

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, quality of and access to medical care, socioeconomic conditions, and public health practices.¹ Communities with high poverty and disadvantaged social conditions tend to have higher infant mortality rates than more advantaged neighborhoods.²

The five main causes of infant death in the U.S. — congenital malformations, low birthweight, sudden infant death syndrome (SIDS), maternal complications, and unintentional injuries — account for 56% of all infant deaths with congenital malformations as the leading cause of infant deaths.³ While infant mortality has declined nationally across all racial and ethnic groups, disparities remain. Nationally in 2016, the non-Hispanic Black infant mortality rate was 11.4 deaths per 1,000 births, the American Indian/Alaska Native rate was 7.4, the Hispanic rate was 5.0, the non-Hispanic White rate was 4.9, and the Asian rate was 3.6.⁴

The U.S. infant mortality rate declined from 26.0 deaths per 1,000

live births in 1960 to 5.9 deaths per 1,000 live births in 2016 due to improvements in healthier behaviors, medical advances, improved access to care, and economic growth.^{5,6,7,8} 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.^{9,10}

The overall infant mortality rate in Rhode Island between 2013 and 2017 was 5.5 deaths per 1,000 live births. The infant mortality rate was 7.2 per 1,000 live births in the four core cities, compared with 4.4 per 1,000 live births in the remainder of the state. Mothers with a high school degree or less had a higher infant mortality rate (5.7 per 1,000 live births) than mothers with higher educational attainment (3.5 per 1,000 live births) between 2013 and 2017.¹¹

Infant Mortality Rate (rate per 1,000 live births)		
	2006	2016
RI	6.1	5.7
US	6.7	5.9
National Rank*		16th
New England Rank**		4th

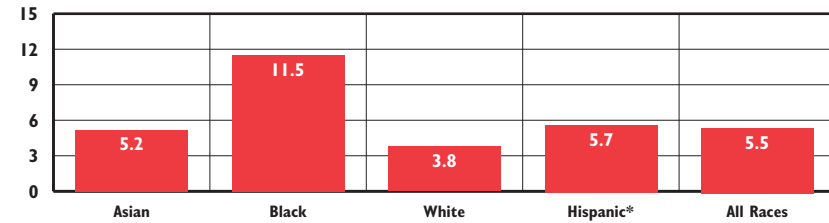
*1st is best; 49th is worst

**1st is best; 5th is worst

(Vermont did not meet NCHS reporting standards in 2016)

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, 2013-2017



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. *Hispanic infants can be of any race.

- ◆ In Rhode Island between 2013 and 2017, the Black infant mortality rate was 11.5 deaths per 1,000 live births, up from 9.9 deaths per 1,000 births between 2012 and 2016.¹²
- ◆ 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.¹³
- ◆ Between 2013 and 2017, 297 infants died in Rhode Island before their first birthday, a rate of 5.5 per 1,000 live births. This is a slight improvement from the 2012-2016 infant mortality rate of 5.6 per 1,000 live births (when there were 302 infant deaths). Between 2013 and 2017, 76% of infants who died were low birthweight (less than 2,500 grams) and 22% were born at normal weights.¹⁴
- ◆ Preterm birth is the leading cause of infant death in Rhode Island.¹⁵ Between 2013 and 2017, 75% (222) of all infant deaths were preterm (born before the 37th week of pregnancy).¹⁶
- ◆ Of the 297 infant deaths between 2013 and 2017 in Rhode Island, 76% (225) occurred in the neonatal period (during the first 27 days of life). Generally, infant deaths in the neonatal period are related to short gestation and low birthweight (less than 2,500 grams), malformations at birth, and/or conditions occurring in the perinatal period.^{17,18}
- ◆ Between 2013 and 2017, 24% (72) of the 297 infant deaths in Rhode Island occurred in the post-neonatal period (between 28 days and one year after delivery).¹⁹

Reducing Infant Mortality

◆ Comprehensive state initiatives to reduce infant mortality should include the following seven broad strategies: improve health promotion efforts; ensure quality of care for all women and infants; improve maternal risk screening for all women of reproductive age; enhance service integration for women and infants; improve access to health care of women before, during and after pregnancy; develop data systems to understand and inform efforts; and promote social equity.²⁰

◆ Infant mortality is a result of a variety of factors and interventions to prevent infant mortality should occur at multiple levels, including individual health education and counseling, ongoing evidence-based clinical interventions, long-lasting health protecting actions, creating health-promoting environments, and socioeconomic interventions to eliminate disparities.²¹

◆ Participation in enhanced prenatal and postnatal care programs, such as evidence-based family home visiting programs, have been shown to reduce the risk of infant death.²² As of October 2018, there were 1,278 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, 2013-2017

CITY/TOWN	# OF BIRTHS	# OF INFANT DEATHS	RATE PER 1,000 LIVE BIRTHS
Barrington	537	0	0.0
Bristol	713	0	0.0
Burrillville	660	1	*
Central Falls	1,606	8	*
Charlestown	239	2	*
Coventry	1,469	3	*
Cranston	3,912	17	4.3 [^]
Cumberland	1,717	9	*
East Greenwich	558	4	*
East Providence	2,331	14	6.0 [^]
Exeter	238	1	*
Foster	169	0	0.0
Glocester	333	0	0.0
Hopkinton	308	5	*
Jamestown	116	0	0.0
Johnston	1,328	8	*
Lincoln	997	6	*
Little Compton	83	0	0.0
Middletown	844	5	*
Narragansett	316	0	0.0
New Shoreham	57	6	*
Newport	1,303	0	0.0
North Kingstown	1,097	2	*
North Providence	1,627	8	*
North Smithfield	407	3	*
Pawtucket	4,848	39	8.0
Portsmouth	618	2	*
Providence	12,453	96	7.7
Richmond	280	4	*
Scituate	394	3	*
Smithfield	673	0	0.0
South Kingstown	817	1	*
Tiverton	597	0	0.0
Warren	455	0	0.0
Warwick	3,862	10	*
West Greenwich	230	3	*
West Warwick	1,720	0	0.0
Westerly	913	8	*
Woonsocket	2,925	14	4.8 [^]
Unknown	214	15	*
Four Core Cities	21,832	157	7.2
Remainder of State	32,132	140	4.4
Total	53,964	297	5.5

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017.

The denominator is the total number of live births to residents between 2013 and 2017.

[^] 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. (2017). *America's children: Key national indicators of well-being, 2017*. Washington, DC: U.S. Government Printing Office.
- ² Centers for Disease Control and Prevention. (2013). Infant deaths – United States, 2005-2008. *Morbidity and Mortality Weekly Report*, 62(Suppl 3), 171-174.
- ³⁷ Kochanek, K.D., Murphy, S.L., Xu, J., & Arias, E. (2017). Mortality in the United States, 2016. *NCHS Data Brief*, 293, 1-7.
- ⁴ Centers for Disease Control and Prevention. (2018). *Infant mortality*. Retrieved March 18, 2019, from www.cdc.gov
- 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, datacenter.kidscount.org
- ⁸¹⁰ *Child health USA 2014*. (2015). Rockville, MD: U.S. Department of Health and Human Services, Health Resources and Services Administration.
- ⁹ *Health at a glance 2017: OECD indicators*. (2018). Paris, FR: OECD Publishing.

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