

Health

Children's Health Insurance

DEFINITION

Children's health insurance is the percentage of children under age 19 who were covered by any kind of private or public health insurance, including Medicaid.

SIGNIFICANCE

Children who have health insurance coverage are healthier and have fewer preventable hospitalizations than those who are uninsured.¹ Medicaid and the Children's Health Insurance Program (CHIP) provide health insurance and access to health care for low-income children.² Medicaid's Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) benefit entitles children to all age-specific pediatrician-recommended services to grow and thrive.³ Children insured through Medicaid and CHIP are more likely to receive primary and preventive medical and dental care, have access to specialists, and have fewer unmet health needs than uninsured children. Evidence indicates that CHIP has reduced racial/ethnic disparities in access and utilization, improved educational outcomes, and shielded children from poverty.^{4,5,6}

Children are more likely to be insured if their parents also have health insurance (especially continuous coverage).⁷ RIte Care, Rhode Island's Medicaid/CHIP managed care health

insurance program, is available to children and families who qualify based on family income. RIte Care also serves as the health care delivery system for specific groups of children who qualify for Medical Assistance based on a disability or because they are in foster care or receiving an adoption subsidy. RIte Share is Rhode Island's premium assistance program that helps income-qualifying families afford an employer's health insurance plan.⁸

On December 31, 2018, 73% of RIte Care members who qualified based on family income and 72% of RIte Share enrollees were children under age 19.⁹

Rhode Island children who are older than age five, living in urban communities, or are Native American, Asian, or Hispanic are the most likely to be uninsured. In 2017, an estimated 2.1% of Rhode Island children were uninsured.^{10,11,12,13}

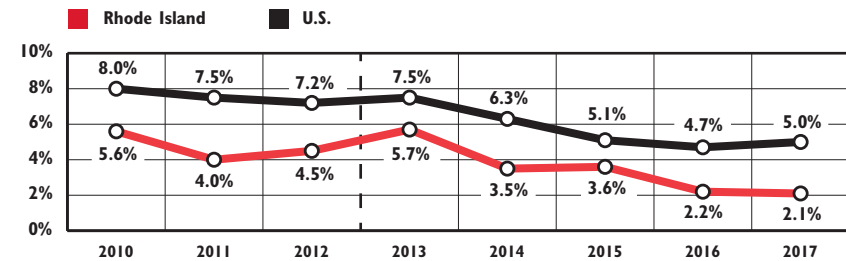
Children Without Health Insurance		
	2013	2017
RI	5.7%	2.1%
US	7.5%	5.0%
National Rank*		3rd
New England Rank**		3rd

*1st is best; 50th is worst

**1st is best; 6th is worst

Source: For 2017: U.S. Census Bureau, American Community Survey, 2017. Table R2702. For 2013: U.S. Census Bureau, American Community Survey, 2013. Table CP03.

Children Without Health Insurance, Rhode Island and U.S., 2010-2017



Source: U.S. Census Bureau, American Community Survey, 2012 & 2017. Table CP03. Data from 2010 to 2012 are for children under 18 years of age and data from 2013 to 2017 are for children under 19 years of age due to a change in the 2017 American Community Survey. Prior Factbooks are not comparable.

- ◆ In 2017, 2.1% of Rhode Island's children under age 19 were uninsured. Rhode Island ranks third best state in the U.S., with 97.9% of children covered. In 2017, 59% of Rhode Island children under age 19 are covered by private health insurance, most of which is obtained through their parents' employers.^{14,15}
- ◆ Younger children are more likely to live in low-income families compared to older children and therefore are more likely to meet the income-eligibility threshold for RIte Care, which is 261% of the federal poverty level. Approximately 60% of children under the age of three were enrolled in RIte Care/medical assistance in 2017.^{16,17,18}
- ◆ Approximately 70% (4,713) of the estimated 6,725 uninsured children under age 18 in Rhode Island between 2013 and 2017 were eligible for RIte Care coverage based on their family incomes but were not enrolled. An estimated 2,012 uninsured children lived in families with incomes above the income limit for RIte Care eligibility and 64% (1,279) of them may have been eligible for financial assistance through HealthSource RI based on income.¹⁹
- ◆ As of December 31, 2018, 3,826 children and 1,504 adults (5,330 total) were enrolled in RIte Share, a 26% decrease since 2017.²⁰
- ◆ Families can enroll in health coverage through HealthSource RI, Rhode Island's health insurance marketplace under the federal *Affordable Care Act*. As of October 2018, 1,749 children were enrolled in private health coverage through HealthSource RI, 52% of whom received financial assistance through a premium tax credit or a cost sharing reduction.²¹

Children's Health Insurance

Table 15. Children Under Age 19 Receiving Medical Assistance, Rhode Island, December 31, 2018

CITY/TOWN	RITE CARE	SSI	KATIE BECKETT PROVISION	ADOPTION SUBSIDY	FOSTER CARE	TOTAL
Barrington	536	11	36	27	11	621
Bristol	1053	30	18	44	22	1,167
Burrillville	1216	35	21	86	22	1,380
Central Falls	5355	274	4	46	56	5,735
Charlestown	418	13	8	15	15	469
Coventry	2263	81	48	149	74	2,615
Cranston	6793	197	75	204	139	7,408
Cumberland	1907	85	48	75	28	2,143
East Greenwich	546	18	33	35	16	648
East Providence	4066	157	35	114	92	4,464
Exeter	289	6	5	22	6	328
Foster	323	4	7	16	7	357
Glocester	468	18	6	56	30	578
Hopkinton	411	9	5	25	10	460
Jamestown	131	8	9	4	6	158
Johnston	2536	87	43	69	44	2,779
Lincoln	1503	52	24	58	39	1,676
Little Compton	164	1	3	2	2	172
Middletown	1086	36	16	35	15	1,188
Narragansett	460	14	8	24	21	527
New Shoreham	67	0	2		0	69
Newport	2206	111	4	45	57	2,423
North Kingstown	1600	49	30	65	47	1,791
North Providence	1435	56	10	35	42	1,578
North Smithfield	604	20	13	47	20	704
Pawtucket	12287	499	30	172	175	13,163
Portsmouth	752	24	17	48	27	868
Providence	38152	1766	78	488	845	41,329
Richmond	413	11	12	27	13	476
Scituate	322	5	11	22	11	371
Smithfield	753	19	27	50	21	870
South Kingstown	1388	50	34	61	30	1,563
Tiverton	978	25	13	25	23	1,064
Warren	865	32	10	36	33	976
Warwick	5474	196	91	237	144	6,142
West Greenwich	248	3	12	18	9	290
West Warwick	3349	150	18	96	62	3,675
Westerly	1920	63	24	54	41	2,102
Woonsocket	7745	514	27	143	159	8,588
Four Core Cities	5,355	3053	139	849	1,235	68,815
Remainder of State	106,727	1676	776	1926	1,179	54,100
Rhode Island	112,082	4729	915	2775	2,414	122,915

Source of Data for Table/Methodology

Rhode Island Executive Office of Health and Human Services, MMIS Database, December 31, 2018.

The table includes children enrolled in RItE Care managed care as of December 31, 2018. Children with special health care needs who are covered through RItE Care or Medical Assistance are also included because they receive SSI, adoption subsidies, or qualify for the Katie Beckett provision.

The Providence numbers include some children in substitute care who live in other towns because the Medicaid database lists some foster children as Providence residents for administrative purposes.

Unknown residence: All children are Rhode Island residents, but specific city/town information was unavailable.

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

References

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- EPSDT: A primer on Medicaid's pediatric benefit*. (2017). Washington, DC: Georgetown University Health Policy Institute Center for Children and Families.
- Paradise, J. (2014). *The impact of the Children Health Insurance Program (CHIP): What does the research tell us?* Washington, DC: The Henry J. Kaiser Family Foundation.
- American Academy of Pediatrics. (2014). Policy statement: Children's Health Insurance Program (CHIP): Accomplishments, Challenges, and Policy Recommendations. *Pediatrics*, 122(3), 784-793.
- Wagnerman, K., Chester, A., & Alker, J. (2017). *Medicaid is a smart investment in children*. Washington, DC: Georgetown University Health Policy Institute Center for Children and Families.

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Childhood Immunizations

DEFINITION

Childhood immunizations is the percentage of children ages 19 months to 35 months who have received the entire 4:3:1:3:3:1:4 series of vaccinations as recommended by the Advisory Committee on Immunization Practices (ACIP). In 2017, the complete series included 4 doses of diphtheria, tetanus and pertussis (DTaP); 3 doses of polio; 1 dose of measles, mumps, rubella (MMR); 3-4 doses of Haemophilus influenzae type b (Hib); 3 doses of hepatitis B vaccines (Hep B); 1 dose of varicella (chickenpox); and 4 doses of pneumococcal conjugate vaccine (PCV).

SIGNIFICANCE

Timely and complete immunization protects children against a number of infectious diseases that were once common and resulted in death or disability. Vaccines interact with the immune system to produce antibodies that protect the body if it is later exposed to disease. The benefits of immunization include improved quality of life and productivity, reduced health spending, and prevention of illness and death. Society benefits from high vaccination levels because disease outbreaks are minimized, and those who cannot be vaccinated for medical reasons are less likely to be exposed. Although many of the diseases against which children are vaccinated are rare,

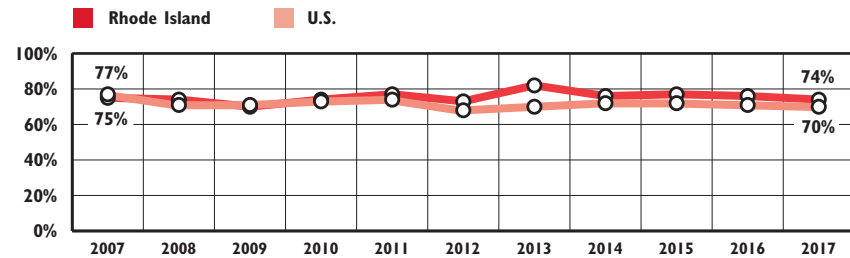
it is important to continue to immunize against them until the diseases are completely eradicated.^{1,2,3}

The federal *Vaccines for Children* program is used to eliminate cost as a barrier to vaccination. It allows states to obtain vaccines at a discounted price. Local providers then administer the vaccines at no cost to eligible children under age 19, including those who are uninsured, underinsured, or Medicaid-eligible.⁴ Due to the federal *Affordable Care Act (ACA)*, children and individuals enrolled in new health insurance plans now have access to recommended vaccines without deductibles or copays, when delivered by an in-network provider.⁵

The Rhode Island Department of Health obtains and distributes vaccines and works in partnership with local health care providers to maintain and share KIDSNET immunization data for children from birth through age 18.⁶

Rhode Island requires vaccination against the following diseases prior to entry into child care, preschool, Head Start, or Kindergarten: diphtheria, tetanus, and pertussis; Haemophilus influenzae type b; hepatitis A; hepatitis B; influenza; measles, mumps, and rubella; pneumococcal conjugate; polio; rotavirus; and varicella (chickenpox). Kindergarten entry requires all of these and additional doses of DTaP, MMR, polio, and varicella.^{7,8}

Fully Immunized Children*, Ages 19 Months to 35 Months, Rhode Island and United States, 2007-2017

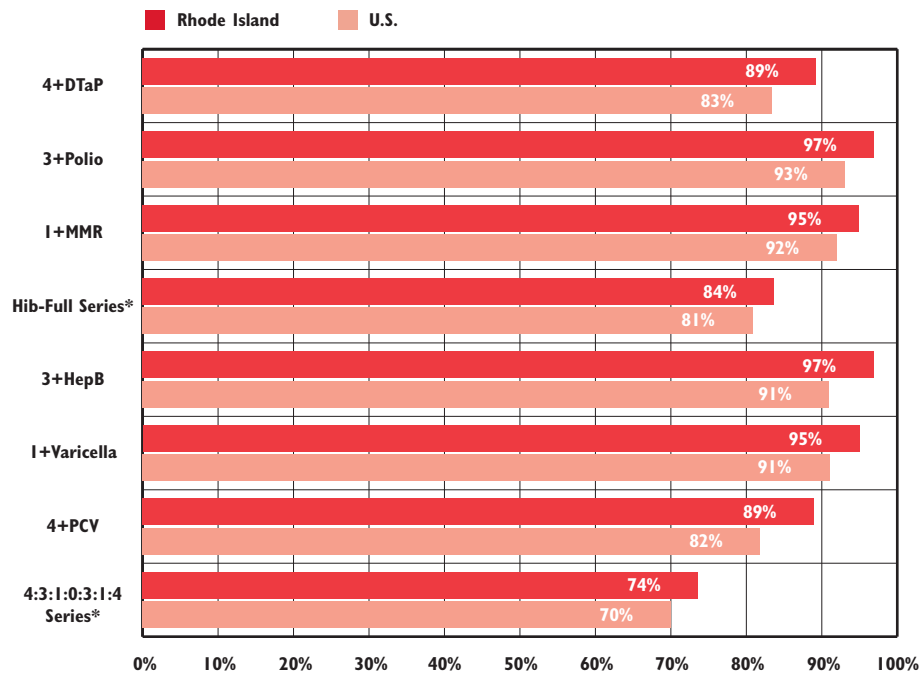


*Fully immunized children received the 4:3:1:0:3:1:4 series in 2008 to 2010; and the 4:3:1:3:3:1:4 series from 2011-2017.

Source: Centers for Disease Control and Prevention, National Immunization Survey, 2007-2017.

- ◆ In 2017, 74% of Rhode Island's children ages 19 months to 35 months were fully immunized, above the national average of 70% and 14th best in U.S.⁹
- ◆ In 2017, the U.S. rate for fully immunized children ages 19 months to 35 months ranged from 63% for children living below the federal poverty level to 74% for children living at or above the federal poverty level. The 2017 U.S. rate was 72% for Asian, non-Hispanic children, 72% for White, non-Hispanic children, 70% for Hispanic children, and 67% for Black, non-Hispanic children.¹⁰
- ◆ Vaccine concerns have led some parents to request alternative vaccination schedules or to refuse some or all immunizations, which contribute to under-immunization.^{11,12} Federal law requires that families be provided with information about each vaccine, including risks and benefits about the vaccine.¹³
- ◆ In Rhode Island, children may be exempt from receiving one or more vaccines for medical or religious reasons.¹⁴ In the 2017-2018 school year, 1.1% (120) of kindergarten students had exemptions from vaccination requirements. Of these exemptions, 92% were for religious reasons and 8% were for medical reasons.¹⁵ In the 2017-2018 school year, 4.4% (533) of 7th grade students had exemptions from vaccination requirements. Of these exemptions, 92% were for religious reasons and 8% were for medical reasons.¹⁶

Vaccination Coverage Among Children, Ages 19 Months to 35 Months, Rhode Island and United States, 2017



Source: Rhode Island Department of Health analysis of data from the *National Immunization Survey-Children*, 2017.

*Depending on the product type received, 3+ or 4+ doses of Hib vaccine is a full dose.

◆ In 2017, Rhode Island ranked first in the U.S. for children receiving the rotavirus vaccines; second for 3+Polio and 3+HepB vaccines; fourth for 1+ MMR; fifth for the 4+DTaP, 1+Varicella, 4+PCV vaccines; and eleventh for the 3+HepB vaccine.¹⁷

◆ In 2017, Rhode Island's rate of completion for the 4:3:1:0:3:1:4 (74.4%) did not reach the national *Healthy People 2020* target (80%), but a number of individual vaccine coverage rates in Rhode Island did. Polio, MMR, HepB, and varicella had coverage rates that met or surpassed the *Healthy People 2020* targets (90%) set for each type of vaccine for children ages 19 months to 35 months.¹⁸

References

¹ Centers for Disease Control and Prevention. (2017). *Why are childhood vaccines so important?* Retrieved January 21, 2019, from www.cdc.gov

² *Immunization*. (2015). Washington, DC: Child Trends. (continued on page 178)

Immunizations for Elementary and Middle School Students

◆ The 2017-2018 *Rhode Island Department of Health Immunization Survey* analyzed student immunization status reports through a web-based survey of all kindergarten and 7th grade school nurse teachers. The immunization statuses of 98% of kindergarten students and more than 95% of 7th grade students were assessed. Of the immunizations needed for school entry, entering kindergarteners had coverage rates between 96% and 98%, while entering 7th grade students had rates between 74% and 99%.^{19,20}

Adolescent Immunization

◆ All Rhode Island seventh grade students are required to receive the human papillomavirus (HPV), tetanus, diphtheria, pertussis (Tdap), and meningococcal conjugate (MCV4) vaccines, as well as any needed catch-up doses, for entry into school.²¹

◆ According to the 2017 *National Immunization Survey-Teen*, Rhode Island adolescents ranked first in the U.S. for the 3+HPV vaccine for males (with 78% of adolescents vaccinated), second in the nation for the 3+HPV vaccine for females (77% vaccinated), third in the nation for the 1+MenACWY vaccine (94% vaccinated), and fifth in the nation for the 1+Tdap vaccine (95% vaccinated).²²

◆ To ensure that all high school seniors are fully vaccinated before beginning college or work, the Rhode Island Office of Immunization runs the *Vaccinate Before You Graduate (VBYG)* program in high schools throughout the state. The program holds vaccination clinics throughout the year at each participating school. The immunizations are funded by the federal Vaccines for Children program, local insurers, and other federal grants and are offered at no cost to students.^{23,24}

◆ During the 2017-2018 school year, 103 schools participated in VBYG. In total, 4,942 vaccine doses were administered to 2,245 students. Vaccines administered included influenza, HPV, MCV4, hepatitis A, hepatitis B, measles, mumps, and rubella, polio, tetanus, diphtheria, tetanus, diphtheria, pertussis, and varicella (chicken pox).²⁵

◆ The School Located Vaccination (SLV) program administered 28,200 doses of the influenza vaccine to both children and adults at school-based clinics throughout Rhode Island from October to December 2018. The goal of SLV is to ensure all Rhode Island children receive their annual flu vaccination at no out-of-pocket cost.²⁶

Access to Dental Care

DEFINITION

Access to dental care is the percentage of children under age 21 who were enrolled in RIte Smiles or Medicaid fee-for-service on June 30, 2018 and who had received dental services at any point during the previous State Fiscal Year.

