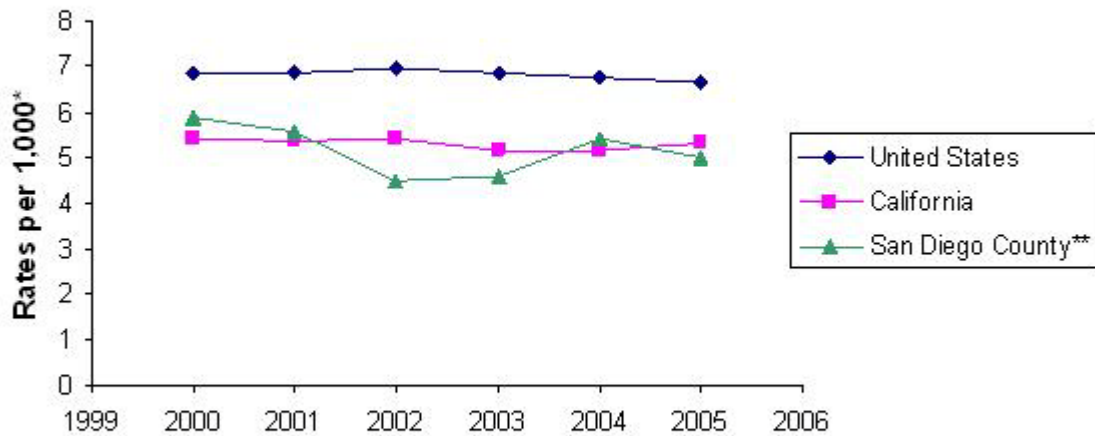
Statistics

- In 2006, there were 28,527 infant deaths in the United States.²
- Since 2000, infant mortality rates have declined slightly, from 6.89 deaths per 1,000 live births to 6.68 deaths per 1,000 live births in 2006.³
- Infant death rates are significantly higher than the U.S. average in the South-eastern region of the United States and significantly lower than the U.S. average in the Western Region.³
- In 2005, the infant mortality rate among African Americans was 13.63 deaths per 1,000 live births, whereas among Asian Americans, the rate was 4.89 deaths per 1,000 births.⁵

Local Statistics and Disparities



National, State, and Local Infant Mortality Rates*, 2000-2005



*Rates are per 1,000 live births.

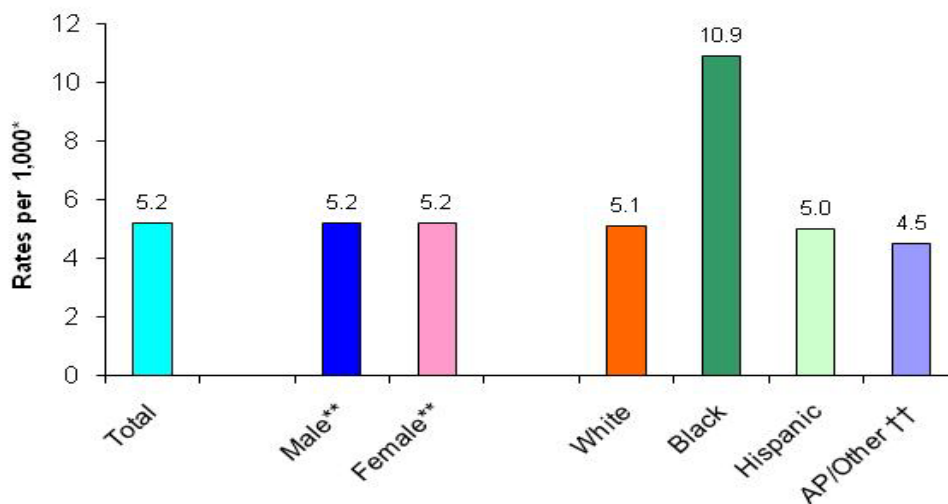
Source: United States Department of Health and Human Services (US DHHS), Centers for Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), National Vital Statistics System (NVSS) Linked Birth/Infant Death Records, 2000-2005. Accessed May 12, 2010.

**Source: CA, DPH, Center for Health Statistics, Birth & Death Statistical Master Files, County of San Diego, Health & Human Services Agency, Maternal, Child and Family Health Services.

Prepared by County of San Diego (CoSD), Health & Human Services Agency, Community Health Statistics, 05/12/2010.

- From 2000 to 2005, California overall and San Diego County has lower infant mortality rates than the national average.
- Between 2002 and 2003, San Diego County had lower infant mortality rates than the national average and California.

