

Preterm Births

DEFINITION

Preterm births is the percentage of births occurring before the 37th week of pregnancy. The data are reported by place of mother's residence, not place of infant's birth.

SIGNIFICANCE

Preterm birth is a major determinant of infant mortality and morbidity and is the leading cause of death among newborns during the first month of life in the U.S.^{1,2} Infants born before 37 weeks gestation are at higher risk than infants born full-term for neurodevelopmental, respiratory, gastrointestinal, immune system, central nervous system, hearing and vision problems.^{3,4} Infants born preterm have longer hospital stays than full-term infants. Nationally, newborns with no complications stay an average of 1.5 days in the hospital, compared with an average of 13 days for preterm infants.⁵ Children who were born preterm also experience learning difficulties, lower cognitive test scores and more behavioral problems later in life.⁶ Infants born very preterm (<32 weeks gestation) are at higher risk for death and life-long disability than other infants.⁷

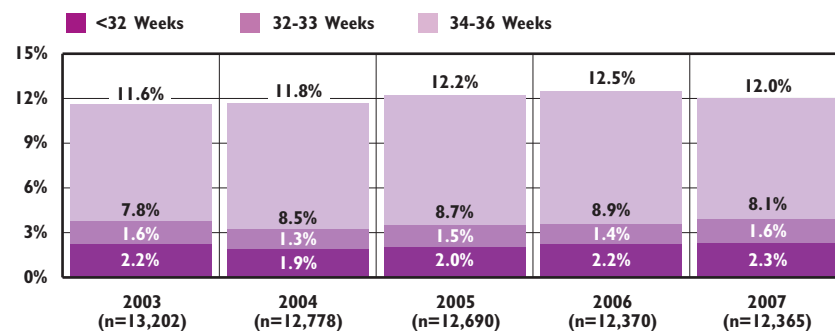
While the specific causes of spontaneous preterm births are largely unknown, research indicates that there are a number of inter-related risk factors

involved. The three leading risk factors are a history of preterm birth, current multifetal pregnancy, and uterine and/or cervical abnormalities. Other risk factors include infections, diabetes, hypertension, late or no prenatal care, and maternal use of tobacco, alcohol and other drugs.⁸ The rate of preterm births for Rhode Island women who smoke is higher than for those who do not. Between 2003 and 2007, 14.9% of births to smokers were preterm, compared with 11.4% of births to women who did not smoke during pregnancy.⁹

The overall rate of preterm births has been increasing in the U.S. for over a decade, rising 20% since 1990.¹⁰ While preterm birth occurs in all racial and ethnic groups, nationally the rate is highest for non-Hispanic blacks.^{11,12} Low-income women also are at greater risk for pre-term births than higher-income women.¹³

Multiple birth infants are more likely to be born preterm than singletons. In Rhode Island between 2003 and 2007, 57.0% of multiple births were preterm, compared with 10.1% of singleton births.¹⁴ The rise in the preterm birth rate in the U.S. has been influenced by an increase in the number of multiple births (which tend to be born earlier than singletons), yet preterm births also have been rising among singletons.^{15,16}

Preterm Births by Gestational Age, Rhode Island, 2003-2007



Source: Rhode Island Department of Health, Division of Family Health, 2003-2007. Percentages by gestational age may not sum to total preterm births percentage due to rounding.

◆ In 2007, the preterm birth rate in Rhode Island was 12.0%, compared with 12.8% in the U.S.^{17,18} Most of the increase in preterm births in the U.S. over the past decade was due to increases in late preterm births (34-36 weeks gestation).¹⁹ Approximately 2% of births in the U.S. and Rhode Island were very preterm (<32 weeks gestation).^{20,21} The percentage of infants born preterm in Rhode Island has increased from 11.6% in 2003 to 12.0% in 2007.²²

◆ More than one in seven (14.8%) of births among Black infants in Rhode Island from 2003-2007 were preterm, compared with 13.8% of Asian, 17.2% of Native American, and 11.5% of White births. During this period, 13.3% of births to Hispanic women were preterm (Hispanic women can be of any race).²³

◆ Women under age 20 and over age 35 have the highest preterm birth rates in Rhode Island. The rate of preterm births among women under age 20 between 2003 and 2007 was 13.6%. The preterm birth rate was 22.6% for 12-14 year olds, 15.1% for 15-17 year olds and 12.7% for 18-19 year olds. The preterm birth rate for women over age 35 was 13.5% during this period.²⁴

◆ Among women with private health insurance coverage in Rhode Island between 2003 and 2007, 11.2% of all births were premature, compared with 12.8% of those with public insurance (RItE Care or Medicaid) and 21.4% of those with no health insurance.²⁵

Table 17.