SIGNIFICANCE

Dental caries (tooth decay) is the most common chronic disease among children. Poor oral health has immediate and significant negative impacts on children's overall health, growth and development, school attendance, and academic achievement.^{1,2}

Insurance is a strong predictor of access to health and dental care. Twenty-one percent of uninsured children in the U.S. have unmet dental needs, compared with 5% of those with Medicaid and 3% of those with private health insurance.³ In Rhode Island, pediatric dental coverage is embedded in most private health insurance coverage, and RIte Smiles is Rhode Island's dental insurance for Medicaid-eligible children born after May 1, 2000.^{4,5}

Children living in poverty are more likely to have untreated tooth decay than higher-income children. For children in low-income families, the efficacy and continuity of public dental insurance is a critical factor in access to dental care. In the U.S. and in Rhode Island, children who have public health

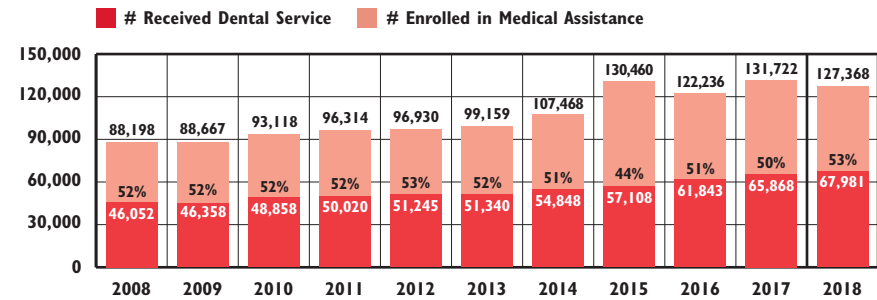
insurance coverage have greater access to dental and medical care than children who have no insurance.^{6,7,8}

Children of color have the highest rates of tooth decay and untreated dental problems. In Rhode Island and the U.S., non-Hispanic White children are more likely to have had a recent dental visit than non-Hispanic Black or Hispanic children.^{9,10,11}

Some evidence suggests that poor oral health during pregnancy is a potential risk factor for some pregnancy complications and poor birth outcomes, including preterm birth and low birthweight infants.¹² Although oral health care can be safely provided during pregnancy, less than two-thirds (59%) of Rhode Island women report having a dental visit during their pregnancy. In Rhode Island, uninsured women and low-income women are less likely to see a dentist. Fifty percent of women who participated in WIC received preventive dental care during their pregnancy.^{13,14}

Children with special health care needs may have problems finding and accessing providers who are trained and equipped to address their special dental, medical, behavioral, and mobility needs. A dental home can provide comprehensive, continuously accessible, coordinated, and family-centered dental care for all children, including those with special needs.^{15,16}

Children Under 21 Enrolled in Medical Assistance* Programs Who Received Any Dental Service, Rhode Island, SFY 2008-2018



Source: Rhode Island Executive Office of Health and Human Services, State Fiscal Years (SFY) 2008-2018. *Medical Assistance includes RIte Care, RIte Share, and Medicaid fee-for-service.

- ◆ **Fifty-three percent (67,981) of the children who were enrolled in RIte Care, RIte Share, or Medicaid fee-for-service on June 30, 2018 received a dental service during State Fiscal Year (SFY) 2018. The number of children receiving dental services has increased by 57% since 2006, when RIte Smiles launched.¹⁷**
- ◆ **The federal Early and Periodic Screening, Diagnostic and Treatment (EPSDT) standard requires that states provide comprehensive dental benefits to children with Medicaid coverage, including preventive dental services.¹⁸ In Rhode Island, 45% of children with Medicaid in Rhode Island received a preventive dental visit in FFY 2017.¹⁹**
- ◆ **RIte Smiles, Rhode Island's managed care oral health program for children has been credited with improving access to dental care for children. RIte Smiles is for low-income children born on or after May 1, 2000, and the cohort expands through an eligibility age-in process.^{20,21,22} As of December 31, 2018, there were 113,462 children enrolled in RIte Smiles.^{23,24}**
- ◆ **The federal *Affordable Care Act* made pediatric dental benefits mandatory offerings in individual and small employer plans.²⁵ In Rhode Island, most commercial coverage in the individual market of HealthSource RI (Rhode Island's state-based insurance marketplace) includes pediatric dental benefits as part of health coverage.²⁶**

Dental Provider Participation in Medicaid and RIte Smiles

- ◆ Nationally, children and adults with public insurance coverage face access problems because many private dentists do not accept Medicaid for payment. Dental providers cite low reimbursement rates, cumbersome administrative requirements, and patient-related issues (e.g., missed appointments and poor treatment compliance) as reasons why they do not see more patients with Medicaid coverage. Additional access barriers for children and families with public insurance include difficulty with transportation, lack of child care, and issues with paperwork. Family education, case management, and streamlining administrative procedures can encourage provider enrollment and patient utilization.^{27,28}
- ◆ Since RIte Smiles started in 2006, reimbursement rates have been raised for participating dental providers.²⁹ The number of dentists accepting qualifying children increased from 27 before RIte Smiles began to 90 at the launch of RIte Smiles.³⁰ In FY 2018, there were 309 unduplicated dentists in 195 practice locations participating in RIte Smiles.³¹
- ◆ General dentists and dental specialists who provide dental care to youth who do not qualify for the RIte Smiles program (currently between the ages of 18 and 21) continue to be reimbursed at the Medicaid fee-for-service reimbursement rate.³² Medicaid reimbursement rates often lag behind fees charged by dental providers and private commercial rates, which reduces incentives for providers to treat children with Medicaid coverage. Rhode Island had the fifth lowest Medicaid fee-for-service reimbursement rate for pediatric dental services in the nation in 2016.³³

Consequences of Untreated Dental Disease

- ◆ Between 2013 and 2017, an average of 557 children under age 21 were treated for a primary dental-related condition in Rhode Island emergency departments annually. Of these children and youth, 23% were ages five and under, 18% were ages six to 11, 17% were ages 12 to 17, and 42% were age 18-20.³⁴
- ◆ Each year between 2013 and 2017 in Rhode Island, an average of 67 children under age 19 were hospitalized with a diagnosis that included an oral health condition. During this time period, an average of 16 children per year under age 19 were hospitalized with an oral health condition as the primary reason for the hospitalization.³⁵

Note: Effective October 1, 2015, the International Classification of Disease (ICD) Codes changes from the 9th classification to the 10th classification, which may impact comparability across the years.

Importance of Early Dental Visits for Very Young Children

- ◆ Clinical recommendations are that children first visit the dentist before age one.³⁶ However, nearly three-quarters (74%) of babies in the U.S. have not seen the dentist by their first birthday.³⁷
- ◆ There are too few dentists specially trained to treat very young children, and too few who accept RIte Smiles. Pediatric dentists are dentists with specialized training who work with infants and children through adolescence, including those with special health needs.^{38,39}
- ◆ In 2017, 39% of Rhode Island children under age five with Medicaid coverage received any dental service, and 36% received a preventive dental service.⁴⁰
- ◆ In 2015, the Rhode Island General Assembly passed legislation to increase access to oral health care for children by allowing dental hygienists to perform approved services in public health settings, including for young children.⁴¹
- ◆ Primary care providers can conduct oral health risk assessment, refer for dental care, and provide preventive services, all of which can improve oral health outcomes.⁴²
- ◆ All 50 state Medicaid programs reimburse primary care medical providers for preventive oral health services for very young children, including risk assessment, anticipatory guidance, and fluoride varnish application.⁴³

References

^{1,6,9,15,25,27,36,37,39} *The state of little teeth: Second edition.* (2019). Chicago, IL: American Academy of Pediatric Dentistry.

² *Oral health in America: A report of the Surgeon General.* (2000). Rockville, MD: U.S. Department of Health and Human Services, National Institute of Dental and Craniofacial Research, National Institutes of Health.

^{3,10} National Health Interview Survey. (2017). *Table C-11a: Age-adjusted percent distributions (with standard errors) of unmet dental need due to cost in the past 12 months and of length of time since last visit with a dentist or other dental health care professional for children aged 2-17 years, by selected characteristics: United States, 2017.* Retrieved February 17, 2019, from <http://www.cdc.gov/nchs/nhis/shs/tables.htm>

^{4,26} HealthSource RI. (n.d.). *HealthSource RI dental coverage.* Retrieved February 20, 2019, from www.healthsourceri.com

⁵ Rhode Island Executive Office of Health and Human Services (2019). *Dental services for children and young adults.* Retrieved February 20, 2019, from www.coahs.ri.gov

⁷ Wilkniss, S. & Tripoli, S. (2015). *Health investments that pay off: Strategies to improve oral health.* Washington, DC: National Governors Association.

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Children's Mental Health

DEFINITION

Children's mental health is the number of acute care hospitalizations of children under age 18 with a primary diagnosis of a mental disorder. Hospitalization is the most intensive type of treatment for mental disorders and represents only one type of treatment category on a broad continuum available to children with mental health concerns in Rhode Island.

SIGNIFICANCE

Mental health in childhood and adolescence is defined as the achievement of expected developmental, cognitive, social, and emotional milestones and the ability to use effective coping skills. Mental health influences children's health and behavior at home, in school, and in the community. Mental health conditions can impair daily functioning, prevent or affect academic achievement, increase involvement with the juvenile justice and child welfare systems, result in high treatment costs, diminish family incomes, and increase the risk for suicide. Children with mental health issues are also likely to have other chronic health conditions.^{1,2,3,4}

Mental health problems affect children of all backgrounds. Nationally, 10% of children under age five experience a significant mental health issue.⁵ In Rhode Island, one in five (19.0%) children ages six to 17 has a

diagnosable mental health problem; one in ten (9.8%) has significant functional impairment.⁶

Risk factors for childhood mental disorders include prenatal exposure to alcohol, physical and sexual abuse, adverse childhood experiences, toxic stress, genes or a family history of mental health issues, involvement with juvenile justice and child welfare systems, and living in poverty.^{7,8,9}

Mental health treatment systems tend to be fragmented and crisis-driven with disproportionate spending on high-end care and often lack adequate investments in prevention and community-based services.^{10,11,12} In Rhode Island, an estimated 36% of children ages three to 17 who needed mental health treatment or counseling had a problem obtaining needed care.¹³ In Federal Fiscal Year (FFY) 2018, there were 465 children and youth awaiting psychiatric inpatient admission, similar to FFY 2017 when there were 462 boarders. The average wait time for FFY 2018 was 1.4 days, down from 3.6 days in FFY 2017. In FFY 2018, an average of seven children per day were ready to leave the psychiatric hospital (down from the FFY 2017 average of eight kids per day), but were unable due to a lack of step-down availability or there being no other safe placement (including at home).^{14,15}

Infant and Early Childhood Mental Health

- ◆ **Infant mental health is the growing capacity of infants and toddlers to experience, regulate, and express emotions, form close and secure relationships with caregivers, and explore their environment to learn and thrive. Infant mental health is synonymous with healthy social and emotional development.**¹⁶
- ◆ **Infants need to form secure attachment with at least one caregiver. Infants who do not develop secure attachment are at risk for learning delays, relationship dysfunction, difficulty expressing emotions, and future mental health disorders.**¹⁷
- ◆ **Infants and toddlers can have specific mental health disorders related to development stage like Excessive Crying Disorder, or general disorders that manifest in certain ways among infants and toddlers like Social Phobia and Autism Spectrum Disorder.**¹⁸

Children with Medicaid and RIte Care with a Mental Health Diagnosis

- ◆ **In State Fiscal Year (SFY) 2018, 27% (33,407) of children under age 19 enrolled in Medicaid/RIte Care had a mental health diagnosis. Of those children with a mental health diagnosis, 21% were ages 6 and under, 37% were ages seven to 12, and 42% were ages 13 to 18. In addition, 42% were females and 58% were males.**¹⁹
- ◆ **In SFY 2018, 1,486 children under age 19 enrolled in Medicaid/RIte Care were hospitalized due to a mental health related condition (up from 983 in SFY 2016), and 2,649 children had a mental health related emergency department visit (up from 1,690 in SFY 2016, a 57% increase). Eighty-seven percent of those mental health-related emergency department visits did not result in a hospitalization.**²⁰
- ◆ **Sixty-three percent of all emergency department visits for children with a mental health primary diagnosis were enrolled in RIte Care/Medicaid and 32% had commercial insurance.**²¹

Rhode Island's Community Mental Health Organizations

◆ The six Community Mental Health Organizations (CMHOs) in Rhode Island are the primary source of public mental health treatment services available in the state for children and adults.²² During 2018, 4,520 children under age 18 were treated at CMHOs, and 4,099 children were receiving treatment as of December 31, 2018.²³

Psychiatric Hospitals

Children Under Age 19 Treated at Rhode Island Psychiatric Hospitals, October 1, 2017 – September 30, 2018 (FFY 2018)

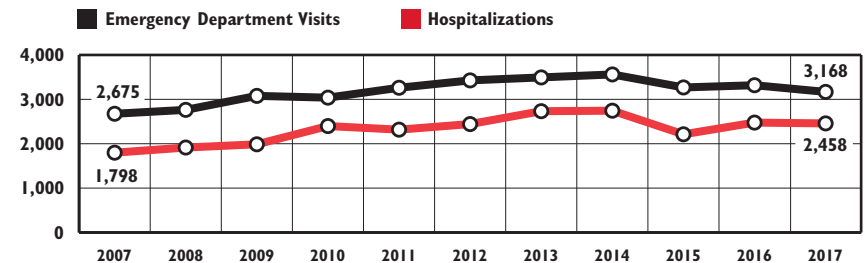
	BRADLEY HOSPITAL GENERAL PSYCHIATRIC SERVICES		BRADLEY HOSPITAL DEVELOPMENTAL DISABILITIES PROGRAM		BUTLER HOSPITAL ADOLESCENT PSYCHIATRIC SERVICES	
	# TREATED	AVERAGE LENGTH OF STAY	# TREATED	AVERAGE LENGTH OF STAY	# TREATED	AVERAGE LENGTH OF STAY
Inpatient	773	23 days	141	42 days	456*	9 days
Residential	188	48 days**	35	69 days**	--	--
Partial Hospitalization	727	22 visits	106	22 visits	175	6 visits
Home-Based	0	NA	20	26 visits	--	--
Outpatient	1,363	***	63	***	99	NA

Source: Lifespan, 2017-2018 and Butler Hospital, 2017-2018. Programs can have overlapping enrollment. Number treated is based on the hospital census (i.e., the number of patients seen in any program during FFY 2018). The average length of stay is based on discharges. *An additional 61 youth were treated in adult programs. **Residential average length of stay has dropped significantly compared to last year's 235 day average due to a new residential short-term stay facility. *** Only total number treated with outpatient services by the Lifespan Physician Group is available

-- = Service not offered. NA = Data not available for this service.

◆ The two hospitals in Rhode Island that specialize in providing psychiatric care to children and youth are Bradley Hospital and Butler Hospital. Inpatient treatment at a psychiatric hospital is the most intensive type of mental health care. The most common diagnoses for youth treated at Butler or Bradley Hospitals in FFY 2018 in an inpatient setting were depressive disorders, anxiety disorders, adjustment disorders, schizophrenia, and bipolar disorders.^{24,25}

Emergency Care for Primary Diagnosis of Mental Disorder, Children Under Age 18, Rhode Island, 2007-2017*



Source: Rhode Island Department of Health, Hospital Discharge Database, 2007-2017. *Data are for emergency department visits and hospitalizations, not children. Children may visit emergency department or be hospitalized more than once. Trend line is comparable to Factbooks since 2012. Note: Effective October 1, 2015, the International Classification of Disease (ICD) codes changed from the 9th classification to the 10th classification, which may impact comparability across the years.