Infant Mortality Rates* Among San Diego County Residents, 2007



*Rates per 1,000 live births.

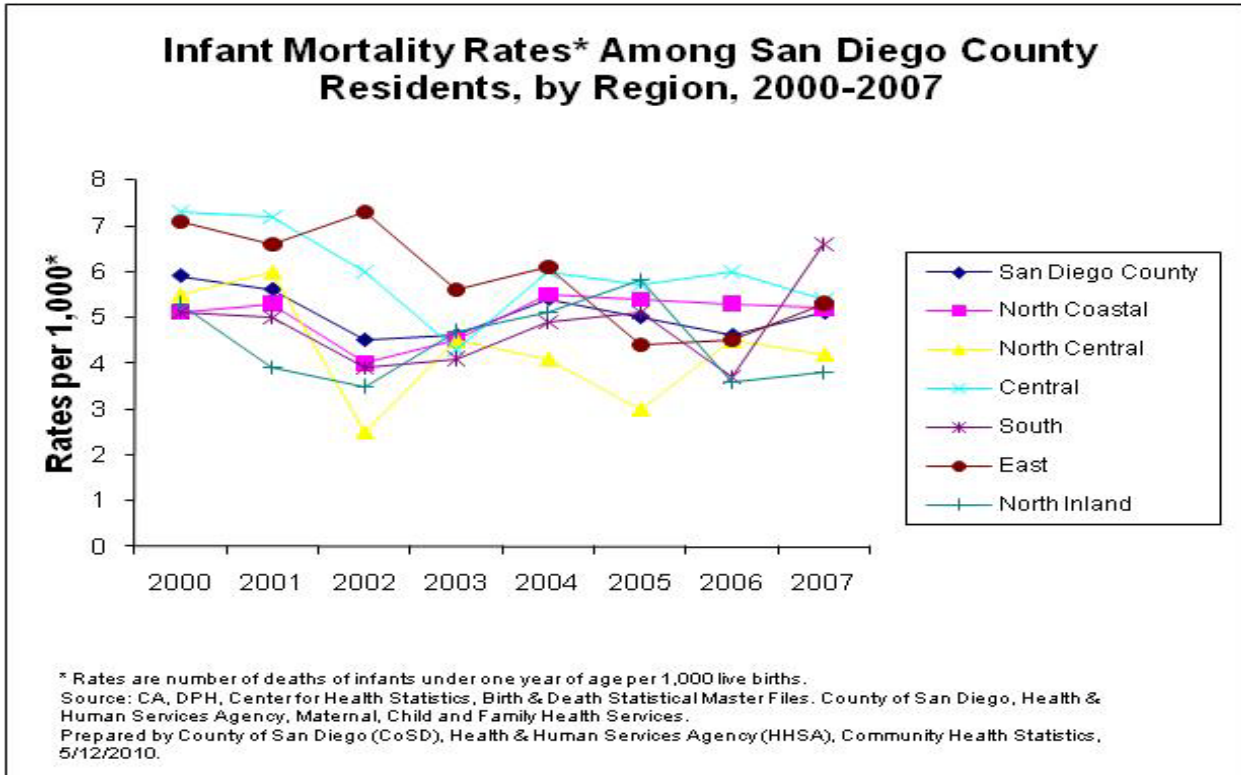
**Refers to gender of newborn.

†† API/Other includes Asian, Pacific Islanders, Native American, 2 or more race/ethnicities, other, or had missing information. The large number of unknown births affects accuracy of all race/ethnicity rates.

Source: CA, DPH, Center for Health Statistics, Birth & Death Statistical Master Files, County of San Diego, Health & Human Services Agency, Maternal, Child and Family Health Services.

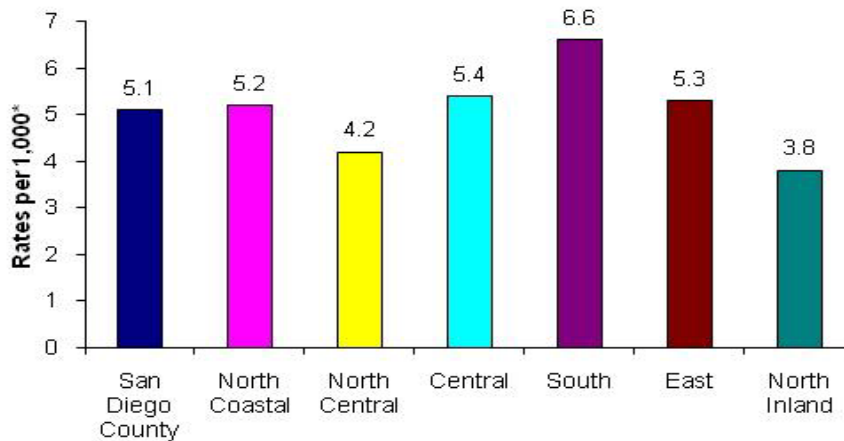
Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHS), Community Health Statistics, 5/12/2010.

