

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, exposure to 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 between 2016 and 2020, 5.5% of births were to mothers who smoked during their pregnancy. During that time, Rhode Island smokers (13.7%) were more likely to deliver a low birthweight infant compared to women who did not smoke (7.3%).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 issues than their peers.^{8,9,10}

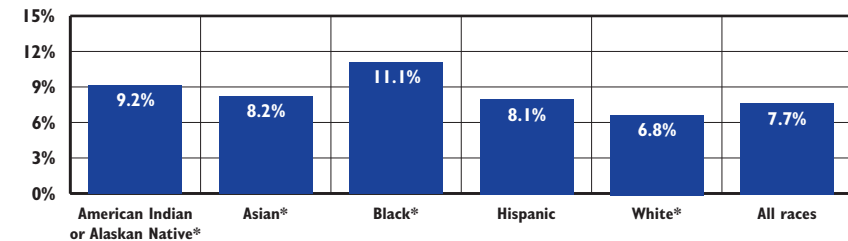
In the U.S. in 2020, 8.2% of infants were born at low birthweight, which is a slight increase from 8.1% in 2010. In Rhode Island in 2020, 7.7% of Rhode Island's infants were born at low birthweight, which is the same as in 2010.^{11,12} The *Healthy People 2020* national target was 7.8%, which was not met.¹³

Low Birthweight Infants		
	2010	2020
RI	7.7%	7.7%
US	8.1%	8.2%
National Rank*		17th
New England Rank**		5th

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

Source: For 2010: Martin, J. A., et al. (2012). Births: Final data for 2010. *National Vital Statistics Reports*, 61(1), 1-70. For 2020: Martin, J. A., Hamilton, B. E., Osterman, M. J. K., Driscoll, A. K., & Drake, P. (2022). Births: Final data for 2020. *National Vital Statistics Reports*, 70(17), 1-43.

Low Birthweight Infants by Race/Ethnicity, Rhode Island, 2016-2020*



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2016-2020. * Race categories are non-Hispanic.

◆ There are racial and ethnic disparities in rates of low birthweight.¹⁴ In Rhode Island between 2016 and 2020, 9.2% of American Indian and Alaskan Native infants, 8.2% of Asian infants, 11.1% of Black infants, and 8.1% of Hispanic infants, were born at low birthweight, compared to 6.8% of white infants.¹⁵

◆ Factors that persist throughout Women of Color's lives, 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.^{16,17}

◆ Between 2016 and 2020 in Rhode Island, 9.1% of births among women under age 20 were low birthweight compared to 7.5% of those over age 20; 8.8% of infants born to women living in the four core cities were low birthweight compared to 6.9% in the remainder of the state; and 8.8% of infants born to women with a high school degree or less were low birthweight, compared to 6.9% 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 domestic 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 2016 and 2020 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

Low Birthweight Infants

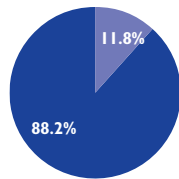
Table 20. Low Birthweight Infants, Rhode Island, 2016-2020

CITY/TOWN	# BIRTHS	# LOW BIRTHWEIGHT	% LOW BIRTHWEIGHT
Barrington	549	36	6.6
Bristol	681	44	6.5
Burrillville	631	38	6.0
Central Falls	1,561	132	8.5
Charlestown	267	22	8.2 [^]
Coventry	1,488	92	6.2
Cranston	3,840	287	7.5
Cumberland	1,713	106	6.2
East Greenwich	543	34	6.3
East Providence	2,256	159	7.0
Exeter	243	14	5.8 [^]
Foster	185	14	7.6 [^]
Glocester	344	19	5.5 [^]
Hopkinton	330	19	5.8 [^]
Jamestown	124	8	*
Johnston	1,309	104	7.9
Lincoln	898	58	6.5
Little Compton	76	2	*
Middletown	794	63	7.9
Narragansett	265	23	8.7
New Shoreham	34	3	*
Newport	1,174	89	7.6
North Kingstown	1,085	69	6.4
North Providence	1,540	131	8.5
North Smithfield	471	31	6.6
Pawtucket	4,594	416	9.1
Portsmouth	660	36	5.5
Providence	11,983	1,053	8.8
Richmond	295	18	6.1 [^]
Scituate	430	26	6.0
Smithfield	726	40	5.5
South Kingstown	849	54	6.4
Tiverton	563	42	7.5
Warren	398	24	6.0
Warwick	3,627	244	6.7
West Greenwich	227	18	7.9 [^]
West Warwick	1,575	119	7.6
Westerly	949	67	7.1
Woonsocket	2,734	233	8.5
Unknown	157	10	*
Four Core Cities	20,872	1,834	8.8
Remainder of State	31,139	2,153	6.9
Rhode Island	52,168	3,997	7.7

Low Birthweight by Mother's Insurance Type, Rhode Island, 2016-2020

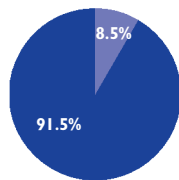
Uninsured

11.8% Low Birthweight
88.2% Normal Birthweight



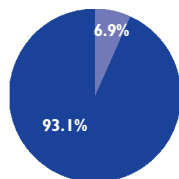
Public Insurance (Rite Care)

8.5% Low Birthweight
91.5% Normal Birthweight



Private Insurance

6.9% Low Birthweight
93.1% Normal Birthweight



Source: Rhode Island Department of Health, Center for Health Data and Analysis. Maternal and Child Health Database, 2016-2020. Data for births in 2020 are provisional.

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2016-2020.

The denominator is the total number of live births to Rhode Island residents between 2016 and 2020.

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

[^]The 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

- ¹ 2021 KIDS COUNT data book: State trends in child well-being. (2021). Baltimore, MD: The Annie E. Casey Foundation.
- ^{2,4,10} March of Dimes. (2021). *Low birthweight*. Retrieved April 6, 2022, from 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.
- ⁵ Healthy Children (2019). *Where we stand: Smoking during pregnancy*. Retrieved April 6, 2022, from www.healthychildren.org
- ⁶ Centers for Disease Control and Prevention. (2020). *Tobacco use and pregnancy*. Retrieved February 25, 2022, from cdc.gov
- ^{7,15,18,19,21} Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2016-2020.
- ⁸ American Psychological Association. (2017). *Low birth weight babies at higher risk for mental health problems later in life*. [Press release]. Retrieved February 25, 2022, from www.apa.org
- ⁹ Ely, D. M. & Driscoll, A. K. (2021). Infant mortality in the United States, 2019: Data from the period linked birth/infant death file. *National Vital Statistics Reports*, 70(14), 1-12.

(continued on page 182)