◆ In 2017, there were 3,168 emergency department visits and 2,458 hospitalizations of Rhode Island children with a primary diagnosis of mental disorder. Between 2007 and 2017, emergency department visits increased 18% and hospitalizations increased 37%.²⁶

Suicide Among Rhode Island Children and Youth

◆ Children and youth with mental health conditions are at increased risk for suicide.²⁷ In 2017, 16% of Rhode Island high school students reported that they seriously considered attempting suicide, and 11% reported attempting suicide one or more times during the past year.²⁸ In Rhode Island between 2013 and 2017, there were 965 emergency department visits and 649 hospitalizations of youth ages 13-19 due to suicide attempts. Six children under age 20 died due to suicide in Rhode Island between 2013-2017.²⁹

References

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(continued on page 179)

Children with Special Needs

DEFINITION

Children with special needs are those who have a chronic disease or disability that requires educational services, health care, and/or related services of a type or amount beyond that required generally by children. Special needs can be physical, developmental, behavioral, and/or emotional. This indicator measures the number of children with special health care needs enrolled in Early Intervention, special education, Supplemental Security Income (SSI), and Medical Assistance.

SIGNIFICANCE

An estimated 19% of children in the U.S. and 21% of children in Rhode Island had at least one special health care need.¹ Children with special health care needs (CSHCN) can have impairments of varying degrees in physical, developmental, emotional, and/or behavioral functioning.² Thirty percent of parents with young children in Rhode Island and 31% of parents nationally reported completing a developmental screening.³ In Rhode Island, 66% of CSHCN have two or more health conditions, compared to 68% of CSHCN in the U.S. Nationally, commonly reported health conditions among CSHCN include allergies, Attention Deficit Disorder or Attention Deficit Hyperactivity Disorder, behavioral problems, asthma, learning disabilities,

anxiety, developmental delays, and other mental health conditions.⁴

In Rhode Island in 2017, high school students with disabilities reported being bullied at school and cyber bullied more than their peers. They were also twice as likely to feel sad or hopeless and four times as likely to have attempted suicide as their non-disabled peers. They also reported higher rates of sexual activity, drinking, and use of cigarettes, electronic vapor products, and marijuana.^{5,6}

CSHCN may require physical health, mental health, and education services, special equipment, or assistive technology. Health-related needs are best met via a comprehensive, coordinated, and family-centered medical home. Families may also need help with transportation, child care, family support, and home modifications. Having children with special needs can significantly upset parents' finances, employment, and family lives.^{7,8,9}

In 2014, Congress passed the *Achieving a Better Life Experience Act (ABLE)*, which created tax-exempt saving accounts for people who become disabled before age 26. *ABLE* accounts cover a range of expenses related to living a life with disabilities, including health care, education, housing, transportation, and employment training.^{10,11} In 2015, the Rhode Island General Assembly established *ABLE* savings accounts for Rhode Islanders with special health care needs.¹²

Children Enrolled in Early Intervention

- ◆ States are required by the federal *Individuals with Disabilities Education Act (IDEA) Part C* to identify and provide appropriate Early Intervention (EI) services to all infants and toddlers under age three who have developmental delays or have a diagnosed physical or mental condition that is associated with a developmental delay.¹³
- ◆ As of June 30, 2018, nine certified EI provider agencies served 2,219 children in Rhode Island. Nearly two-thirds (63%) of those children receiving EI services were male and just over one-third (37%) were female. Of these children, 57% were White, 30% were Hispanic, 7% were Black, 4% were Mixed Race, 2% were Asian, and <1% were American Indian or Alaska Native.¹⁴

Children Enrolled in Special Education

- ◆ Under *IDEA Part B*, local school systems are responsible for identifying, evaluating, and serving students ages three to 21 who have disabilities that might require special education and related services.¹⁵
- ◆ As of June 30, 2018 in Rhode Island, there were 3,121 children ages three to five who received preschool special education services.¹⁶
- ◆ In Rhode Island as of June 30, 2018, 21,488 students in public schools ages six to 21 received special education services (15% of all students). Thirty-six percent of students receiving special education services in Rhode Island had a learning disability.¹⁷
- ◆ Early Intervention (EI) programs are required to provide transition services for children who are enrolled in EI and who may be eligible for special education services at age three. In 2018, 62% of the 1,224 children who reached age three while in EI were determined to be eligible for preschool special education, 19% were found not eligible, and 13% did not have eligibility determined when exiting EI. The remainder completed their service plan prior to reaching the maximum age for EI, moved out of state, withdrew, or were otherwise unreachable for follow-up.¹⁸

Children with Special Needs

Medical Assistance for Children With Special Health Care Needs

- ◆ As of December 31, 2018, there were 4,740 Rhode Island children and youth under age 19 receiving Medical Assistance benefits through their enrollment in the federal SSI program.^{19,20}
- ◆ In Rhode Island, the Katie Beckett eligibility provision provides Medical Assistance coverage to children under age 19 who have serious disabling conditions, in order to enable them to be cared for at home instead of in an institution.²¹ As of December 31, 2018, there were 911 Rhode Island children enrolled through the Katie Beckett provision, a decline of 49% from the peak enrollment of 1,770 in 2007.^{22,23}
- ◆ Children with special health care needs have a variety of coverage options under Medicaid. Medicaid coverage also provides access to the Early and Periodic Screening, Diagnostic, and Treatment benefit, which requires that children receive all the services they need, either as a direct benefit or wrap-around benefit to commercial coverage they might have.^{24,25}

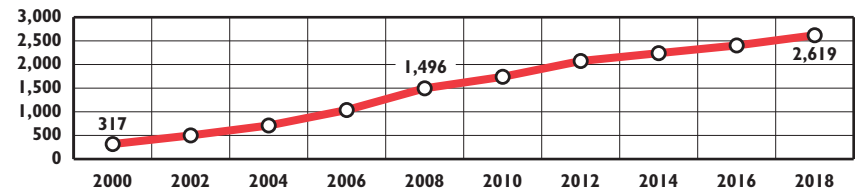
Children With Special Needs in the Child Welfare System

- ◆ Children and youth who are in the child welfare system are more likely to have special needs, including behavioral and emotional problems, developmental delays, and serious health problems than other children. They often enter the child welfare system in poor health and face difficulties accessing services while in care.^{26,27}
- ◆ As of December 31, 2018, 2,421 children in Rhode Island were enrolled in Medical Assistance through the child welfare system.²⁸ Per provisions of the federal *Affordable Care Act*, all youth who turned age 18 while in foster care are eligible for Medicaid coverage until they reach age 26 in the state in which they aged out of care.²⁹ In Rhode Island, estimates show that 71% of all eligible former foster youth were enrolled in Medicaid coverage as of December 31, 2018, up from 66% in 2017.³⁰
- ◆ Children who are adopted through the Rhode Island Department of Children, Youth and Families and have special needs may qualify for Medical Assistance coverage.³¹ As of December 31, 2018, 2,771 children were enrolled in Medical Assistance because of special needs adoptions.³²

Children With Autism Spectrum Disorder (ASD)

- ◆ Autism Spectrum Disorder (ASD) is a developmental disability that can cause significant social, communication, and behavioral challenges. Children diagnosed with ASD have a variety of symptoms and experience challenges and abilities that range widely in severity. Many children with ASD face challenges in social interaction, speech/language, and communication and demonstrate repetitive behaviors and routines.³³
- ◆ The national ASD prevalence among children age eight is estimated to be 16.8 per 1,000 children. ASD prevalence is significantly higher among boys (26.6 per 1,000 boys) than girls (6.6 per 1,000 girls). ASD prevalence is higher among non-Hispanic White children than non-Hispanic Black children and Hispanic children (17.2 per 1,000 children, compared to 16.0 and 14.0 per 1,000).³⁴

Children Ages Three to 21 With Autism Spectrum Disorder (ASD), Rhode Island, June 2000 – June 2018



Source: Rhode Island Department of Education, June 2000 – June 2018. Numbers include parentally placed students.

- ◆ In June 2018, there were 2,619 Rhode Island children ages three to 21 with ASD who received special education services.³⁵ The increase in number of children with ASD has been attributed, in part, to improved awareness and better screening and evaluation tools, as well as the broadening of the definition of ASD.³⁶ Early and appropriate identification and sustained interventions by skilled professionals can result in improvements in the levels of independent functioning of children and youth with ASD.^{37,38}

References

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- (continued on page 179)*

Infants Born at Risk

DEFINITION

Infants born at risk is the number of babies born in Rhode Island to Rhode Island women who were low-income, single, did not have a high school diploma, and/or were under age 20.

SIGNIFICANCE

The basic architecture of the human brain develops during the infant and toddler years. By age three, a child's brain has grown to 80% of its adult size and the foundation of many cognitive structures and systems are in place. Early experiences lay the foundation for future learning, and strong, positive relationships are the building blocks for healthy development. Babies who have positive early childhood experiences and stable, loving relationships with parents and other caregivers have a sturdy foundation to achieve healthy growth and development, while babies who go without often encounter educational, social-emotional, health, and developmental challenges.^{1,2,3}

Infancy is a time of great opportunity and vulnerability. A child's development can be compromised by "toxic stress" caused by a variety of adverse childhood experiences and risk factors, including poverty, maternal depression, family chaos, exposure to violence, child maltreatment, parental substance abuse, and/or parental incarceration. These negative experiences in early childhood

place a child at increased risk for developmental delays, health problems, cognitive impairment, lowered rates of school success, and unhealthy behaviors throughout life.^{4,5,6}

Economic hardship in early childhood is associated with poor educational and health outcomes. Differences in development are evident by age two, with children born into low-income families lagging behind children born into higher income families. When economic insecurity is combined with other risk factors such as having a single parent, a parent with low education levels, and/or a teen parent, children are at markedly increased risk for poor outcomes.⁷ In the U.S., 44% of all infants and toddlers live in low-income families (below 200% of the federal poverty line) and 21% live in poverty, a significantly higher proportion than older children and adults. Children under age three are more than twice as likely to live in poverty than adults age 65 or older.⁸

Family planning programs help individuals avoid unintended pregnancies which are associated with negative educational, health, and economic outcomes for women and children.^{9,10} In addition, evidence-based home visiting programs for vulnerable families help parents develop critical nurturing skills and improve outcomes for children and families.¹¹

Births by Key Risk Factors, Four Core Cities and Rhode Island 2018

CITY/TOWN	BIRTHS	# TO LOW-INCOME MOTHERS	# TO SINGLE MOTHERS	# TO MOTHERS WITHOUT A HIGH SCHOOL DIPLOMA	# TO MOTHERS YOUNGER THAN 20
Central Falls	303	263	213	97	20
Pawtucket	852	596	481	110	38
Providence	2,352	1,760	1,355	466	147
Woonsocket	465	343	315	95	40
<i>Rhode Island</i>	<i>9,952</i>	<i>5,069</i>	<i>4,441</i>	<i>1,069</i>	<i>395</i>

Source: Rhode Island Department of Health, KIDSNET Database, 2018.

- ◆ The U.S. birth rate has been declining since 2007, reaching an historic low in 2017. The U.S. teen birth rate also reached a record low in 2017. Rhode Island had the fifth lowest overall birth rate and the sixth lowest teen birth rate in the U.S. in 2017, with 10.0 births per 1,000 women ages 15 to 44 and 11.4 births per 1,000 teens ages 15 to 19.¹²
- ◆ The total number of babies born in Rhode Island to Rhode Island women declined 17% between 2008 and 2018. The proportion of Rhode Island births that were to mothers without a high school diploma fell from 17% to 11% and the proportion of all births that were to teen mothers fell from 10% to 4% of all births during the same time period.¹³
- ◆ All babies born in Rhode Island are screened through the Rhode Island Department of Health's Newborn Risk Assessment Program. In 2018, there were 6,333 newborns (64%) who "screened positive," indicating the presence of one or more risk factors associated with poor developmental outcomes.¹⁴
- ◆ Of the 9,952 babies born in Rhode Island to Rhode Island women in 2018, nearly one-third (3,189) had a mother with a documented history of treatment for mental health conditions. Also, 627 (6%) had a mother with a documented history of substance abuse problems, and 225 (2%) had a mother with documented involvement in the child welfare system (either as an adult or as a child).¹⁵

Table 16.

Infants Born at Risk, Rhode Island, 2018

CITY/TOWN	TOTAL # OF BIRTHS	# OF BIRTHS TO LOW-INCOME MOTHERS	# OF BIRTHS TO SINGLE MOTHERS	BIRTHS TO MOTHERS WITHOUT A HIGH SCHOOL DIPLOMA	# OF BIRTHS TO MOTHERS YOUNGER THAN AGE 20
Barrington	107	14	8	0	0
Bristol	103	35	31	6	*
Burrillville	121	44	50	5	6
Central Falls	303	263	213	97	20
Charlestown	54	22	20	4	*
Coventry	280	84	84	9	*
Cranston	756	314	298	48	28
Cumberland	346	96	87	13	6
East Greenwich	109	17	18	0	0
East Providence	447	197	199	37	11
Exeter	52	11	12	3	0
Foster	41	11	10	2	*
Glocester	69	17	21	1	*
Hopkinton	30	11	7	1	0
Jamestown	22	4	2	0	0
Johnston	270	107	107	20	5
Lincoln	160	43	48	4	*
Little Compton	6	2	-	0	0
Middletown	156	51	39	8	*
Narragansett	42	19	15	2	*
New Shoreham	2	1	1	0	0
Newport	207	104	100	30	14
North Kingstown	235	55	61	7	7
North Providence	311	159	134	19	15
North Smithfield	83	35	28	2	*
Pawtucket	852	596	481	110	38
Portsmouth	135	23	33	2	*
Providence	2,352	1,760	1,355	466	147
Richmond	79	18	20	3	*
Scituate	89	24	26	3	*
Smithfield	132	31	35	2	*
South Kingstown	155	50	40	8	*
Tiverton	73	22	26	6	*
Warren	80	29	29	1	*
Warwick	712	233	265	24	12
West Greenwich	49	7	9	0	0
West Warwick	326	158	159	26	9
Westerly	140	48	54	5	*
Woonsocket	465	343	315	95	40
Unknown	1	1	1	0	0
Four Core Cities	3,972	2,962	2,364	768	245
Remainder of State	5,979	2,096	2,076	301	150
Rhode Island	9,952	5,059	4,441	1,069	395

Source of Data for Table/Methodology

Rhode Island Department of Health, KIDSNET Database, 2018. Birth data from 2018 are provisional. Data include only births that occurred in Rhode Island to Rhode Island residents. This table shows the number of births with key risk factors that place a child at high risk for poor developmental outcomes. Births to low-income women are births to women with public health insurance (Medicaid/RiteCare) or no insurance. Of the 5,059 births to low-income families in 2017, 5,023 had Medicaid/Rite Care coverage and 36 had no insurance.

* Fewer than 5 births to mothers younger than age 20 are suppressed by the RI Department of Health due to the policy regarding sensitive reproductive health information of a potentially socially-stigmatizing age group. These births are still counted in the four core cities, remainder of state, and state totals.

The definition for this indicator changed in 2016. The percentage of births with specific risk factors (births to women under age 20, single, and without a high school diploma) and the number and percentage of all births with all three risk factors is no longer being reported.

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

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Evidence-Based Family Home Visiting

DEFINITION

Evidence-based family home visiting is the number of families enrolled in evidence-based home visiting programs funded/coordinated by the Rhode Island Department of Health.

