

Low Birthweight Infants

DEFINITION

Low birthweight infants is the percentage of infants born weighing less than 2,500 grams (5 pounds, 8 ounces). The data are reported by place of mother's residence, not place of infant's birth.

SIGNIFICANCE

An infant's birthweight is a key indicator of newborn health. Infants born weighing less than 5 pounds, 8 ounces are at greater risk for physical and developmental problems than infants of normal weights. Factors that influence infant birthweight include maternal smoking, poverty, level of educational attainment, infections, violence, stress, prenatal nutrition, and environmental hazards.^{1,2,3}

Low birthweight is often a result of a premature birth but can also occur after a full-term pregnancy. Fetal growth restriction results in low birthweight babies, and may be caused by infection, birth defects, or simply because the baby's parents are small.⁴

Cigarette smoking during pregnancy is a leading cause of low birthweight.^{5,6} In Rhode Island, 6.5% of births between 2014 and 2018 were to mothers who smoked during their pregnancy. During that time, Rhode Island smokers (13.3%) were nearly twice as likely to deliver a low birthweight infant compared to women who did not smoke (7.1%).⁷

Children born at low birthweight are

at a greater risk of physical and developmental problems and death than those born at a normal birthweight. Children born at very low birthweight (less than 1,500 grams or 3.3 pounds) are more than 100 times more likely to die within the first year of life than infants of normal birthweight. Those who survive are at higher risk of long-term health issues, including heart disease, diabetes, obesity, and intellectual and developmental disabilities. Low birthweight babies are also at greater risk for long-term learning difficulties and mental health problems than their peers.^{8,9,10}

In the U.S. in 2018, 8.3% of infants were born at low birthweight, which was a slight increase from 8.2% in 2008. In Rhode Island in 2018, 7.6% of Rhode Island's infants were born at low birthweight, which was a slight decrease from 7.9% in 2008.^{11,12} The *Healthy People 2020* national target is 7.8%.¹³

Low Birthweight Infants		
	2008	2018
RI	7.9%	7.6%
US	8.2%	8.3%
National Rank*		15th
New England Rank**		4th

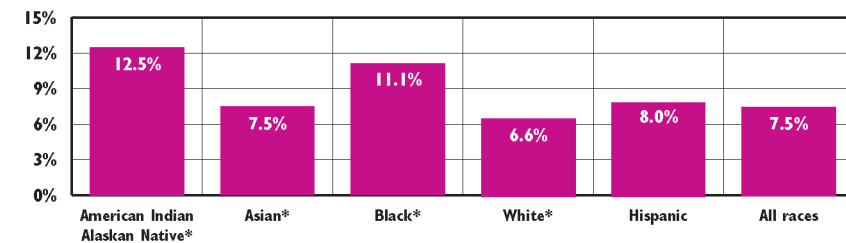
*1st is best; 50th is worst

**1st is best; 6th is worst

Source: For 2008: Martin, J. A., et al. (2010). Births: Final data for 2008. *National Vital Statistics Reports*, 59(1), 1-70. For 2018: Martin, J. A., Hamilton, B. E., Osterman, M. J. K., Driscoll, A. K., & Drake, P. (2019). Births: Final data for 2018. *National Vital Statistics Reports*, 68(13), 1-47.



Low Birthweight Infants by Race/Ethnicity, Rhode Island, 2014-2018*



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2014-2018. * Race categories are non-Hispanic. Data for births in 2018 are provisional.

- ◆ There are racial and ethnic disparities in rates of low birthweight.¹⁴ In Rhode Island between 2014 and 2018, 12.5% of American Indian and Alaskan Native infants, 11.1% of Black infants, 8.0% of Hispanic infants, and 7.5% of Asian infants were born at low birthweight, compared to 6.6% of White infants.¹⁵
- ◆ Factors that persist throughout a woman's life, such as increased stress, income inequality, insufficient health care, toxic environmental exposures, lack of safe and affordable housing, and/or discrimination, have been shown to increase the likelihood of delivering a low birthweight baby, among women of color.^{16,17}
- ◆ Between 2014 and 2018 in Rhode Island, 9.8% of births among women under age 20 were low birthweight compared to 7.4% of those over age 20; 8.7% of infants born to women living in the four core cities were low birthweight compared to 6.7% in the remainder of the state; and 8.6% of infants born to women with a high school degree or less were low birthweight, compared to 6.7% of those born to women with higher education levels.¹⁸
- ◆ Rhode Island women who deliver a low birthweight infant are more likely to report smoking while pregnant, feeling unsafe in their neighborhood, delayed or no prenatal care, a depression diagnosis, and intimate partner violence as well as health issues during their pregnancy such as high blood pressure or hypertension than those with a normal weight baby.^{19,20}
- ◆ Between 2014 and 2018 in Rhode Island, 1.4% of all live births were born at very low birthweight (less than 1,500 grams or 3.3 pounds).²¹

