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, socio-economic conditions, and public health practices.[1] Communities with multiple problems such as poverty, unemployment and low literacy levels tend to have higher infant mortality rates than more advantaged communities.[2]

The two chief causes of infant death are birthweights of less than 750 grams and prematurity.[3] Other leading causes of infant death include congenital abnormalities and malformations, Sudden Infant Death Syndrome (SIDS), maternal complications, and unintentional injuries.[4] Nationwide, approximately 20% of infant deaths are attributed to birth defects, compared with 14% in Rhode Island. The majority of birth defects affect the cardiovascular system.[5]

The U.S. infant mortality rate fell from 26.0 deaths per 1,000 live births in 1960 to 6.9 deaths per 1,000 live births in 2000, a decrease due to improvements in sanitary conditions, antibiotics, and health care access for low-income families. The U.S. has higher infant mortality rates than other industrialized countries, due in large part to disparities among various racial and ethnic groups, particularly for African Americans.[6] Between 1990 and 2007, the infant mortality rate among African Americans remained at more than twice the national average.[7]

Risk factors for infant mortality include delayed or no prenatal care, smoking during pregnancy, pregnancies involving more than one fetus, maternal age over 40 or under 20 at the time of birth, having low education levels, and being unmarried.[8]

The overall infant mortality rate in Rhode Island between 2004 and 2008 was 6.2 deaths per 1,000 live births. The infant mortality rate was 55% higher in the core cities than in the remainder of the state.[9]

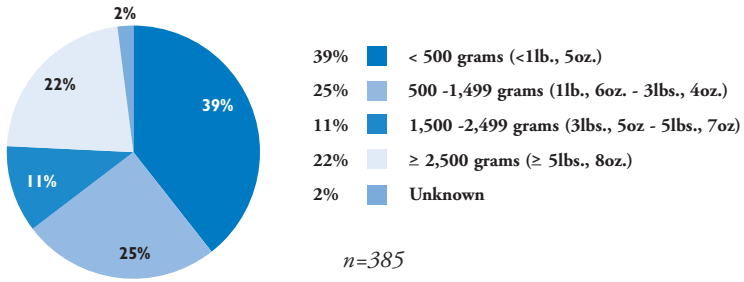
Infant Mortality Rate
(rate per 1,000 live births)

	2000	2006
RI	6.3	6.1
US	6.9	6.7
National Rank*		*17th*
New England Rank**		*3rd*

**1st is best; 50th is worst*
***1st is best; 6th is worst*

Source: *2009 KIDS COUNT data book: State profiles in child well-being 2009.* (2009). Baltimore, MD: The Annie E. Casey Foundation.

Infant Mortality by Birthweight, Rhode Island, 2004-2008



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2004-2008. Data for births in 2007 and 2008 are provisional. Data for deaths in 2008 are provisional. Percentages may not sum to 100% due to rounding.

◆ **Between 2004 and 2008, 385 infants died in Rhode Island before their first birthday. Seventy-six percent of infants who died during this time period were low birthweight, 22% were born at normal weights and 2% had unknown birthweights.[10]**

◆ **Of the 385 infant deaths between 2004 and 2008 in Rhode Island, 295 (77%) occurred in the neonatal period (during the first 27 days of life).[11] Neonatal mortality is generally related to short gestation and low birthweight (less than 2,500 grams), malformations at birth and/or conditions occurring in the perinatal period.[12]**

◆ **Between 2004 and 2008, 90 (23%) of the 385 infant deaths in Rhode Island occurred in the post-neonatal period (between 28 days and one year after delivery).[13] Nationally, most of the progress in reducing the rate of infant mortality has resulted from improving outcomes during the post-neonatal period.[14]**

◆ **In Rhode Island between 2004 and 2008, the Black infant mortality rate was 12.1 deaths per 1,000 live births, the Asian infant mortality rate was 6.2 per 1,000 live births and the Native American infant mortality rate was 9.3 per 1,000 live births. All minority groups had infant mortality rates greater than the rate for White infants (5.4 per 1,000 births). The Hispanic infant mortality rate was 8.2 per 1,000 live births compared with 7.1 deaths per 1,000 live births among non-Hispanics in Rhode Island.*[15]**

◆ **Preterm births are a major determinant of infant mortality in the U.S. In Rhode Island between 2004 and 2008 there were 7,418 preterm births (11.9% of all births).[16]**

Table 21.