SIGNIFICANCE

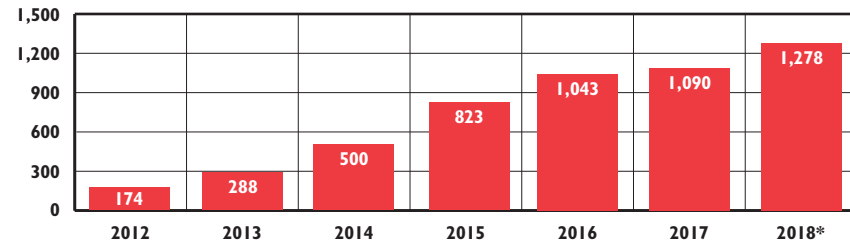
Parents are the most important individuals in a child's life, particularly during infancy and early childhood. Infants and toddlers who receive responsive, nurturing care and are provided with opportunities to learn have a strong foundation for success. When parents face obstacles that impact their ability to meet the needs of their babies, the child's health, development, and learning trajectory are threatened.^{1,2}

Home visiting programs are designed to reach young children and their families at home. Each program is different, but all provide parenting education to foster healthy, safe, and stimulating environments for young children. Children in at-risk families who participate in high-quality home visiting programs have improved language, cognitive, and social-emotional development and are less likely to experience child abuse and neglect. Families who participate are more likely to provide an enriching home environment, use appropriate discipline strategies, and become more

economically secure through education and employment. Some home visiting programs can also improve maternal and child health, reducing long-term health care costs.^{3,4,5}

In 2010, federal legislation established the Maternal, Infant, and Early Childhood Home Visiting (MIECHV) program to expand and improve state-administered home visiting programs for at-risk families with young children. This funding must be spent by states on approved models that meet rigorous evidentiary standards.⁶ In 2018, there were 20 home visiting models identified as effective, evidence-based programs for families during the prenatal period and early childhood years, with evidence showing they produce statistically significant improvements in outcomes for children and families.⁷ Rhode Island uses MIECHV funding to implement three of these evidence-based models: Healthy Families America, Nurse-Family Partnership, and Parents as Teachers; the federal government directly funds the Early Head Start home-based option.⁸ In order to achieve improved outcomes for children, evidence-based programs must follow national program guidelines, use professional staff trained in the model, be implemented in the appropriate timeframes, and be implemented with fidelity.⁹

Families Enrolled in Evidence-Based Family Home Visiting Coordinated by the Rhode Island Department of Health, Rhode Island, 2012-2018



Source: Rhode Island Department of Health, Family Home Visiting, Family Visiting Database, October 2012-2018. *Beginning in 2018, enrolled families includes all families participating in Parents as Teachers programs, including those without MIECHV funding.

- ◆ As of October 2018, of the 1,278 parents/caregivers participating in evidence-based home visiting programs 12% were under age 20, 17% were ages 20 to 24, and 71% were age 25 or older at enrollment. Twenty-three percent of the parents/caregivers had less education than a high school diploma or GED, 29% had a high school diploma or GED, 21% had some college or vocational training, 10% had a four-year college degree, and 17% had an unknown amount of education. At the time of enrollment, 36% of the parents/caregivers were single, 46% were married or had a domestic partner, 4% were divorced or separated, less than 1% were widowed, and 13% had an unknown marital status. Among the enrolled children, 8% were not born yet, 30% were under age one, 23% were age one, 21% were age two, 14% were age three, 4% were age four, and 1% were age five.¹⁰
- ◆ Home-based Early Head Start is also recognized as an evidence-based home visiting program that improves child outcomes.¹¹ As of October 2018 in Rhode Island, there were 656 pregnant women and children enrolled in home-based Early Head Start.¹²
- ◆ Early Intervention (EI) programs serve infants and toddlers with developmental delays and disabilities in Rhode Island and deliver nearly all (97%) services through home visits. As of June 2018, there were 2,219 children enrolled in EI in Rhode Island.¹³
- ◆ Rhode Island also operates First Connections, a statewide, short-term home visiting program designed to help families get connected to needed resources.¹⁴ In 2018, 2,657 children received at least one First Connections home visit (49% lived in one of the four core cities and 51% in the remainder of the state).¹⁵

Evidence-Based Family Home Visiting

Table 17.

Evidence Based Family Home Visiting, Rhode Island, 2018

CITY/TOWN	COMMUNITY CONTEXT, 2018			# RECEIVED FIRST CONNECTIONS VISIT IN 2018	# FAMILIES ENROLLED IN EVIDENCE-BASED HOME VISITING PROGRAMS, OCTOBER 1, 2018			
	TOTAL # OF BIRTHS	# OF BIRTHS WITH 1 OR MORE RISK FACTORS	# OF BIRTHS TO LOW-INCOME FAMILIES		HEALTHY FAMILIES AMERICA	NURSE-FAMILY PARTNERSHIP	PARENTS AS TEACHERS*	TOTAL
Barrington	107	32	14	14	1	0	1	2
Bristol	103	56	35	20	3	0	21	24
Burrillville	121	66	44	17	1	1	2	4
Central Falls	303	263	263	125	41	13	32	86
Charlestown	54	32	22	15	6	0	1	7
Coventry	280	144	84	73	14	0	10	24
Cranston	756	431	314	173	45	4	26	75
Cumberland	346	153	96	59	3	3	2	8
East Greenwich	109	41	17	20	1	1	3	5
East Providence	447	280	197	65	17	1	13	31
Exeter	52	30	11	21	0	0	0	0
Foster	41	20	11	9	0	1	0	1
Glocester	69	37	17	12	1	0	0	1
Hopkinton	30	12	11	15	3	0	3	6
Jamestown	22	7	4	6	0	0	0	0
Johnston	270	156	107	45	6	2	1	9
Lincoln	160	71	43	27	4	1	2	7
Little Compton	6	4	2	3	0	0	0	0
Middletown	156	76	51	26	5	0	8	13
Narragansett	42	28	19	16	1	0	1	2
New Shoreham	2	1	1	0	0	0	0	0
Newport	207	127	104	52	14	1	12	27
North Kingstown	235	99	55	59	4	1	17	22
North Providence	311	205	159	57	4	2	5	11
North Smithfield	83	48	35	11	1	0	0	1
Pawtucket	852	653	596	273	87	16	51	154
Portsmouth	135	59	23	26	6	0	4	10
Providence	2,352	1,835	1,760	758	285	78	100	463
Richmond	79	42	18	19	1	0	0	1
Scituate	89	36	24	4	0	0	0	0
Smithfield	132	62	31	21	0	0	0	0
South Kingstown	155	71	50	45	14	1	6	21
Tiverton	73	41	22	12	6	0	3	9
Warren	80	45	29	8	3	1	9	13
Warwick	712	390	233	203	22	0	40	62
West Greenwich	49	19	7	9	2	0	1	3
West Warwick	326	217	158	108	23	1	8	32
Westerly	140	76	48	77	10	0	40	50
Woonsocket	465	367	343	154	47	6	41	94
Unknown	1	1	1	0	0	0	0	0
Four Core Cities	3,972	3,118	2,962	1,310	460	113	224	797
Remainder of State	5,979	3,214	2,096	1,347	221	21	239	481
Rhode Island	9,952	6,333	5,059	2,657	681	134	463	1,278

Source of Data for Table/Methodology

Home visiting data are from the Rhode Island Department of Health, Family Home Visiting, Family Visiting Database. Birth data are from Rhode Island Department of Health, Center for Health and Data Analysis, KIDSNET. Number of births with one or more risk factor is the "risk positive" definition from the Developmental Risk Assessment. Births to low-income families are births to families with public health insurance (Medicaid/RtTeCare) or no insurance.

*Beginning in 2018, enrolled families includes all families participating in Parents as Teachers programs, including those without MIECHV funding.

Unknown: Specific city/town information is unavailable.

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

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Women with Delayed Prenatal Care

DEFINITION

Women with delayed prenatal care is the percentage of women receiving prenatal care beginning in the second or third trimester of pregnancy. Data are reported by place of mother's residence, not place of infant's birth.

SIGNIFICANCE

Early prenatal care is an important way to identify and treat health problems as well as influence health behaviors that can affect fetal development, infant health, and maternal health. Women receiving late or no prenatal care are at increased risk of poor birth outcomes, such as having babies who are low birthweight or who die within the first year of life.^{1,2}

Effective prenatal care screens for and intervenes with a range of maternal needs including nutrition, social support, mental health, smoking cessation, substance use, domestic violence, and unmet needs for food and shelter. A prenatal visit is the first step in establishing an infant's medical home and can provide valuable links to other services.^{3,4}

Early prenatal care is especially important for women who face multiple risks for poor birth outcomes, as is ensuring access to preconception health care services before pregnancy. Effective

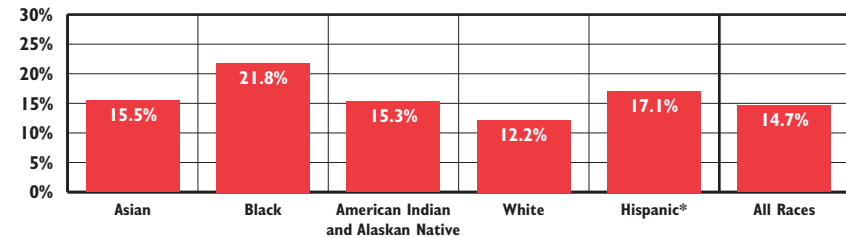
monitoring and treatment of chronic disease, education on preventive health practices, implementing and enhancing Medicaid policies to improve health insurance coverage, and ensuring access to culturally and linguistically competent health providers can improve prenatal care for women of childbearing age.^{5,6}

Barriers to prenatal care include not knowing one is pregnant, not being able to get an appointment or start care when desired, lack of transportation or child care, inability to get time off work, and/or financial constraints, including lack of insurance and/or money to pay for care.⁷

Rhode Island women with delayed or no prenatal care are more likely to report their pregnancy was unintended than women who initiated care in the first trimester. Between 2012 and 2015 in Rhode Island, 66% of women whose prenatal care was delayed had unintentional pregnancies.⁸

In Rhode Island between 2013 and 2017, 14.6% of women who gave birth did not begin care until the second or third trimester. Adolescent and teen mothers were more likely to receive delayed prenatal care than older mothers in Rhode Island.⁹

Women With Delayed Prenatal Care by Race/Ethnicity, Rhode Island, 2013-2017



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Database, 2013-2017. * Race categories are non-Hispanic.

◆ Between 2013 and 2017 in Rhode Island, Black women (21.8%), Hispanic women (17.1%), American Indian and Alaskan Native (15.5%), and Asian women (15.5%) were more likely to receive delayed prenatal care than White women (12.6%).¹⁰

◆ Between 2013 and 2017 in Rhode Island, women who did not graduate from high school were more likely to receive delayed prenatal care than women with more than a high school education (23% compared to 11.7%). Nineteen percent of pregnant women in the four core cities received delayed prenatal care.¹¹

Insurance Coverage Improves Access to Prenatal Care

◆ In the U.S. and Rhode Island, women with commercial insurance have the highest rates of timely prenatal care. Rhode Island women who are most likely to receive care in the first trimester have higher levels of education.^{12,13}

◆ Between 2013 and 2017, pregnant women with health coverage through RIte Care (Rhode Island's Medicaid managed care health program) were much less likely (19.0%) to receive delayed prenatal care than women who were uninsured (27.4%). Pregnant women with private insurance coverage were the least likely to receive delayed prenatal care (10.3%) during this time period.¹⁴

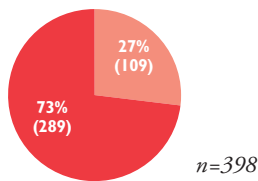
◆ RIte Care ranks in the top quartile in first trimester prenatal care, compared to other Medicaid health plans in the nation.¹⁵

Women with Delayed Prenatal Care

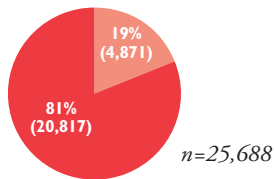
Delayed Prenatal Care by Mother's Insurance Type, Rhode Island, 2013-2017

■ Delayed Prenatal Care (2nd or 3rd Trimester)
■ Prenatal Care in 1st Trimester

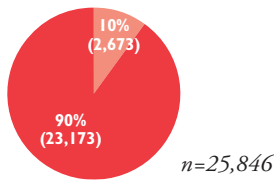
Uninsured



Public Insurance (Rite Care)



Private Insurance



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

Table 18. Delayed Prenatal Care, Rhode Island, 2013-2017

CITY/TOWN	# BIRTHS	# DELAYED CARE	% DELAYED CARE
Barrington	537	60	11.2%
Bristol	713	91	12.8%
Burrillville	660	80	12.1%
Central Falls	1,606	298	18.6%
Charlestown	239	17	7.1%^
Coventry	1,469	167	11.4%
Cranston	3,912	519	13.3%
Cumberland	1,717	204	11.9%
East Greenwich	558	57	10.2%
East Providence	2,331	310	13.3%
Exeter	238	26	10.9%
Foster	169	22	13.0%
Glocester	333	41	12.3%
Hopkinton	308	27	8.8%
Jamestown	116	11	9.5%^
Johnston	1,328	151	11.4%
Lincoln	997	125	12.5%
Little Compton	83	14	16.9%
Middletown	844	106	12.6%
Narragansett	316	34	10.8%
New Shoreham	57	11	19.3%^
Newport	1,303	186	14.3%
North Kingstown	1,097	117	10.7%
North Providence	1,627	211	13.0%
North Smithfield	407	49	12.0%
Pawtucket	4,848	910	18.8%
Portsmouth	618	62	10.0%
Providence	12,453	2,275	18.3%
Richmond	280	23	8.2%
Scituate	394	53	13.5%
Smithfield	673	72	10.7%
South Kingstown	817	79	9.7%
Tiverton	597	81	13.6%
Warren	455	58	12.7%
Warwick	3,862	452	11.7%
West Greenwich	230	25	10.9%
West Warwick	1,720	249	14.5%
Westerly	913	69	7.6%
Woonsocket	2,925	562	19.2%
Unknown**	217	29	13.6%
Four Core Cities	21,832	4,045	18.5%
Remainder of State	31,918	3,859	12.1%
Rhode Island	53,967	7,933	14.7%

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. Data for births in 2014 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 from 2013-2017.

*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.

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

** Unknown births include three births with missing maternal residence data.

Due to birth certificate changes that began in 2015 (the last three years in the 2013-2017 five-year average), comparisons with previous years should be made with caution. Delayed prenatal care is now a calculated variable that is based on the number of visits over 90 days (3 months). "No prenatal care" is not broken out.

References

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(continued on page 180)

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 in the U.S. Infants born before 37 weeks gestation are at higher risk than full-term infants for neurodevelopmental, respiratory, gastrointestinal, immune system, central nervous system, hearing, dental, and vision problems. Children who were born preterm may experience physical disabilities, learning difficulties, and behavioral problems later in life.^{1,2,3} While the specific causes of 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, pregnancy with multiples, and uterine and/or cervical abnormalities. Other risk factors include some health conditions, delayed or no prenatal care, stress, domestic violence, having pregnancies close together, and maternal use of tobacco, alcohol, and other drugs.^{4,5} Even "late preterm" infants (34-36 weeks gestation) can experience immediate and long-term complications. Infants born very preterm (<32 weeks gestation) are at highest risk for death,

enduring health problems, high hospitalization costs during their first year, and increased health care-related costs later in life.^{6,7} Preventive interventions can improve outcomes for very preterm infants and their caregivers.^{8,9}

The U.S. preterm birth rate rose between 2016 and 2017, from 9.85% to 9.93%, the third year of an increase after steady declines from 2007 to 2014. The preterm birth rate varies by race/ethnicity, with non-Hispanic Black women (13.9%) continuing to have the highest preterm birth rate in the U.S. in 2017. Hispanic women had a preterm birth rate of 9.6% in 2017 and non-Hispanic White women had a rate of 9.0%. The rate increased for each group between 2016 and 2017.^{10,11} Nationally, racial and ethnic disparities continue in the outcomes for preterm infants, with the preterm-related infant mortality rate for Black infants about three times the rate for White infants.¹²

Preterm Births		
	2007	2017
RI	10.8%	8.3%
US	10.4%	9.9%
National Rank*		2nd
New England Rank**		2nd

*1st is best; 50th is worst

**1st is best; 6th is worst

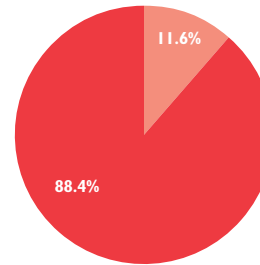
Sources: For 2007: Martin, J. A., et al. (2015). Measuring gestational age in vital statistics data: Transitioning to the obstetric estimate. *NVSR*, 64(5), 1-19. For 2017: Martin, J. A., et al. (2018). Births: Final data for 2017. *NVSR*, 67(8), 1-49.

Preterm Births by Smoking Status, Rhode Island, 2013-2017

Smoking During Pregnancy

11.6% Premature

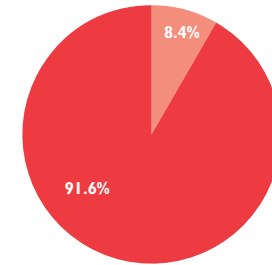
88.4% Full gestation



Not Smoking During Pregnancy

8.4% Premature

91.6% Full gestation



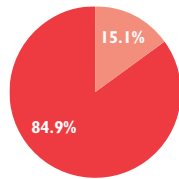
Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. *See note regarding new methodology for calculating preterm births, starting with the 2016 Factbook.