Preterm Births, Rhode Island, 2003-2007

City/Town	# Births	# Preterm Births	% Preterm Births
Barrington	725	73	10.1%
Bristol	967	86	8.9%
Burrillville	776	76	9.8%
Central Falls	2,027	236	11.6%
Charlestown	387	36	NA
Coventry	1,775	223	12.6%
Cranston	4,407	530	12.0%
Cumberland	1,826	202	11.1%
East Greenwich	522	47	9.0%
East Providence	2,638	327	12.4%
Exeter	281	32	NA
Foster	228	27	NA
Glocester	410	51	NA
Hopkinton	467	63	NA
Jamestown	206	17	NA
Johnston	1,395	153	11.0%
Lincoln	935	102	10.9%
Little Compton	143	22	NA
Middletown	1,005	90	9.0%
Narragansett	547	62	11.3%
New Shoreham	52	5	NA
Newport	1,540	178	11.6%
North Kingstown	1,319	135	10.2%
North Providence	1,650	198	12.0%
North Smithfield	470	52	NA
Pawtucket	5,715	691	12.1%
Portsmouth	855	70	8.2%
Providence	14,869	2,060	13.9%
Richmond	483	51	NA
Scituate	446	48	NA
Smithfield	746	82	11.0%
South Kingstown	1,214	117	9.6%
Tiverton	660	71	10.8%
Warren	546	59	10.8%
Warwick	4,273	504	11.8%
West Greenwich	256	22	NA
West Warwick	2,019	218	10.8%
Westerly	1,322	142	10.7%
Woonsocket	3,301	451	13.7%
Unknown	2	1	NA
Core Cities	29,471	3,834	13.0%
Remainder Of State	33,932	3,753	11.1%
Rhode Island	63,405	7,588	12.0%

Source of Data for Table/Methodology

Rhode Island Department of Health, Division of Family Health, Maternal and Child Health Database, 2003-2007. Data for 2007 are provisional.

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

NA: Percentages were not calculated for cities and towns with fewer than 500 births, because percentages with small denominators are statistically unreliable.

Preterm births are defined as live births that occurred before the 37th week of pregnancy.

The denominator is the total number of live births to Rhode Island residents between 2003 and 2007.

References

- ^{1,3,20} Green, N. S., Damus, K., Simpson, J. L., Iams, J., Reece, E. A., Hobel, C. J., et al. (2005). Research agenda for preterm birth: Recommendations from the March of Dimes. *American Journal of Obstetrics and Gynecology*, 193, 626-635.
- ² Callaghan, W. M., MacDorman, M. F., Rasmussen, S. A., Qin, C., & Lackritz, E. M. (2006). The contribution of preterm birth to infant mortality rates in the United States. *Pediatrics*, 118(4), 1566-1573.
- ^{4,7} *Preterm birth: Causes, consequences, and prevention.* (2006). Washington, DC: National Academy of Sciences, Institute of Medicine.
- ^{5,13} Berhman, R. E. & Butler, A. S. (Eds.) (2006). *Preterm birth: Causes, consequences and prevention.* Washington, DC: The National Academies Press.
- ⁶ Bhutta, A. T., Cleves, M. A., Casey, P. H., Cradock, M. M., & Anand, K. J. S. (August 2002). Cognitive and behavioral outcomes of school-aged children who were born preterm: A meta-analysis. *Journal of the American Medical Association*, 288(6), 728-737.
- ⁸ *Born too soon and too small in Rhode Island.* (2008). White Plains, NY: March of Dimes Foundation.
- ^{9,14,17,21,22,23,24,25} Rhode Island Department of Health, Division of Family Health, Maternal and Child Health Database, 1996-2007.
- ^{10,12,16,18} Martin, J. A., Hamilton, B. E., Sutton, P. D., Ventura, S. J., Menacker, F., Kirmeyer, S., & Mathews, T. J. (2009). Births: Final data for 2006. *National vital statistics reports*, 57(7). Hyattsville, MD: National Center for Health Statistics.
- ¹¹ *Racial and ethnic disparities in prematurity: Data and trends-Medical perspectives on prematurity.* (2007). White Plains, NY: March of Dimes Foundation.
- ¹⁵ *The growing problem of prematurity.* (2006). White Plains, NY: March of Dimes Foundation.
- ¹⁹ *Late preterm birth: Every week matters-Medical perspectives on prematurity.* (2006). White Plains, NY: March of Dimes Foundation.