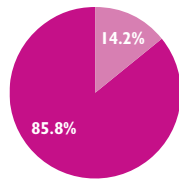
Table 20. Low Birthweight Infants, Rhode Island, 2014-2018

CITY/TOWN	# BIRTHS	# LOW BIRTHWEIGHT	% LOW BIRTHWEIGHT
Barrington	551	31	5.6
Bristol	681	34	5.0
Burrillville	660	40	6.1
Central Falls	1,598	137	8.6
Charlestown	257	18	7.0 ^A
Coventry	1,485	96	6.5
Cranston	3,889	270	6.9
Cumberland	1,783	113	6.3
East Greenwich	520	32	6.2
East Providence	2,301	167	7.3
Exeter	242	16	6.6 ^A
Foster	176	12	6.8 ^A
Glocester	347	18	5.2 ^A
Hopkinton	282	17	6.0 ^A
Jamestown	119	4	*
Johnston	1,297	97	7.5
Lincoln	966	57	5.9
Little Compton	82	5	*
Middletown	850	56	6.6
Narragansett	286	22	7.7 ^A
New Shoreham	42	5	*
Newport	1,247	95	7.6
North Kingstown	1,113	87	7.8
North Providence	1,601	148	9.2
North Smithfield	404	27	6.7
Pawtucket	4,809	405	8.4
Portsmouth	654	39	6.0
Providence	12,406	1,093	8.8
Richmond	281	18	6.4 ^A
Scituate	410	22	5.4 ^A
Smithfield	691	34	4.9
South Kingstown	792	42	5.3
Tiverton	598	46	7.7
Warren	444	27	6.1
Warwick	3,814	244	6.4
West Greenwich	235	10	*
West Warwick	1,710	114	6.7
Westerly	922	65	7.0
Woonsocket	2,808	256	9.1
Unknown	318	21	6.6 ^A
Four Core Cities	21,621	1,891	8.7
Remainder of State	32,050	2,149	6.7
Rhode Island	53,671	4,040	7.5

Low Birthweight by Mother's Insurance Type, Rhode Island, 2014-2018

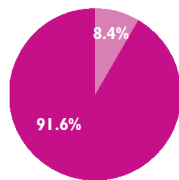
Uninsured

14.2% Low Birthweight
85.8% Normal Birthweight



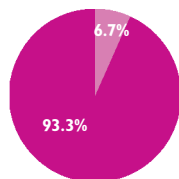
Public Insurance (Rite Care)

8.4% Low Birthweight
91.6% Normal Birthweight



Private Insurance

6.7% Low Birthweight
93.3% Normal Birthweight



Source: Rhode Island Department of Health, Center for Health Data and Analysis. Maternal and Child Health Database, 2014-2018. Data for births in 2017 are provisional.

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2014-2018. Data for births in 2018 are provisional. 2014 birth data do not include births among Rhode Island residents that occurred out-of-state.

The denominator is the total number of live births to Rhode Island residents between 2014 and 2018.

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

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

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

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

References

- ¹⁵ 2019 KIDS COUNT data book: State trends in child well-being. (2019). Baltimore, MD: The Annie E. Casey Foundation.
- ^{24,10} March of Dimes. (2018). *Low birthweight*. Retrieved February 24, 2020, from www.marchofdimes.org
- ³ Gage, T. B., Fang, F., O'Neill, E., & DiRienzo, G. (2013). Maternal education, birth weight, and infant mortality in the United States. *Demography* 50(2), 615-635.
- ⁶ Centers for Disease Control and Prevention. (2017). *Tobacco use and pregnancy*. Retrieved February 24, 2020, from www.cdc.gov
- ^{7,15,18,19,21} Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2014-2018.
- ⁸ American Psychological Association. (2017). *Low birth weight babies at higher risk for mental health problems later in life*. [Press release]. Retrieved from www.apa.org
- ⁹ Ely, D. M. & Driscoll, A. K. (2019). Infant mortality in the United States, 2017: Data from the period linked birth/infant death file. *National Vital Statistics Reports*, 68(10), 1-19.

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