- ◆ Between 2013 and 2017, 70.5% of all preterm births in Rhode Island were late preterm births (34-36 weeks gestation) and 17.6% of all preterm births were very preterm (<32 weeks gestation).¹³
- ◆ Multiple births are more likely to be born preterm. In Rhode Island between 2013 and 2017, 55.9% of multiple births were preterm, compared with 6.9% of singleton births.¹⁴
- ◆ Between 2013 and 2017, 13.2% of births of Non-Hispanic Native American infants and 11.3% of births of Non-Hispanic Black infants in Rhode Island were preterm, compared with 7.7% of Non-Hispanic Asian and 8.0% of Non-Hispanic White infants. During this same time period, 9.3% of births to Hispanic women in Rhode Island were preterm.¹⁵
- ◆ In Rhode Island between 2013 and 2017, 9.3% of births to women with a high school degree or less were preterm, compared with 7.9% of those with higher education levels.¹⁶
- ◆ Social determinants of health, including poverty, racism, and access to care are important factors in the disparities in preterm births.¹⁷
- ◆ "17P", a weekly injection for mothers with singleton pregnancies between 16 and 36 weeks gestation and a prior preterm birth, can reduce the chance of future preterm birth by 33%.¹⁸

Preterm Births by Mother's Insurance Type, Rhode Island, 2013-2017

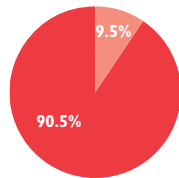
Uninsured

15.1% Preterm Births
84.9% Full-term Births



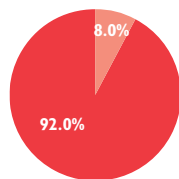
Public Insurance (Rite Care)

9.5% Preterm Births
90.5% Full-term Births



Private Insurance

8.0% Preterm Births
92.0% Full-term Births



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

Table 19. Preterm Births, Rhode Island, 2013-2017

CITY/TOWN	# BIRTHS	# PRETERM BIRTHS	% PRETERM BIRTHS
Barrington	537	33	6.1%
Bristol	713	52	7.3%
Burrillville	660	60	9.1%
Central Falls	1,606	144	9.0%
Charlestown	239	24	10.0%
Coventry	1,469	96	6.5%
Cranston	3,912	345	8.8%
Cumberland	1,717	133	7.7%
East Greenwich	558	47	8.4%
East Providence	2,331	188	8.1%
Exeter	238	20	8.4%^
Foster	169	13	7.7%^
Glocester	333	33	9.9%
Hopkinton	308	21	6.8%^
Jamestown	116	4	*
Johnston	1,328	108	8.1%
Lincoln	997	82	8.2%
Little Compton	83	11	13.3%
Middletown	844	66	7.8%
Narragansett	316	22	7%^
New Shoreham	57	7	*
Newport	1,303	115	8.8%
North Kingstown	1,097	88	8.0%
North Providence	1,627	162	10.0%
North Smithfield	407	29	7.1%
Pawtucket	4,848	477	9.8%
Portsmouth	618	32	5.2%
Providence	12,453	1,223	9.8%
Richmond	280	26	9.3%
Scituate	394	34	8.6%
Smithfield	673	37	5.5%
South Kingstown	817	63	7.7%
Tiverton	597	53	8.9%
Warren	455	38	8.4%
Warwick	3,862	316	8.2%
West Greenwich	230	13	5.7%^
West Warwick	1,720	142	8.3%
Westerly	913	57	6.2%
Woonsocket	2,925	248	8.5%
Unknown	217	19	8.8%^
Four Core Cities	21,832	2,092	9.6%
Remainder of State	32,135	2,589	8.1%
Rhode Island	53,967	4,681	8.7%

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. Data for births in 2014 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 from 2013-2017.

*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.

Beginning in 2015, the federal Centers for Disease Control and Prevention and the Rhode Island Department of Health transitioned to a new standard for estimating the gestational age of the newborn. The new measure – the obstetric estimate of gestation at delivery (OE) – replaces the measure based on the date of the last normal menses (LMP).

The 2013-2017 five-year preterm birth percentage and the single year average are measured by OE. Because of this change, preterm birth data reported prior to the 2016 Factbook are not comparable. National preterm birth data use the OE measurement as of the 2007 data year at the time of publication of this Factbook. Unknown births include three births with missing maternal residence data.

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

References

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(continued on page 180)

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 often is a result of a premature birth but also can 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, 6.8% of births between 2013 and 2017 were to mothers who smoked during their pregnancy. During that time, Rhode Island smokers (13.0%) were nearly twice as likely to deliver a low birthweight infant as women who did not smoke (6.9%).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 2017, 8.3% of infants were born at low birthweight, which was a 10.7% increase from 7.5% in 1997. In Rhode Island in 2017, 7.5% of Rhode Island's infants were born at low birthweight, which was a slight increase from 7.4% in 1997.^{11,12} The Healthy People 2020 national target is 7.8%.¹³

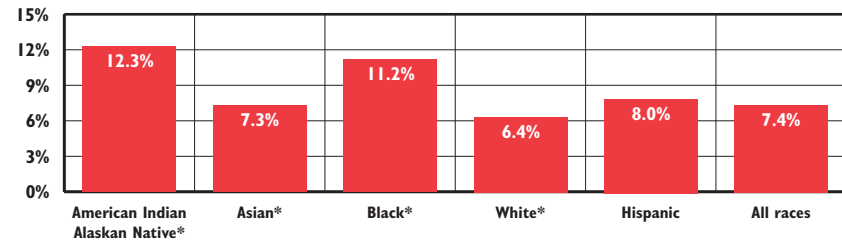
Low Birthweight Infants		
	2007	2017
RI	8.0%	7.5%
US	8.2%	8.3%
National Rank*	15th	
New England Rank**	4th	

*1st is best; 50th is worst

**1st is best; 6th is worst

Source: For 2007: Martin, J. A., et al. (2010). Births: Final data for 2007. *National Vital Statistics Reports*, 58(24), 1-88. For 2017: Martin, J. A., Hamilton, B. E., Osterman, M. J. K., Driscoll, A. K., & Drake, P. (2018). Births: Final data for 2017. *National Vital Statistics Reports*, 67(8), 1-49.

Low Birthweight Infants 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. * Race categories are non-Hispanic. Data for births in 2017 are provisional.

- ◆ There are racial and ethnic disparities in rates of low birthweight.¹⁴ In Rhode Island between 2013 and 2017, 12.3% of American Indian Alaskan Native infants, 11.2% of Black infants, 7.3% of Asian infants, and 8.0% of Hispanic infants were born at low birthweight, compared to 6.4% 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, particularly among Black women and other racial and ethnic minorities.^{16,17}
- ◆ Between 2013 and 2017 in Rhode Island, 9.5% of births among women under age 20 were low birthweight compared to 7.3% of those over age 20; 8.7% of infants born to women living in the four core cities were low birthweight compared to 6.6% in the remainder of the state; and 8.5% of infants born to women with a high school degree or less were low birthweight, compared to 6.4% 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 than those with a normal weight baby, as well as health issues during their pregnancy such as high blood pressure or hypertension.¹⁹
- ◆ Between 2013 and 2017 in Rhode Island, 1.5% of all live births were born at very low birthweight (less than 1,500 grams or 3.3 pounds).²⁰

Table 20. Low Birthweight Infants, Rhode Island, 2013-2017

CITY/TOWN	# BIRTHS	# LOW BIRTHWEIGHT	% LOW BIRTHWEIGHT
Barrington	537	25	4.7%
Bristol	713	33	4.6%
Burrillville	660	41	6.2%
Central Falls	1,606	131	8.2%
Charlestown	239	14	5.9% [^]
Coventry	1,469	91	6.2%
Cranston	3,912	274	7.0%
Cumberland	1,717	112	6.5%
East Greenwich	558	37	6.6%
East Providence	2,331	168	7.2%
Exeter	238	15	6.3% [^]
Foster	169	11	6.5% [^]
Glocester	333	20	6.0% [^]
Hopkinton	308	18	5.8% [^]
Jamestown	116	2	*
Johnston	1,328	93	7.0%
Lincoln	997	62	6.2%
Little Compton	83	4	*
Middletown	844	51	6.0%
Narragansett	316	22	7.0% [^]
New Shoreham	57	5	*
Newport	1,303	108	8.3%
North Kingstown	1,097	78	7.1%
North Providence	1,627	143	8.8%
North Smithfield	407	30	7.4%
Pawtucket	4,848	428	8.8%
Portsmouth	618	32	5.2%
Providence	12,453	1,095	8.8%
Richmond	280	18	6.4% [^]
Scituate	394	21	5.3% [^]
Smithfield	673	31	4.6%
South Kingstown	817	48	5.9%
Tiverton	597	45	7.5%
Warren	455	28	6.2%
Warwick	3,862	248	6.4%
West Greenwich	230	12	5.2% [^]
West Warwick	1,720	114	6.6%
Westerly	913	55	6.0%
Woonsocket	2,925	242	8.3%
Unknown	217	13	6.0% [^]
Four Core Cities	21,832	1,896	8.7%
Remainder of State	32,135	2,122	6.6%
Rhode Island	53,967	4,018	7.4%

Source of Data for Table/Methodology

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

*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

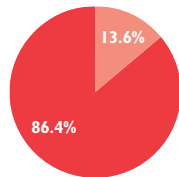
- ¹⁵ 2018 KIDS COUNT data book: State trends in child well-being. (2018). Baltimore, MD: The Annie E. Casey Foundation.
- ^{24,10} March of Dimes. (2018). *Low birthweight*. Retrieved March 14, 2019, from www.marchofdimes.org
- ³ Gage, T.B., Fang, E., O'Neill, E., & DiRienzo, G. (2013). Maternal education, 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 March 14, 2019, from www.cdc.gov
- ^{7,15,18,19,20} Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017.
- ⁸ American Psychological Association. (2017). *Low birth weight babies at higher risk for mental health problems later in life*. [Press release]. Retrieved from https://www.apa.org/news/press/releases/2017/02/low-birth-weight
- ⁹ Matthews, T. J., MacDorman, M. F., & Thoma, M. E. (2015). Infant mortality statistics from the 2013 period linked birth/infant death data set. *National Vital Statistics Reports*, 64(9), 1-30.

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Low Birthweight by Mother's Insurance Type, Rhode Island, 2013-2017

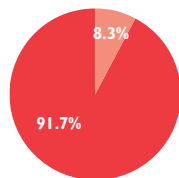
Uninsured

13.6% Low Birthweight
86.4% Normal Birthweight



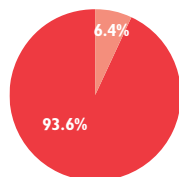
Public Insurance (Rite Care)

8.3% Low Birthweight
91.7% Normal Birthweight



Private Insurance

6.4% Low Birthweight
93.6% Normal Birthweight



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. Data for births in 2017 are provisional.

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

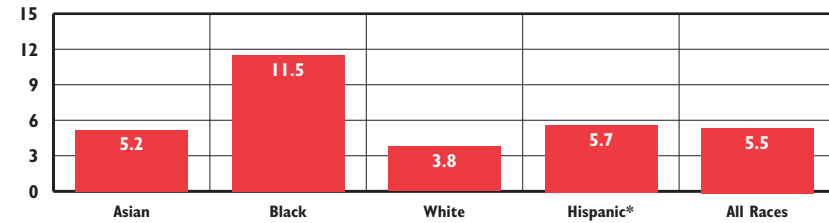
*1st is best; 49th is worst

**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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Breastfeeding

DEFINITION

Breastfeeding is the number and percentage of newborn infants who are breastfed at the time of hospital discharge.

SIGNIFICANCE

Breastfeeding is widely recognized as the ideal method of feeding and nurturing infants and a critical component in achieving optimal infant and child health, growth, and development.^{1,2} National health experts recommend exclusive breastfeeding for six months after birth and continuous breastfeeding for at least 12 months after birth or longer as mutually desired by mother and child.³

Breastfeeding decreases infant mortality and morbidity. Infant benefits include optimal nutrition and reduced risk for Sudden Infant Death Syndrome, infectious disease, and chronic conditions such as childhood obesity, type 1 and 2 diabetes, and otitis media. Breastfeeding benefits mothers by creating a strong bond with infants and decreasing risk for postpartum depression, type 2 diabetes, and hypertension. Breastfeeding provides significant social and economic benefits, including reduced cost to the family, reduced health care costs, and reduced employee absenteeism.^{4,5,6}

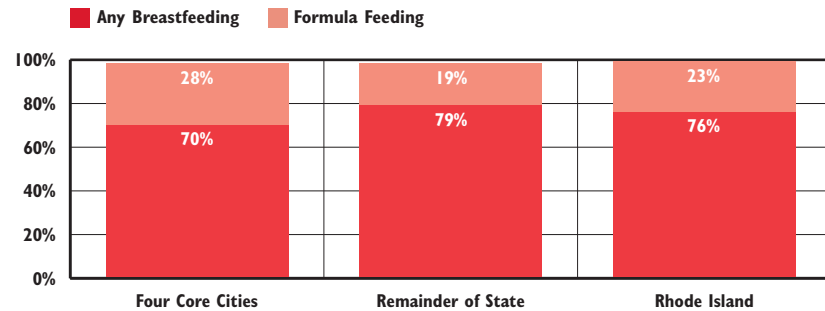
Breastfeeding can be effectively promoted by hospital and other birth

facility policies and practices that take place before, during, and after labor and delivery, including access to professional lactation consultants and involvement in community breastfeeding support networks.⁷ In 2015, Women & Infants Hospital became the second-largest hospital in the U.S. to achieve the “Baby-Friendly” designation, which recognizes breastfeeding support and promotion by birth facilities.⁸ Rhode Island ranks second best in the U.S. with 86% of babies born at Baby-Friendly hospitals.⁹

Breastfeeding rates generally increase with maternal age, higher educational attainment, and higher income levels.¹⁰ Whether the pregnancy was intentional or not also affects rate of breastfeeding. In Rhode Island between 2016-2017, 10% of babies from intended pregnancies were not breastfed at all, compared with 15% of babies from unintended pregnancies.¹¹

Healthy People 2020 sets target breastfeeding rates of 82% of infants ever having been breastfed and 34% at one year of age.¹² Among babies born in the U.S. in 2015, 83% were ever breastfed, 58% were breastfed at six months, and 36% were breastfed at 12 months. In 2015, Rhode Island reported rates of 81% of infants ever having been breastfed, 50% at six months, and 31% at one year of age; all decreases since 2013 and lower than the national averages.¹³

Breastfeeding and Formula Feeding at Birth, Rhode Island, 2013-2017*

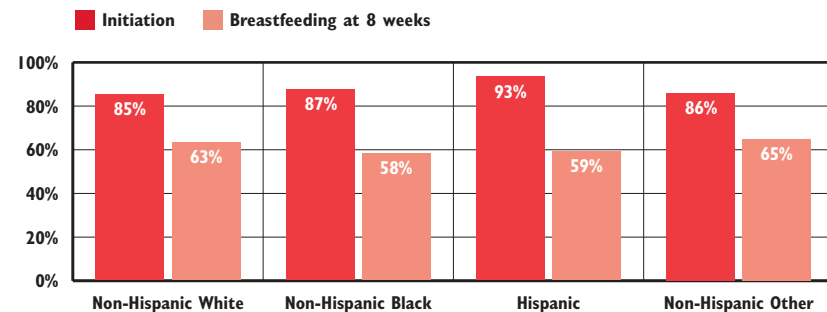


Source: Rhode Island Department of Health, Center for Health Data and Analysis, Maternal and Child Health Database, 2013-2017. Breastfeeding and formula feeding are defined as intended feeding method at hospital discharge. Totals may not sum to 100% because data on feeding methods were not available for all births.

*Note: The data collection process at the Rhode Island Department of Health was changed in 2015. Prior to 2015, breastfeeding was recorded as “Breast,” “Bottle,” or “Both.” Since 2015, a “Yes” or “No” question on the birth certificate worksheet “Is the infant being breastfed at discharge?” has been used. Data from and prior to 2015 for “Exclusive breastfeeding” and “Both breast and formula” have been combined into the “Any breastfeeding” category to align with current data collection practices.

◆ Between 2013 and 2017, 76% of new mothers in Rhode Island indicated that they intended to breastfeed when discharged from the hospital, 23% intended to formula feed.¹⁴ Nearly nine out of ten (87%) new mothers in Rhode Island who were surveyed about three months after giving birth between 2012-2015 reported ever having breastfed. Forty-six percent reported continued breastfeeding at the time of the survey.¹⁵

Breastfeeding Initiation and at Eight Weeks, Rhode Island, 2014



Source: Rhode Island Department of Health, Center for Health Data and Analysis, Pregnancy Risk Assessment Monitoring System (PRAMS), 2014.

