Infant Mortality

DEFINITION

Infant mortality is the number of deaths of infants under one year of age per 1,000 live births. The data are reported by place of mother's residence, not place of infant's birth.

SIGNIFICANCE

Infant mortality rates are associated with maternal health, race and ethnicity, quality of and access to medical care, socioeconomic conditions, and public health practices and are highest in the South.[1,2]

In 2018, the five main causes of infant death in the U.S. – congenital malformations, low birthweight, maternal complications, sudden infant death syndrome (SIDS), and unintentional injuries – accounted for 56% of all infant deaths.[3] While infant mortality has declined nationally across all racial and ethnic groups, disparities remain. Nationally in 2018, the non-Hispanic Black infant mortality rate was 10.8 deaths per 1,000 births, the Native Hawaiian or other Pacific Islander rate was 9.4, American Indian/Alaska Native rate was 8.2, the Hispanic rate was 4.9, the non-Hispanic white rate was 4.6, and the Asian rate was 3.6.[4]

The U.S. infant mortality rate has declined from 26.0 deaths per 1,000 live births in 1960 to 5.6 deaths per 1,000 live births in 2019 due to improvements in nutrition, medical advances, improved access to care, economic growth, and safer sleep practices.[5,6,7] Relative to other industrialized countries, the U.S. has higher rates of infant mortality due in part to a relatively high number of preterm births that result in infant mortality.[8]

The overall infant mortality rate in Rhode Island between 2015 and 2019 was 5.4 deaths per 1,000 live births. The infant mortality rate was 7.4 per 1,000 live births in the four core cities, compared with 4.1 per 1,000 live births in the remainder of the state.[9] Mothers with a high school degree or less had a higher infant mortality rate (6.0 per 1,000 live births) than mothers with higher educational attainment (3.6 per 1,000 live births) between 2015 and 2019.[10]

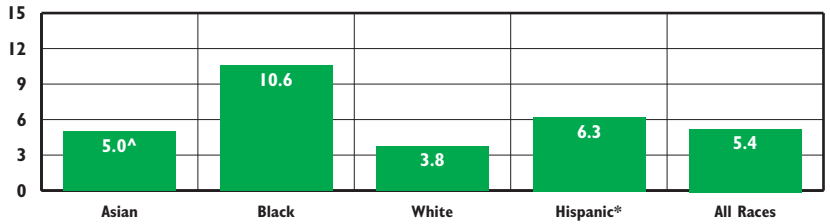
Infant Mortality Rate
(rate per 1,000 live births)

	2009	2019
RI	6.2	6.0
US	6.4	5.6
National Rank*		*30th*
New England Rank**		*5th*

**1st is best; 49th is worst*
***1st is best; 5th is worst*

Source: The Annie E. Casey Foundation, KIDS COUNT Data Center, datacenter.kidscount.org

Infant Mortality Rate per 1,000 Live Births by Race/Ethnicity, Rhode Island, 2015-2019



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2015-2019. ^The data are statistically unstable and should be interpreted with caution. *Hispanic infants can be of any race.

◆ **The Black infant mortality rate is the highest of any racial or ethnic group even after controlling for risk factors such as socioeconomic status and educational attainment. Structural racism as well as exposure to discrimination and racialized stress negatively impact birth outcomes for Black women and their babies.[11]**

◆ **In Rhode Island between 2015 and 2019, the Black infant mortality rate was 10.6 deaths per 1,000 live births, which is nearly three times the white infant mortality rate of 3.8 deaths per 1,000 live births.[12]**

◆ **Between 2015 and 2019, 288 infants died in Rhode Island before their first birthday, a rate of 5.4 per 1,000 live births. Between 2015 and 2019, 62% of infants who died were low birthweight (less than 2,500 grams) and 36% were born at normal weights.[13]**

◆ **Preterm birth is the leading cause of infant death in Rhode Island.[14] Between 2015 and 2019, 62% (178) of all infant deaths were preterm (born before the 37th week of pregnancy).[15]**

◆ **Of the 288 infant deaths between 2015 and 2019 in Rhode Island, 77% (221) occurred in the neonatal period (during the first 27 days of life).[16] Generally, infant deaths in the neonatal period are related to short gestation and low birthweight, malformations at birth, and/or conditions occurring in the perinatal period.[17] Between 2015 and 2019, 23% (67) of the 288 infant deaths in Rhode Island occurred in the post-neonatal period (between 28 days and one year after delivery).[18]**