Infant Mortality Rate, Rhode Island, 2004-2008

CITY/TOWN	# OF BIRTHS	# OF INFANT DEATHS	RATE PER 1,000 BIRTHS
Barrington	667	2	3.0
Bristol	921	2	2.2
Burrillville	754	1	1.3
Central Falls	2,021	17	8.4
Charlestown	370	0	NA
Coventry	1,683	9	5.3
Cranston	4,325	27	6.2
Cumberland	1,784	4	2.2
East Greenwich	517	4	7.7
East Providence	2,606	17	6.5
Exeter	261	4	NA
Foster	233	1	NA
Glocester	398	1	NA
Hopkinton	458	0	NA
Jamestown	187	0	NA
Johnston	1,390	5	3.6
Lincoln	909	4	4.4
Little Compton	141	0	NA
Middletown	984	4	4.1
Narragansett	492	2	NA
New Shoreham	49	1	NA
Newport	1,516	6	4.0
North Kingstown	1,272	9	7.1
North Providence	1,615	7	4.3
North Smithfield	439	5	NA
Pawtucket	5,668	38	6.7
Portsmouth	810	3	3.7
Providence	14,774	137	9.3
Richmond	460	4	NA
Scituate	417	1	NA
Smithfield	730	2	2.7
South Kingstown	1,161	6	5.2
Tiverton	625	1	1.6
Warren	527	0	0.0
Warwick	4,193	25	6.0
West Greenwich	245	1	NA
West Warwick	1,989	8	4.0
Westerly	1,340	10	7.5
Woonsocket	3,304	17	5.1
Unknown	*5*	*NA*	*NA*
Core Cities	*29,272*	*223*	*7.6*
Remainder of State	*32,963*	*162*	*4.9*
Rhode Island	*62,240*	*385*	*6.2*

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2004-2008. Data for births in 2007 and 2008 are provisional. Data for deaths in 2008 are provisional.

Core cities are Central Falls, Newport, Pawtucket, Providence, West Warwick and Woonsocket.

NA: Rates were not calculated for cities and towns with less than 500 births, as rates with small denominators are statistically unreliable.

The denominator is the total number of live births to residents between 2004 and 2008.

References

[1] Federal Interagency Forum on Child and Family Statistics. (2009). *America's children: Key national indicators of well-being 2009.* Washington, DC: Government Printing Office.

[2] *KIDS COUNT data book: State profiles of child well-being 2004.* (2004). Baltimore, MD: The Annie E. Casey Foundation.

[3,14] Shore, R. (2005). *KIDS COUNT indicator brief: Reducing infant mortality.* Baltimore, MD: The Annie E. Casey Foundation.

[4,8] Matthews, T. & MacDorman, M. (2007). Infant mortality statistics from the 2004 period linked birth/infant death data set. *National Vital Statistics Reports, 55*(14). Hyattsville, MD: Centers for Disease Control and Prevention.

[5] Rhode Island Birth Defects Program. (2008). *Birth defects data book 2008.* Providence, RI: Rhode Island Department of Health.

[6] Shore, R. & Shore, B. (2009). *KIDS COUNT indicator brief: Reducing infant mortality.* Baltimore, MD: The Annie E. Casey Foundation.

[7,12] Maternal and Child Health Bureau. (2009). *Child health USA 2008-2009 data book.* Rockville, MD: U.S. Department of Health and Human Services.

[9,10,11,13,15,16] Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2004-2008. Data for 2004-2008 are provisional.