Table 22. Breastfeeding at Time of Birth, Rhode Island, 2013-2017

CITY/TOWN	NUMBER OF BIRTHS SCREENED	NUMBER ANY BREASTFEEDING	PERCENT ANY BREASTFEEDING
Barrington	527	483	92%
Bristol	664	521	78%
Burrillville	601	458	76%
Central Falls	1,572	1,080	69%
Charlestown	221	181	82%
Coventry	1,438	1,140	79%
Cranston	3,860	2,990	77%
Cumberland	1,582	1,293	82%
East Greenwich	589	512	87%
East Providence	2,265	1,699	75%
Exeter	233	195	84%
Foster	167	145	87%
Glocester	302	236	78%
Hopkinton	251	213	85%
Jamestown	111	108	97%
Johnston	1,309	970	74%
Lincoln	951	749	79%
Little Compton	55	46	84%
Middletown	760	638	84%
Narragansett	297	256	86%
New Shoreham	54	45	83%
Newport	1,154	920	80%
North Kingstown	1,084	926	85%
North Providence	1,598	1,196	75%
North Smithfield	394	320	81%
Pawtucket	4,610	3,330	72%
Portsmouth	526	454	86%
Providence	12,090	8,517	70%
Richmond	311	266	86%
Scituate	407	336	83%
Smithfield	643	530	82%
South Kingstown	889	778	88%
Tiverton	356	294	83%
Warren	415	317	76%
Warwick	3,757	2,926	78%
West Greenwich	221	179	81%
West Warwick	1,680	1,173	70%
Westerly	730	605	83%
Woonsocket	2,663	1,771	67%
Four Core Cities	20,935	14,698	70%
Remainder Of State	30,402	24,098	79%
Rhode Island	51,337	38,796	76%

Rhode Island Supports for Breastfeeding

◆ All 50 states have passed legislation that provides mothers with the explicit right to breastfeed in public places.¹⁶ Since 2015, Rhode Island law has prohibited job discrimination based on pregnancy, childbirth, and related medical conditions and requires employers to make reasonable accommodations for workers for conditions related to pregnancy and childbirth, including breastfeeding.¹⁷

◆ In 2014, Rhode Island became the first state in the U.S. to establish licensure for International Board Certified Lactation Consultants (IBCLCs). State-certified and trained lactation consultants provide comprehensive lactation support and counseling for pregnant and postpartum women. In January 2019, Rhode Island had 57 licensed IBCLCs.^{18,19}

◆ Rhode Island is one of six states, in addition to Washington, D.C., that have enacted paid family leave programs, which can support breastfeeding initiation and duration.²⁰ U.S. mothers who have 12 or more weeks of paid maternity leave are nearly three times more likely to initiate breastfeeding and twice as likely to breastfeed for six or more months, compared to mothers with no paid leave.²¹

Sources of Data for Table/Methodology

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

Breastfeeding is defined as “breastfeeding as intended feeding method at hospital discharge.” “Percent With Any Breastfeeding” includes infants fed breast milk in combination with formula and those exclusively breastfed.

*Note: The data collection process at the Rhode Island Department of Health was changed in 2015. Prior to 2015, breastfeeding was recorded as “Breast,” “Bottle,” or “Both.” Since 2015, a “Yes” or “No” question on the birth certificate worksheet “Is the infant being breastfed at discharge?” has been used. Data from and prior to 2015 for “Exclusive breastfeeding” and “Both breast and formula” have been combined into the “Any breastfeeding” category to align with current data collection practices.

The number of births screened may differ from the total number of births reported elsewhere in the Factbook as not all documented births received a screening. Births to Rhode Island women that occurred outside Rhode Island are not included.

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

References

- ¹³ American Academy of Pediatrics. (2012). Policy statement: Breastfeeding and the use of human milk. *Pediatrics*, 129(3), 827-841.
- ¹⁸ *Breastfeeding: 2015-2020 Rhode Island strategic plan*. (2015). Providence, RI: Rhode Island Department of Health.
- ⁴ Kavanaugh, K. & Lessen, R. (2015). Position of the Academy of Nutrition and Dietetics: Promoting and supporting breastfeeding. *Journal of the American Dietetic Association*, 115, 444-449.
- ⁵ *Breastfeeding*. (2016). Washington, DC: Child Trends.
- ^{6,21} The Center for Law and Social Policy. (2016). *Public policies to support breastfeeding: Paid family leave and workplace lactation accommodations*. Retrieved January 7, 2019, from www.clasp.org

(continued on page 180)

Children with Lead Poisoning

DEFINITION

Children with lead poisoning is the percentage of three-year-old children with a confirmed elevated blood lead level (EBLL, ≥ 5 $\mu\text{g}/\text{dL}$) at any time prior to December 31, 2018.^{1,2} These data are for children eligible to enter kindergarten in the fall of 2020 (i.e., children born between September 1, 2014 and August 31, 2015).

SIGNIFICANCE

Lead poisoning is a preventable childhood disease. Infants, toddlers, and preschool-age children are most susceptible to the toxic effects of lead because they absorb lead more readily than adults and have inherent vulnerability due to developing central nervous systems.³ Lead exposure, even at very low levels, can cause irreversible damage, including slowed growth and development, learning disabilities, behavioral problems, and neurological damage. Though rare, severe poisoning can result in seizures, comas, and even death.^{4,5} The societal costs of childhood lead poisoning include the loss of future earnings due to decreased intelligence, and increased medical, special education, and juvenile justice costs.^{6,7} Children can be exposed to lead in the places they spend the most time. Homes, schools, and child care settings can be contaminated with lead from paint or paint dust if built before 1978.

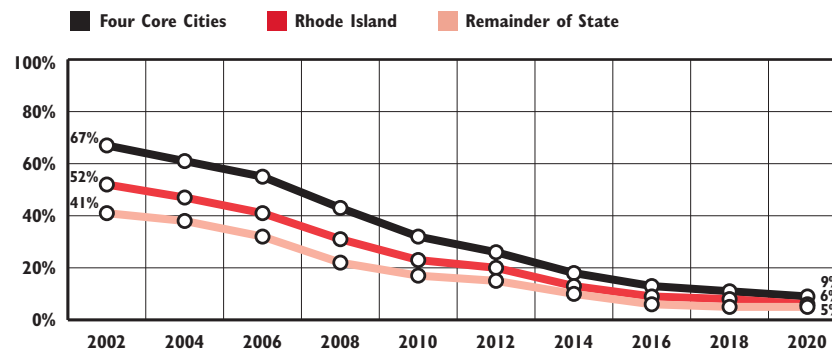
Children can also be exposed to lead poisoning through corrosion of lead service lines where a house or building's water pipe connects to the public water main.⁸

There is no safe lead level in children. In an effort to better alert health officials and families to the dangers of any lead exposure in children, in 2012 the CDC lowered the threshold for which a child is deemed to have an elevated blood lead level from 10 $\mu\text{g}/\text{dL}$ to 5 $\mu\text{g}/\text{dL}$. This new lower reference value allows parents and health officials to take corrective actions sooner.^{9,10,11}

Although the percentage of children with elevated blood lead levels is declining nationally and in Rhode Island, low-income children are at higher risk of lead exposure.^{12,13} In Rhode Island, children living in the four core cities are at increased risk for lead exposure because the housing stock tends to be older.¹⁴

In 2018, 635 (3%) of the 23,031 Rhode Island children under age six who were screened had confirmed elevated blood lead levels of ≥ 5 $\mu\text{g}/\text{dL}$. Children living in the four core cities (4%) were four times as likely as children in the remainder of the state (1%) to have confirmed elevated blood lead levels ≥ 5 $\mu\text{g}/\text{dL}$.¹⁵

Children Entering Kindergarten with History of Elevated* Blood Lead Level Screening (≥ 5 $\mu\text{g}/\text{dL}$), Rhode Island, Four Core Cities, and Remainder of State, 2002-2020



Source: Rhode Island Department of Health, Healthy Homes and Childhood Lead Poisoning Prevention Program, Children entering kindergarten between 2002 and 2020. *Elevated blood lead level of ≥ 5 $\mu\text{g}/\text{dL}$.

◆ The number of children with elevated blood lead levels has been steadily declining in all areas of Rhode Island over the past two decades. Compared to the remainder of the state, the core cities have nearly twice the rate of children with elevated blood levels.¹⁶

Lead Exposure and Academic Performance

◆ Exposure to lead has been shown to negatively impact academic performance in early childhood.¹⁷ Rhode Island children with a history of lead exposure, even at low levels, have been shown to have decreased reading readiness at kindergarten entry and diminished reading and math proficiency in the third grade. The most significant declines in academic performance occurred among children with the highest blood lead levels living in the four core cities. Children with lead exposure are also at increased risk for absenteeism, grade repetition, and special education services.^{18,19}

◆ A 2016 Department of Health initiative tested schools for lead in drinking water. The results and recommendations for action are available by school on the Department of Health website.^{20,21}

Table 23. Lead Poisoning in Children Entering Kindergarten in the Fall of 2020, Rhode Island

CITY/TOWN	NUMBER TESTED FOR LEAD POISONING	CONFIRMED WITH BLOOD LEAD LEVEL ≥ 5 $\mu\text{g/dL}$	
		NUMBER	PERCENT
Barrington	181	4	*
Bristol	145	11	7.6% ^
Burrillville	155	2	*
Central Falls	307	28	9.1%
Charlestown	36	2	*
Coventry	309	7	*
Cranston	768	52	6.8%
Cumberland	337	8	*
East Greenwich	158	5	*
East Providence	448	31	6.9%
Exeter	56	2	*
Foster	38	2	*
Glocester	57	2	*
Hopkinton	55	4	*
Jamestown	28	0	0.0%
Johnston	286	8	*
Lincoln	217	7	*
Little Compton	25	5	*
Middletown	201	8	*
Narragansett	61	3	*
New Shoreham	7	2	*
Newport	285	15	5.3% ^
North Kingstown	244	11	4.5% ^
North Providence	308	11	3.6% ^
North Smithfield	78	4	*
Pawtucket	872	51	5.8%
Portsmouth	130	2	1.5%
Providence	2,600	265	10.2%
Richmond	48	4	*
Scituate	101	1	*
Smithfield	122	0	0.0%
South Kingstown	179	7	*
Tiverton	127	7	*
Warren	107	11	10.3 ^
Warwick	741	30	4.0%
West Greenwich	47	0	0.0%
West Warwick	302	20	6.6%
Westerly	177	4	*
Woonsocket	589	26	4.4%
Unknown Residence	2	NA	NA
Four Core Cities	4,368	370	8.5%
Remainder of State	6,564	292	4.4%
Rhode Island	10,934	662	6.1%

Significantly Lead Poisoned Children Under Age Six

◆ Starting in 2015, a child is considered to be “significantly lead poisoned” if she or he has a single venous blood test result of ≥ 15 $\mu\text{g/dL}$. The number of children under age six who were significantly lead poisoned has decreased by 81% over the past 13 years, from 349 in 2005 to 68 in 2018.²²

◆ Starting in 2015, an environmental inspection of a child’s home is offered when a single venous test is ≥ 15 $\mu\text{g/dL}$ (versus ≥ 20 $\mu\text{g/dL}$ previously). The Rhode Island Department of Health sends certified lead inspectors to determine whether lead hazards are present and works with owners to make the property lead-safe. In 2018, 116 environmental inspections were offered, of which 67 were performed, 18 were refused, 18 were pending, and 13 the child had moved.²³

Lead Poisoning Screening for Children Age Three

◆ All Rhode Island children must have at least two blood lead screening tests by age three and annual screening through age six. Lead screening is a mandated covered health insurance benefit in Rhode Island. By the end of 2018, 79% of Rhode Island three-year-olds had received at least one blood test, 51% had received at least two blood tests, and 21% were never tested.^{24,25,26}

Source of Data for Table/Methodology

Rhode Island Department of Health, Healthy Homes and Childhood Lead Poisoning Prevention Program.

Data reported in this year’s Factbook is not comparable to editions prior to 2012, due to a change in definition and data improvements within the Healthy Homes and Childhood Lead Poisoning Prevention Program.

Data for children entering kindergarten in the fall of 2020 reflect the number of Rhode Island children eligible to enter school in the fall of 2020 (i.e., born between 9/1/14 and 8/31/15).

Children confirmed positive for lead poisoning (blood lead level ≥ 5 g/dL) are counted if they screened positive with a venous test and/or had a confirmed capillary test at any time in their lives prior to the end of December 2018. The Rhode Island Healthy Homes and Childhood Lead Poisoning Prevention Program recommends that children under age six with a capillary blood lead level of ≥ 5 g/dL receive a confirmatory venous test.

The denominator for percent confirmed is the number of children entering kindergarten in the fall of 2020 who were tested for lead poisoning. Data include both venous and confirmed capillary tests.

Of the 727 children entering kindergarten in 2020 who had an initial blood lead screen of ≥ 5 g/dL , six did not receive a confirmatory second test. Their lead poisoning status is unknown.

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

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

See Methodology Section for more information.

References

- ¹¹⁰ Centers for Disease Control and Prevention. (n.d.). *Blood lead levels in children*. Retrieved February 20, 2019, from www.cdc.gov
- ²²⁵ Rhode Island Department of Health. (2018). *Childhood lead poisoning prevention program referral intervention process*. Retrieved February 22, 2019, from www.health.ri.gov

(continued on page 180)

Children with Asthma

DEFINITION

Children with asthma is the rate of emergency department visits where asthma was the primary diagnosis per 1,000 children under age 18. Data are reported by place of child's residence at the time of the emergency department visit.

SIGNIFICANCE

Asthma is a chronic respiratory disease that causes treatable episodes of coughing, wheezing, shortness of breath, and chest tightness, which can be life threatening. Asthma attacks can be triggered by respiratory infections, air pollutants, cigarette smoke, allergens, and exposure to cold air or sudden temperature change. While the exact cause is unknown, various genetic, environmental, birth, and health factors have been linked to an increased risk for asthma.^{1,2,3}

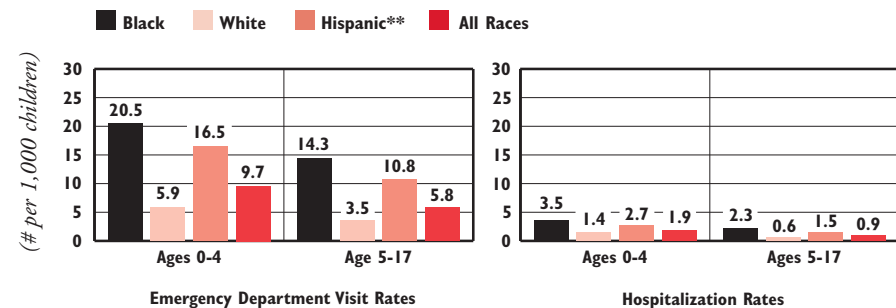
Nationally, asthma is one of the most common chronic conditions among children.⁴ After peaking at 9.6% in 2009, asthma prevalence among U.S. children fell to 8.4% in 2017.^{5,6} The highest rates of asthma are among males, children of Two or more races, and children living in poverty.⁷ Racial and ethnic differences in asthma prevalence are believed to be correlated with poverty, exposure to indoor and outdoor air pollution, stress, acute exposure to violence, access to healthcare, and genetic factors.^{8,9}

Compared with adults, children have higher rates of primary care and emergency department visits for asthma, similar hospitalization rates, and lower death rates.¹⁰ Asthma remains the third leading cause of hospitalization for children under age 15 and one of the leading causes of school absenteeism.¹¹

Proper asthma management requires continued assessment and monitoring, patient education, environmental control, and appropriate medication. Health care providers should work with the child and family to create an asthma action plan, which provides instruction on how to avoid asthma triggers and how to use medications properly. An asthma action plan can improve health outcomes and reduce costly asthma hospitalizations if adhered to and supported by enhanced care and community-based interventions.^{12,13,14,15,16}

Rhode Island middle and high school staff provide information and referrals about asthma. In 2016, 73% of middle and high schools reported providing health care referrals for students diagnosed with or suspected of having asthma, 53% percent of schools reported providing asthma education to students, 31% percent reported using an assessment tool to evaluate school policies, activities, and programs related to asthma, and 18% provided families with information on asthma.¹⁷

Asthma* Emergency Department and Hospitalization Rates, by Age and Race/Ethnicity, Rhode Island Children, 2013-2017



Source: Rhode Island Department of Health, Hospital Discharge Database, 2013-2017; U.S. Census Bureau, Census 2010. *Rates are for primary diagnosis of asthma. **Hispanic children can be of any race.