Reducing Infant Mortality

◆ Comprehensive state initiatives to reduce infant mortality should improve access to critical services; improve the quality of care to pregnant women; address maternal and infant mental health; enhance supports for families before and after birth; and improve data collection and oversight.[19]

◆ Structural racism is at the root of disparities in maternal and infant mortality, resulting in dramatically higher rates of maternal and infant mortality among Black mothers and their babies. It is critical to acknowledge structural racism and work to identify and remove systemic barriers that keep Black mothers and their babies from receiving needed care. Strategies to reduce disparities in maternal and infant mortality include supporting Black women in navigating the health care system, increasing access to midwives and doulas, training providers to address racism with their patients, increasing diversity of the health care workforce, and dismantling barriers to maternal and infant mental health care.[20]

◆ Participation in evidence-based family home visiting programs has been shown to reduce the risk of infant death.[21,22] As of October 2020, there were 1,244 families enrolled in one of the evidence-based family home visiting programs coordinated by the Rhode Island Department of Health.[23]

Table 21. **Infant Mortality by City/Town, Rhode Island, 2015-2019**

CITY/TOWN	# OF BIRTHS	# OF INFANT DEATHS	RATE PER 1,000 LIVE BIRTHS
Barrington	558	0	0.0
Bristol	672	1	*
Burrillville	635	1	*
Central Falls	1,567	9	*
Charlestown	255	2	*
Coventry	1,521	6	*
Cranston	3,920	19	4.8
Cumberland	1,708	8	*
East Greenwich	529	3	*
East Providence	2,284	11	*
Exeter	244	0	0.0
Foster	180	0	0.0
Glocester	350	0	0.0
Hopkinton	332	5	*
Jamestown	126	0	0.0
Johnston	1,328	5	*
Lincoln	923	3	*
Little Compton	79	0	0.0
Middletown	815	7	*
Narragansett	273	1	*
New Shoreham	38	0	0.0
Newport	1,226	5	*
North Kingstown	1,106	1	*
North Providence	1,567	9	*
North Smithfield	457	2	*
Pawtucket	4,680	35	7.5
Portsmouth	664	4	*
Providence	12,184	94	7.7
Richmond	279	2	*
Scituate	432	5	*
Smithfield	713	1	*
South Kingstown	880	3	*
Tiverton	574	1	*
Warren	414	1	*
Warwick	3,785	16	4.2^
West Greenwich	229	0	0.0
West Warwick	1,645	5	*
Westerly	979	2	*
Woonsocket	2,765	18	6.5^
*Unknown***	*150*	*0*	*0.0*
Four Core Cities	*21,196*	*156*	*5.4*
Remainder of State	*31,870*	*129*	*7.4*
Rhode Island	*53,066*	*285*	*4.1*

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2015-2019.

The denominator is the total number of live births to residents between 2015 and 2019.

^ The data are statistically unstable and rates or percentages should be interpreted with caution.

* The data are statistically unreliable and rates are not reported and should not be calculated

** Unknown: Deaths were to Rhode Island residents, but specific city/town information was unavailable.

Core cities are Central Falls, Pawtucket, Providence, and Woonsocket.

References

[1] Federal Interagency Forum on Child and Family Statistics. (2019). *America's children: Key national indicators of well-being, 2019.* Washington, DC: U.S. Government Printing Office.

[2,4] Centers for Disease Control and Prevention. (n.d.). *Infant mortality.* Retrieved April 13, 2021, from www.cdc.gov

[3] Xu, J., Murphy, S. L., Kochanek, K. D., & Arias, E. (2020). Mortality in the United States, 2018. *NCHS Data Brief, 355*, 1-7.

[5] MacDorman, M. F. & Rosenberg, H. M. (1993). Trends in infant mortality by cause of death and other characteristics, 1960-88. *National Vital Statistics Reports, 20*(20), 1-51.

[6] The Annie E. Casey Foundation KIDS COUNT Data Center. (2019). *Infant mortality.* Retrieved April 13, 2021, from datacenter.kidscount.org

[7,8] *Child health USA 2014.* (2015). Rockville, MD: U.S. Department of Health and Human Services, Health Resources and Services Administration.

[9,10,12,13,15,16,18] Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2015-2019.

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