- The overall infant mortality rate for San Diego County was 5.2 deaths per 1,000 live births in 2007.
- In 2007, the infant mortality rate among Blacks was 10.9 deaths per 1,000 live births, nearly twice the County infant mortality rate.
- Infant mortality death rates were the same among male and female newborns in 2007 for San Diego County.
- The infant mortality death rates among Whites, Hispanics, and Asians, Pacific Islanders and Native Americans were below the overall San Diego County rate for 2007.



- The East region of San Diego County had a decrease in infant mortality rates from 2000 to 2007.
- From 2000 to 2002, the East and Central regions of San Diego County had the highest infant mortality rates in the county.

Infant Mortality Rates* Among San Diego County Residents by Region, 2007



*Rates are number of deaths of infants under one year of age per 1,000 live births.

Source: CA. DPH, Center for Health Statistics, Birth & Death Statistical Mater Files. County of San Diego, Health and Human Services Agency, Maternal, Child and Family Health Services.

Prepared by County of San Diego (CoSD), Health & Human Services Agency (HHSA), Community Health Statistics, 05/21/2010.

- In 2007, the South Region of San Diego County had the highest infant mortality rate, whereas the North Island Region of San Diego County had the lowest rate.
- The infant mortality rate for San Diego County was 5.1 deaths per 1,000 live births in 2007.

Infant Mortality and Its Complications: Prevention for Individuals

- *Avoid smoking during pregnancy*
- *Do not use alcohol or drug during pregnancy*
- *Seek prenatal care*
- *Maintain a healthy diet during pregnancy*
 - Lack of a healthy diet during pregnancy can impair the development of the baby.⁶
- *Always place sleeping infants on their backs*
 - Infants who slept on their side or stomach have an increased risk for SIDS.¹

Prevention Tools for Public Health Professionals: Infant Mortality Critical Pathway

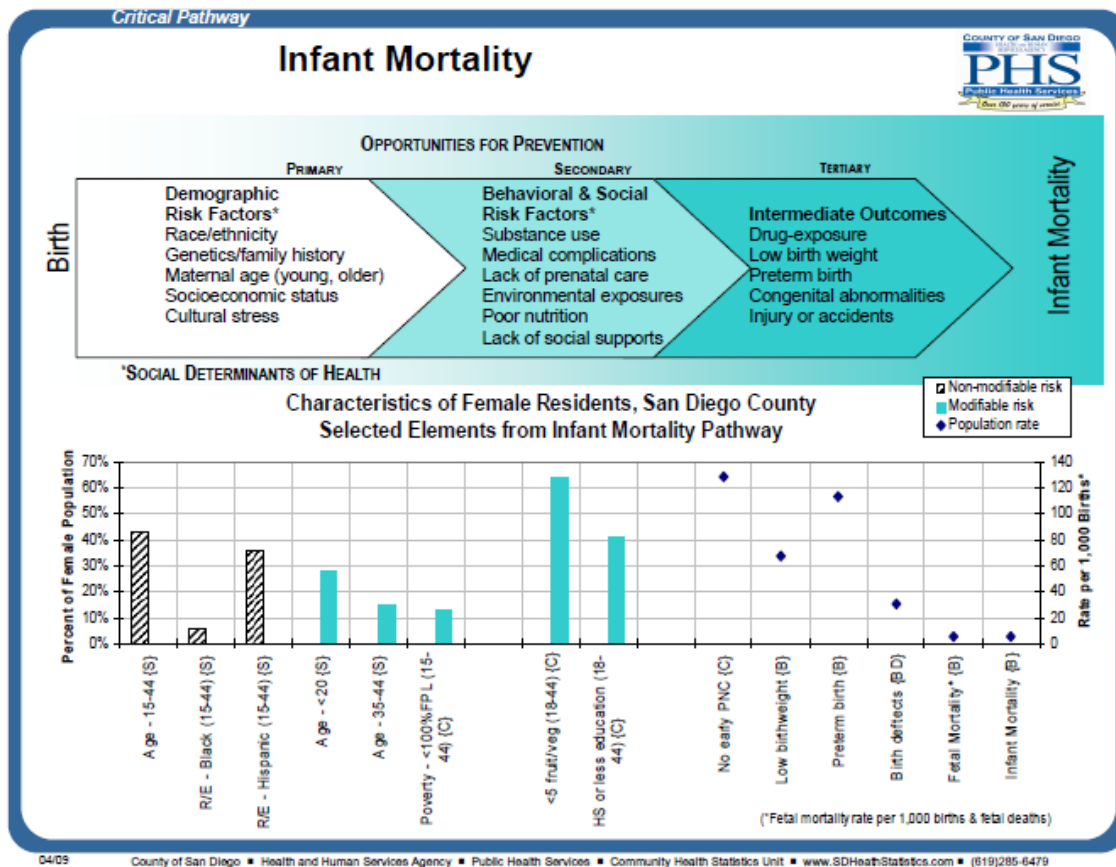
There are many opportunities for public health professionals in the community to help reduce the risk of infant mortality. To assist in community health efforts, an *Infant Mortality Critical Pathway* was developed.