- ◆ In Rhode Island between 2013 and 2017, Black children, Hispanic children, and children ages five to twelve were the most likely to visit the emergency department or be hospitalized as a result of asthma. Children of all ages were more likely to visit the emergency department than to be hospitalized for asthma.¹⁸
- ◆ In Rhode Island between 2013 and 2017, boys under age 18 had higher asthma emergency department visits (8.7 per 1,000 boys) and hospitalization (1.4 per 1,000 boys) rates than girls under age 18 (5.8 and 1.0 per 1,000 girls respectively).¹⁹
- ◆ Among all children who had an emergency department visit for a primary diagnosis of asthma in Rhode Island between 2013 and 2017, 68% had RIte Care/Medicaid coverage, 26% had private health insurance, 4% were self-pay (which could mean they were uninsured or that their insurance did not cover the cost of care), and 2% were unknown/other. Among hospital admissions during that time, 57% had RIte Care/Medicaid coverage, 38% had private health insurance, 4% were self-pay, and 1% were unknown/other.²⁰

Table 24. Asthma Emergency Department Visits for Children Under Age 18, Rhode Island, 2013-2017

Child Hospitalization Rates for Asthma

◆ In 2015, Rhode Island parents reported higher rates of current asthma prevalence of their children (9.8%) than the national average (8.5%). Rhode Island has the ninth highest self-reported child asthma prevalence among ranked states.²¹

◆ In Rhode Island between 2013 and 2017, there were 1,295 hospitalizations with primary asthma diagnosis of children under age 18, a rate of 1.2 per 1,000 children. The rate of primary asthma hospitalizations was more than twice as high in the four core cities (1.8 per 1,000 children) than in the remainder of the state (0.8 per 1,000 children).²²

◆ Primary asthma hospitalization rates for children were highest in Providence (2.1 per 1,000 children), Central Falls (1.8), Pawtucket (1.7), Middletown (1.5), Barrington (1.5), East Providence (1.4), and Newport (1.3) between 2013 and 2017.²³

CITY/TOWN	ESTIMATED # OF CHILDREN UNDER AGE 18	# OF CHILD EMERGENCY DEPT. VISITS WITH PRIMARY ASTHMA DIAGNOSIS	RATE OF CHILD EMERGENCY DEPT. VISITS WITH PRIMARY ASTHMA DIAGNOSIS, PER 1,000 CHILDREN
Barrington	4,597	105	4.6
Bristol	3,623	54	3.0
Burrillville	3,576	49	2.7
Central Falls	5,644	346	12.3
Charlestown	1,506	19	2.5 [^]
Coventry	7,770	176	4.5
Cranston	16,414	402	4.9
Cumberland	7,535	97	2.6
East Greenwich	3,436	40	2.3
East Providence	9,177	240	5.2
Exeter	1,334	23	3.4 [^]
Foster	986	6	*
Glocester	2,098	24	2.3 [^]
Hopkinton	1,845	23	2.5 [^]
Jamestown	1,043	12	2.3 [^]
Johnston	5,480	140	5.1
Lincoln	4,751	76	3.2
Little Compton	654	7	*
Middletown	3,652	115	6.3
Narragansett	2,269	41	3.6
New Shoreham	163	0	0.0
Newport	4,083	205	10.0
North Kingstown	6,322	89	2.8
North Providence	5,514	210	7.6
North Smithfield	2,456	37	3.0
Pawtucket	16,575	774	9.3
Portsmouth	3,996	55	2.8
Providence	41,634	2,779	13.3
Richmond	1,849	20	2.2 [^]
Scituate	2,272	20	1.8 [^]
Smithfield	3,625	36	2.0
South Kingstown	5,416	87	3.2
Tiverton	2,998	18	1.2
Warren	1,940	54	5.6
Warwick	15,825	367	4.6
West Greenwich	1,477	27	3.7 [^]
West Warwick	5,746	209	7.3
Westerly	4,787	117	4.9
Woonsocket	9,888	539	10.9
Four Core Cities	73,741	4,438	12.0
Remainder State	150,215	3,205	4.3
Rhode Island	223,956	7,643	6.8

Source of Data for Table/Methodology

Rhode Island Department of Health, Hospital Discharge Database, 2013-2017.

The Rhode Island Department of Health defines emergency department visits with primary asthma diagnosis as those resulting in a home discharge or another facility, but not admitted to the hospital as an inpatient. As such, data are not comparable to *Factbooks* prior to 2017.

The denominator used to compute the 2013-2017 rate of emergency department visits is the number of children according to the 2010 U.S. Census, multiplied by five.

[^] 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: Children were Rhode Island residents, but specific city/town information was unavailable.

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

References

- ¹⁴ *Asthma*. (2016). Washington, DC: Child Trends.
- ² *The burden of asthma in Rhode Island*. (2014). Providence, RI: Rhode Island Department of Health, Asthma Control Program.
- ^{3,8} Ekerholm, S., Pearlman, D. N., Robinson, D., Sutton, N., & Goldman, D. (2012). *Measuring up: A health surveillance update on Rhode Island children with asthma*. Providence, RI: Rhode Island Department of Health, Division of Community, Family Health and Equity, Asthma Control Program.
- ^{5,7} National Health Interview Survey. (2017). *Table C-1a. Age-adjusted percentages (with standard errors) of ever having asthma and still having asthma for children under age 18 years, by selected characteristics: United States, 2017*. Retrieved January 7, 2019, from www.cdc.gov/nchs/nhis
- ⁶ Centers for Disease Control and Prevention. (2012). National surveillance of asthma: United States, 2001-2010. *Vital and Health Statistics*, 3(35), 1-57.

(continued on page 181)

Housing and Health

DEFINITION

Housing and health is the percentage of children under age 18 who live in low-income families that reside in older housing, defined as housing built before 1980. Low-income families are those with incomes less than 200% of the federal poverty level.

SIGNIFICANCE

Homes that are dry, clean, pest free, safe, contaminant free, well-ventilated, well-maintained, and thermally-controlled can provide a healthy environment for children and residents.¹ Safe, affordable, and stable housing maintains the health and well-being of families and children, supporting mental and emotional health as well as physical safety.² Healthy housing also protects families from weather, environmental hazards, and injury and provides a safe place for children to eat, sleep, play, and grow.³

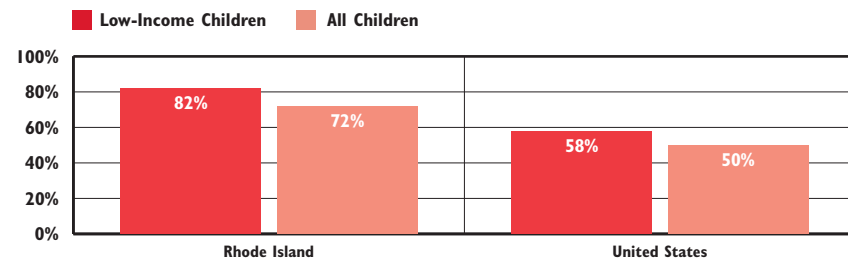
Unhealthy housing can cause or intensify many health conditions. Studies have connected poor quality construction, utility deficiencies, water intrusion, lead paint, radon, and pests to respiratory illnesses, asthma, unintentional injuries, lead poisoning, and cancer. Children under age 14, low-income children, and children of color under age five are at increased risk for fall injuries due to unsafe sleep and home environments, including aging and deteriorating housing.^{4,5,6}

Poor quality housing is also a strong predictor of emotional and behavioral problems in low-income children and youth as well as academic achievement. Adolescents living in poorer quality homes have lower reading and math proficiency than their peers.⁷

The quality and stability of children's homes can have long-term effects on children. Lack of adequate and affordable housing puts safe, healthy, well-maintained homes out of reach for many families. Families may be forced to move frequently in search of better, more affordable housing, or to raise their children in overcrowded and unsafe environments that can interfere with their growth, development, health, and academic performance. Overcrowded housing is associated with mental health concerns, stress, sleep problems, injury, and exposure to disease, while multiple moves are associated with behavioral and mental health concerns, academic difficulties, and substance use.⁸

Adopting a comprehensive "healthy homes" approach that addresses multiple housing deficiencies simultaneously can help prevent housing-related injuries and illnesses, reduce health costs, and improve children's quality of life. Because the causes of many health conditions related to the home environment are interconnected, it can be cost-effective to address multiple hazards simultaneously.^{9,10}

Children Living in Older Housing*, 2013-2017, Rhode Island and the United States



Source: Population Reference Bureau analysis of 2013-2017 American Community Survey (ACS) Public Use Microsample (PUMS) data. *Older housing is defined as built before 1980. The ACS reports housing year built by decade, so this is the best available approximation for housing built before 1978 when interior lead paint was banned. Factbooks prior to 2016 are not comparable due to the discontinuation of 3 year ACS data.

- ◆ **Between 2013 and 2017, Rhode Island had the highest percentage of low-income children (82%) and the second highest percentage of children of all incomes (72%) living in older housing in the U.S., after New York.¹¹**
- ◆ **Lead Poisoning: Children living in homes built before 1978 are at risk for lead poisoning. Even at low levels, lead exposure can negatively affect a child's health, development, and brain.¹² In 2018, 635 (3%) of Rhode Island children under age six had a confirmed blood lead level of ≥ 5 $\mu\text{g}/\text{dL}$.¹³**
- ◆ **Asthma: Asthma is a common chronic condition in children and is a leading cause of school absences and hospitalization for children under age 15 in the U.S.¹⁴ Between 2013 and 2017, there were 4,029 emergency department visits of Rhode Island children ages six and under (9.9 per 1,000) for which asthma was the primary diagnosis.¹⁵**
- ◆ **Unintentional Injuries: Falls are the leading cause of non-fatal unintentional injuries among children in the U.S.¹⁶ In 2017, housing-related falls resulted in 1,370 emergency room visits by Rhode Island children age six and under.¹⁷**
- ◆ **Weatherization Assistance Program: The program helps income eligible households reduce heating bills by providing whole-house energy efficiency and safety services. In 2018, 1,743 Rhode Island children under age 18 benefited from 1,694 completed weatherization projects administered by seven Community Action Program agencies.^{18,19}**

Table 25.

Housing and Health, Rhode Island

CITY/TOWN	# OF CHILDREN AGES 6 AND UNDER 2010	CHILDREN WITH LEAD POISONING 2018			PRIMARY ASTHMA ED VISITS 2013-2017		HOUSING RELATED FALLS 2017	WEATHERIZATION PROJECTS 2018	% HOUSING STOCK PRE-1980
		#	TESTED	%	#	RATE PER 1,000			
Barrington	1,213	1	463	*	55	9.1	21	7	84%
Bristol	1,316	6	342	*	35	5.3	18	24	67%
Burrillville	1,186	3	244	*	21	3.5^	14	23	65%
Central Falls	2,374	31	751	4.1%	189	15.9	48	17	88%
Charlestown	493	0	75	0.0%	10	*	7	23	51%
Coventry	2,508	6	585	*	105	8.4	39	42	65%
Cranston	5,814	34	1,628	2.1%	195	6.7	98	212	78%
Cumberland	2,603	6	701	*	33	2.5	36	22	63%
East Greenwich	930	2	257	*	19	4.1^	4	7	67%
East Providence	3,545	23	1,143	2.0%	129	7.3	60	118	85%
Exeter	390	0	66	0.0%	8	*	2	9	45%
Foster	315	1	55	*	4	*	6	7	66%
Glocester	633	2	105	*	8	*	5	19	65%
Hopkinton	618	5	125	*	11	*	7	12	63%
Jamestown	287	0	45	0.0%	8	*	3	4	58%
Johnston	1,930	2	466	*	58	6.0	33	71	64%
Lincoln	1,490	5	400	*	35	4.7	20	11	72%
Little Compton	188	1	31	*	3	*	3	5	70%
Middletown	1,331	3	302	*	58	8.7	30	15	67%
Narragansett	739	1	76	*	18	4.9^	13	17	57%
New Shoreham	57	0	22	0.0%^	0	0.0	0	0	56%
Newport	1,792	24	418	5.7%	120	13.4	37	12	82%
North Kingstown	1,965	5	430	*	46	4.7	25	20	64%
North Providence	2,040	11	626	1.8%^	121	11.9	44	62	72%
North Smithfield	752	4	175	*	11	*	10	11	67%
Pawtucket	6,835	58	1,920	3.0%	413	12.1	136	141	88%
Portsmouth	1,206	0	274	0.0%	28	4.6	16	14	62%
Providence	16,934	316	6,361	5.0%	1,543	18.2	350	385	84%
Richmond	635	1	82	*	12	3.8^	7	17	47%
Scituate	608	3	169	*	7	*	7	27	68%
Smithfield	1,076	1	292	*	18	3.3^	15	26	62%
South Kingstown	1,707	1	336	*	39	4.6	16	25	57%
Tiverton	1,006	5	337	*	5	*	8	42	61%
Warren	727	6	214	*	28	7.7	7	20	78%
Warwick	5,561	13	1,393	0.9%^	176	6.3	91	105	80%
West Greenwich	446	0	84	0.0%	9	*	0	6	31%
West Warwick	2,351	8	604	*	113	9.6	39	33	74%
Westerly	1,735	3	287	*	55	6.3	18	46	62%
Woonsocket	4,212	44	1,147	3.8%	283	13.4	77	37	89%
Four Core Cities	30,355	449	10,179	4.4%	2,428	16.0	611	580	86%
Remainder of State	51,193	186	12,852	1.4%	1,601	6.3	759	1,114	70%
Rhode Island	81,548	635	23,031	2.8%	4,029	9.9	1,370	1,694	74%

Source of Data for Table/Methodology

Source of Data for Table/Methodology Children Age Six and Under: U.S. Census Bureau, Census 2010. Table PCT12.

Children with Lead Poisoning: Rhode Island Department of Health, Healthy Homes and Childhood Lead Poisoning Prevention Program, 2018. The numerator is the number of Rhode Island children with a confirmed blood lead level ≥ 5 g/dL in calendar year 2018. The denominator is the number of children who were tested in calendar year 2018. Data are for children under age six.

Children with Asthma: Rhode Island Department of Health, Hospital Discharge Database, 2013-2017. The Rhode Island Department of Health defines emergency department (ED) visits for children with a primary asthma diagnosis as those resulting in a home discharge or another facility, but not admitted to the hospital as an inpatient. For details, see Children with Asthma indicator. Data are for children age six and under.

Housing Related Falls: Rhode Island Department of Health, Center for Health Data and Analysis, 2017. Data are for children age six and under who are residents of Rhode Island.

Weatherization Projects: Rhode Island Department of Human Services, Weatherization Assistance Program data, 2018. Weatherization projects are defined as those receiving a final inspection by end of calendar year 2018.

Housing Stock Pre-1980: Population Reference Bureau analysis of 2013-2017 American Community Survey (ACS) Public Use Microsample (PUMS) data. Table B25034. Older housing is defined as built before 1980. The ACS reports housing year built by decade, so this is the best available approximation for housing built before 1978 when interior lead paint was banned.

* 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.

Effective October 1, 2015, the International Classification of Disease (ICD) codes changed from the 9th classification to the 10th classification, which may impact comparability across the years for Housing Related Falls.

(Sources continued with References on page 181)

Childhood Overweight and Obesity

DEFINITION

Childhood overweight and obesity is the percentage of children whose body mass index (BMI) meets the definition for overweight or obese. Children with a BMI at or above the 95th percentile for gender and age are considered to be obese, and children with a BMI between the 85th and 95th percentiles are considered to be overweight or at risk for obesity.¹

SIGNIFICANCE

Children and adolescents who are overweight or obese are at immediate and/or long-term risk of many health problems, including type 2 diabetes, cardiovascular disease, asthma, joint problems, sleep apnea, and other acute and chronic health problems. Over time, these conditions may contribute to a shorter lifespan. They may also experience social and psychological problems, including depression, bullying, and social marginalization. Obese children and youth are also more likely to repeat a grade, be absent from school, and have reduced academic performance than their peers.^{2,3,4}

Nationally, there is a continued upward trend in obesity.⁵ In 2015-2016 in the U.S., the prevalence of obesity in children ages two to 19 was 19% with a significant increase in severe obesity for children ages two to five years.^{6,7}

Prior to 2018, Rhode Island did not have adequate clinical childhood BMI data. A recent study of 41,394 de-identified records with clinical and related billing code data from 2016 found that 15% of Rhode Island children ages two to 17 are overweight and 20% are obese.⁸

The increased prevalence of childhood obesity is the result of complex interactions among many factors, including excess calorie consumption, genes, metabolism, behavior, environment, and culture.⁹ Low consumption of healthy foods, high consumption of sugar-sweetened beverages and energy dense foods, low levels of physical activity, and high levels of screen time are all associated with obesity.¹⁰

Prevention and intervention for at-risk, overweight, and obese children should occur early and at all ages.¹¹ Reducing overweight and obesity will require a comprehensive, multi-system approach.