The *Infant Mortality Critical Pathway* is a tool to be used in health promotion and disease prevention efforts. Its purpose is to identify populations at greater risk for infant mortality, and to identify prevention and early intervention opportunities. The *Infant Mortality Critical Pathway* displays a diagram of the major risk factors and intermediate outcomes or related diseases that have an impact on, or result from, infant mortality. Risk factors are marked as non-modifiable (black striped bars) such as race/ethnicity or gender and modifiable (solid colored bars) such as physical activity or high blood pressure.

Beneath the risk factors diagram is a data grid describing the San Diego resident population in relation to selected elements of the pathway. The data grid is designed to assist in quick identification of opportunities for interventions that might have a high impact on a particular disease. The data represent all San Diegans, not only those with a particular disease. The left axis (bar) indicates the percent of the population with a known risk factor or intermediate outcome. The right axis (diamond) indicates the rate of a particular medical encounter within the population that is specified. The data are described fully in the complete version of the *Critical Pathways*⁷.

In addition, the Community Health Statistics Unit website (www.SDHealthStatistics.com) provides detailed demographic, health and facility data including maps of geographically formatted health data. Also available are links to other County data sources, state and national sites of interest. For further assistance with data or interpretation, please contact the Community Health Statistics Unit.

Infant Mortality Critical Pathway.



04/09 County of San Diego • Health and Human Services Agency • Public Health Services • Community Health Statistics Unit • www.SDHealthStatistics.com • (619)285-6479

¹ Centers for Disease Control and Prevention. Office of Minority Health & Health Disparities. Eliminate Disparities in Infant Mortality. <http://www.cdc.gov/omhd/amh/factsheets/infant.htm>. Last Updated June 5, 2007. Accessed May 12, 2010.

² Centers for Disease Control and Prevention. National Center for Health Statistics. FactStats: Infant Health. http://www.cdc.gov/nchs/fastats/infant_health.htm. Last Updated February 4, 2010. Accessed May 12, 2010.

³ Matthew TJ, MacDorman MF. Infant Mortality Statistics from the 2006 Period Linked Birth/Infant Death Data Set. National Vital Statistics Report; vol 58 no 17. Hyattsville, MD: National Center for Health Statistics, 2010.

⁴ Matthew TJ, MacDorman MF. Recent Trends in Infant Mortality in the United States. National Center for Health Statistics Data Brief; No. 9. Hyattsville, MD. National Center for Health Statistics, 2008.

⁵ United States Department of Health and Human Services (US DHHS), Centers of Disease Control and Prevention (CDC), National Center for Health Statistics (NCHS), Office of Analysis and Epidemiology (OAE), Division of Vital Statistics (DVS), Linked Birth / Infant Death Records 2003-2005 on CDC WONDER On-line Database. <http://wonder.cdc.gov/lbd-current.html>. Accessed May 12, 2010.

⁶ U.S. Department of Health and Human Services. Healthy Pregnancy: Staying Healthy and Safe.

<http://www.womenshealth.gov/pregnancy/you-are-pregnant/staying-healthy-safe.cfm>. Last Updated March 5, 2009. Accessed May 25, 2010.

⁷ County of San Diego Health and Human Services Agency, Public Health Services. Community Health Statistics Unit. (2009). Critical Pathways: the Disease Continuum, Infant Mortality. April, 2009. <http://www.sdcounty.ca.gov/hhsa/programs/phs/documents/CHS-CriticalPathwaysofDisease7-3-09.pdf>. Accessed May 25, 2010.