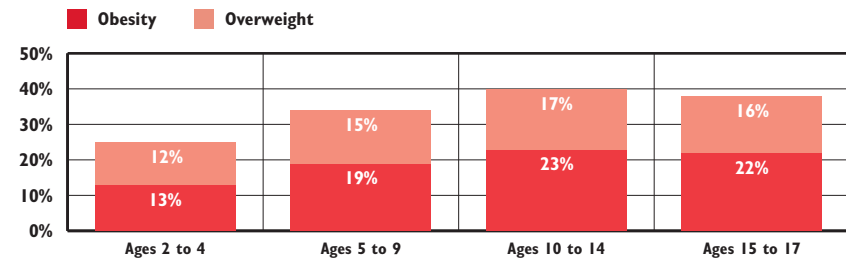
Overweight and Obesity Among Children Age 10-17 (Combined Overweight and Obesity)	
	2017
RI	31%
US	31%
National Rank*	31st
New England Rank**	5th

*1st is best; 50th is worst

**1st is best; 6th is worst

Source: Data Resource Center for Child and Adolescent Health, 2017 National Survey of Children's Health, childhealthdata.org

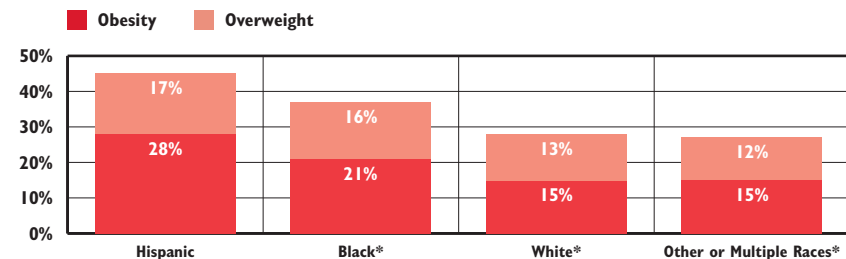
Rhode Island Childhood Overweight and Obesity by Age, 2016



Source: Hassenfeld Child Health Innovation Institute analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross & Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, and United Healthcare collected by the Department of Health, 2016.

- ◆ Fifteen percent of Rhode Island children age two to 17 are overweight and 20% are obese.¹²
- ◆ Older children are more likely to be overweight or obese. Twenty-three percent of children ages 10 to 14 and 22% of children ages 15 to 17 are obese.¹³
- ◆ Twenty-six percent of children covered by public insurance are obese compared to 14% of children with private health insurance.¹⁴

Rhode Island Childhood Overweight and Obesity by Race/Ethnicity, 2016



Source: Hassenfeld Child Health Innovation Institute analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross & Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, and United Healthcare collected by the Department of Health, 2016. *Non-Hispanic.

- ◆ Hispanic children have the highest rates of overweight and obesity at 17% overweight and 28% obese.¹⁵

Childhood Overweight and Obesity

Table 26. Prevalence of Overweight and Obesity in Rhode Island Children Ages 2 to 17, 2016

CITY/TOWN	% OVERWEIGHT	% OBESE	% OVERWEIGHT AND OBESE COMBINED
Barrington	13%	7%	20%
Bristol	18%	15%	33%
Burrillville	16%	16%	32%
Central Falls	19%	29%	48%
Charlestown	17%	19%	36%
Coventry	12%	15%	27%
Cranston	14%	19%	33%
Cumberland	15%	16%	31%
East Greenwich	13%	9%	22%
East Providence	15%	21%	36%
Exeter	10%	12%	22%
Foster	15%	13%	28%
Glocester	14%	11%	25%
Hopkinton	14%	14%	28%
Jamestown	*	17%^	NA
Johnston	16%	19%	35%
Lincoln	16%	17%	33%
Little Compton	24%^	32%^	NA
Middletown	12%	25%	37%
Narragansett	16%	19%	35%
New Shoreham	*	*	NA
Newport	15%	21%	36%
North Kingstown	9%	12%	21%
North Providence	17%	18%	35%
North Smithfield	16%	13%	29%
Pawtucket	17%	26%	43%
Portsmouth	10%^	23%	NA
Providence	17%	26%	43%
Richmond	13%	16%	29%
Scituate	14%	12%	26%
Smithfield	12%	12%	24%
South Kingstown	18%	16%	34%
Tiverton	13%	20%	34%
Warren	18%	17%	35%
Warwick	15%	15%	30%
West Greenwich	12%	16%	28%
West Warwick	14%	20%	34%
Westerly	12%	16%	28%
Woonsocket	14%	25%	39%
Four Core Cities	17%	26%	43%
Remainder of State	14%	16%	30%
Rhode Island	15%	20%	35%

Nutrition and Physical Activity

◆ Nutrition and physical activity are important components of supporting a healthy weight. Many children and adolescents consume diets with too many calories and not enough nutrients.^{16,17} In 2017, 88% of Rhode Island high school students reported eating less than three servings of vegetables a day, the recommended amount. Eleven percent of Rhode Island high school students reported drinking soda at least once a day.¹⁸

◆ Regular physical activity, including school-based physical education and recess, has been shown to have physical, social, emotional, cognitive, academic, and health benefits.^{19,20} In 2017, 54% of Rhode Island middle school students and 59% of high school students reported less than five days of physical activity in a week.²¹

◆ Policy strategies to reduce obesity include improving access to nutritional and affordable foods and beverages, ensuring healthy food in schools, increasing options for physical activity before, during, and after school as well as in early learning programs, and improving access to safe and walkable neighborhoods and recreational areas.²²

Source of Data for Table/Methodology

Hassenfeld Child Health Innovation Institute analysis of BMI clinical and billing records of children ages 2 to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross & Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, and United Healthcare collected by the Department of Health, 2016.

^ 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.

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

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- Hassenfeld Child Health Innovation Institute analysis of BMI clinical and billing records of children ages two to 17 in Rhode Island from KIDSNET, Current Care, Blue Cross & Blue Shield of Rhode Island, Neighborhood Health Plan of Rhode Island, and United Healthcare collected by the Department of Health, 2016.

(continued on page 181)

Births to Teens

DEFINITION

Births to teens is the number of births to teen girls ages 15 to 19 per 1,000 teen girls.

SIGNIFICANCE

Teen pregnancy and parenting threaten the development of teen parents as well as their children. Children of teen parents have higher rates of infant mortality, premature birth, and low birth weight. Children of teens have lower test scores, academic outcomes, and are more likely to have a teen birth themselves compared with children of older mothers.¹ There are strong intergenerational links between maternal education among teen mothers, and educational attainment, income, and well-being in the next generation.²

Teen mothers are less likely to graduate from high school or go to college.³ Teen girls in foster care are more than twice as likely as their peers to become pregnant by age 19.⁴

Nationally, one in six births to teens are repeat births (two or more children born before the mother is 20 years old). Repeat teen births are more likely to be preterm or low birthweight than first teen births.⁵ Teens mothers who have repeat births are more likely to experience additional negative outcomes, including increased health issues, lower educational attainment, and less economic independence.⁶

Despite downward national trends of teen births, including among all racial and ethnic groups, disparities in teen births persist. In 2017 in the U.S., the rate of teen birth for Hispanic teens (28.9 births per 1,000) and to non-Hispanic Black teens (27.56 per 1,000), were both more than twice the rate of non-Hispanic white teens (13.2 per 1,000).⁷

After peaking in 1991, the U.S. teen birth rate steadily declined, reaching a historic low in 2017. Despite these declines, the U.S. teen birth rate remains higher than other developed countries.^{8,9,10}

Rhode Island's teen birth rate mirrors national trends, peaking in 1993 at a rate of 47.6 per 1,000, and reaching a historic low in 2017 at a rate of 11.4 per 1,000.^{11,12} In 2018 in Rhode Island, 4% (395) of all babies were born to teen mothers.¹³ Nationally and in Rhode Island, fewer teens are having sex and those that are sexually active are more likely to use contraception.^{14,15}

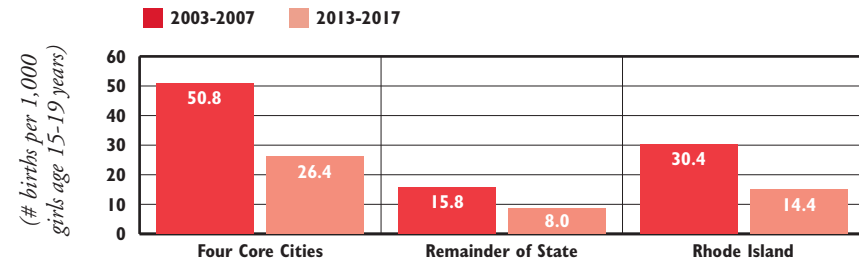
Teen Birth Rates (rate per 1,000 girls ages 15-19)		
	1991	2017
RI	44.7	11.4
US	61.8	18.8
National Rank*		6th
New England Rank**		5th

*1st is best; 50th is worst

**1st is best; 6th is worst

Source: For 1991: Ventura, S. J., et al. (2014). National and state patterns of teen births in the United States, 1940-2013. *NVSR*, 63(4), 1-33. For 2017: Martin, J. A., Hamilton, B. E., Osterman, M. J. K., Driscoll, A. K., & Drake, P. (2018). Births: Final data for 2017. *National Vital Statistics Reports*, 67(8), 1-49.

Teen Birth Rates, Rhode Island, Five-Year Average Comparisons: 2003-2007, 2013-2017



Source: Rhode Island Department of Health, Center for Health Data and Analysis, 2003-2017.

- ◆ In 2017, the birth rate for U.S. teens (18.8 births per 1,000 teen girls) and Rhode Island teens (11.4 births per 1,000 teen girls) were the lowest ever recorded.¹⁶
- ◆ The statewide five-year average teen birth rate declined 53% between 2003-2007 and 2013-2017, from 30.4 births per 1,000 teen girls to 14.4. The teen birth rate in the four core cities declined by 54% during that time but remains more than three times higher than the rest of the state.¹⁷
- ◆ Despite declines among all racial and ethnic groups, disparities still exist in teen birth rates.¹⁸ In Rhode Island between 2013 and 2017, the teen birth rates for Hispanic (35.2 per 1,000), Native American (27.1 per 1,000), and Black (16.4 per 1,000) teens were higher than the rates of their White (7.9 per 1,000) and Asian (4.0 per 1,000) peers.¹⁹

Repeat Births to Teens, Rhode Island, 2013-2017

AGE	TOTAL NUMBER OF BIRTHS	NUMBER OF REPEAT BIRTHS	PERCENT REPEAT BIRTHS
15-17	664	34	5%
18-19	1,995	350	18%
TOTAL 15-19	2,659	384	14%

Source: Rhode Island Department of Health, Center for Health Data and Analysis, 2013-2017.

- ◆ Nationally, 17% of all births to teens ages 15-19 in 2016 were repeat births.²⁰ To continue to reduce repeat teen births, pregnant and parenting teens should be connected to patient-centered primary care that address a variety of needs and integrate a range of tailored services for young mothers and families.²¹

Teen Birth Rates by Location

◆ In Rhode Island between 2013 and 2017, the rate of births to teens ages 15-19 in the core cities (26.4 per 1,000) was more than three times higher than the remainder of the state (8.0 per 1,000).²²

◆ Fifteen percent of teen births in the core cities were repeat births, while 14% of teen births in the rest of the state were repeat births.²³

◆ Healthcare providers play a key role in reducing teen births, by integrating comprehensive reproductive health counseling to all women and men of reproductive age, to help reduce unintended pregnancies.²⁴

◆ In 2017, 19% of Rhode Island high school students who reported ever having sexual intercourse used no method (or were not sure) to prevent pregnancy, and 40% percent did not use a condom, the last time they had sexual intercourse.²⁵

◆ Among 15 to 19-year-olds in Rhode Island between 2008 and 2017, the rates of chlamydia have increased by 36% (1,388 to 1,880 per 100,000) and the rates of gonorrhea have increased by 147% (89 to 219 per 100,000).²⁶

Table 27. Births to Teens, Ages 15-19, Rhode Island, 2013-2017

CITY/TOWN	# OF BIRTHS TO GIRLS AGES 15-17	# OF BIRTHS TO GIRLS AGES 18-19	# OF BIRTHS TO GIRLS AGES 15-19	BIRTH RATE PER 1,000 GIRLS AGES 15-19
Barrington	1	3	4	*
Bristol	4	13	17	2.8 [^]
Burrillville	7	18	25	9.2
Central Falls	53	139	192	47.4
Charlestown	3	17	20	17.3 [^]
Coventry	6	29	35	6.5
Cranston	27	87	114	9.0
Cumberland	7	19	26	5.2
East Greenwich	0	7	7	*
East Providence	22	54	76	18.1
Exeter	4	9	13	15.9 [^]
Foster	2	3	5	*
Glocester	0	9	9	*
Hopkinton	1	7	8	*
Jamestown	0	1	1	*
Johnston	5	34	39	10.6
Lincoln	3	24	27	11.4
Little Compton	0	0	0	0
Middletown	7	11	18	12.9 [^]
Narragansett	2	2	4	*
New Shoreham	0	1	1	*
Newport	16	38	54	8.9
North Kingstown	9	23	32	7.2
North Providence	16	49	65	17.2
North Smithfield	3	5	8	*
Pawtucket	62	197	259	26.6
Portsmouth	4	7	11	*
Providence	268	715	983	22.1
Richmond	1	9	10	*
Scituate	1	7	8	*
Smithfield	1	4	5	*
South Kingstown	2	18	20	1.3 [^]
Tiverton	4	10	14	13.3 [^]
Warren	2	18	20	18.4 [^]
Warwick	30	90	120	12.6
West Greenwich	1	8	9	*
West Warwick	24	79	103	34.2
Westerly	7	26	33	10.7
Woonsocket	59	199	258	44.6
Unknown	0	6	6	
Four Core Cities	442	1,250	1,692	26.4
Remainder of State	222	739	961	8.0
Rhode Island	664	1,995	2,659	14.4

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 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.

The denominators for girls ages 15 to 19 are from the Census 2010 Summary File 1, which are then multiplied by five.

In the 2012 Factbook, the denominators for the city/town table were updated with population data from Census 2010. *Factbooks* prior to 2012 used population data from Census 2000. Changes in rates are affected by the updated population data.

Factbooks published before 2007 reported only births to girls ages 15 to 17. The definition of teen childbearing was expanded to include teens ages 15-19 to align with reports from the U.S. Centers for Disease Control and Prevention's National Center for Health Statistics.

Births to teens ages 14 and younger are collected by the Rhode Island Department of Health but are not reported in the *Factbook*.

Unknown births include three births with missing maternal residence data.

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

References

^{1,14} *Teen births: Indicator of child and youth well-being.* (2016). Washington, DC: Child Trends.

^{2,10,20} U.S. Department of Health & Human Services Office of Adolescent Health. (2016). *Trends in teen pregnancy and childbearing.* Retrieved March 1, 2019, from www.hhs.gov

³ Centers for Disease Control and Prevention. (2019). *About teen pregnancy.* Retrieved March 1, 2019, from cdc.gov

⁴ Brooks, K. (2019). *Teen pregnancy and foster care.* Washington, DC: National Center for Health Research.

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Alcohol, Drug, and Tobacco Use

DEFINITION

Alcohol, drug, and tobacco use is the percentage of middle school and high school students who report using alcohol, tobacco products (including e-cigarettes), and illicit substances.

SIGNIFICANCE

The use and/or abuse of substances such as alcohol, tobacco, and other substances by youth impact the health and safety of themselves, their families, their schools, and their communities.^{1,2} Rhode Island ranks among the states with the highest percentages of adolescents reporting use of alcohol and many types of illicit drugs.³

Key risk periods for alcohol, tobacco, and other drug abuse occur during major life transitions, including the shifts to middle school and high school, when young people experience new academic, social, and emotional challenges. Adolescents are especially vulnerable to developing substance abuse disorders because their brains are still developing; the prefrontal cortex, responsible for decision-making and risk-assessment, is not mature until the mid-20s.^{4,5}

Pathways for becoming a substance user involve the relationship between risk and protective factors, which vary in their effect on different people. Risk factors are associated with increased drug use and include early aggressive

behavior, poor school achievement, peer and parental substance abuse, chaotic home environment, and poverty. Protective factors lessen the risk of drug use, and include a strong parent-child bond, healthy school environment, academic competence, and attachment to their communities.^{6,7} For over three decades, Hispanic and Black high school seniors in the U.S. have generally had lower rates of substance use than their White peers, but recently these differences have narrowed due to an increased use of marijuana.^{8,9}

Prevention and reduction in teen substance abuse can be achieved by enacting policies that support prevention, screening, early intervention, treatment, and recovery. Policy examples include preventing underage substance use and sales to minors, improving school climate and academic achievement, enacting sentencing reform, and adequate funding for multi-sector youth development, treatment, and recovery services.¹⁰

In Rhode Island in 2013-2014, 3% of youth ages 12-17 needed but did not receive specialty treatment for their alcohol use problem, which is the 15th highest rate among all states. Four percent of Rhode Island youth ages 12-17, needed but did not receive any specialty treatment for their illicit drug use. Rhode Island has the sixth highest percentage among all states on this measure.¹¹

Tobacco Use Among Rhode Island Youth

- ◆ In 2017, 26% of Rhode Island high school students reported currently smoking cigarettes or cigars or using smokeless tobacco or e-cigarettes (i.e. e-cigars, e-pipes, vaping pipes/pens, e-hookahs/pens). Current use is defined as use on at least one day during the 30 days before the survey.¹²
- ◆ **E-Cigarettes:** E-cigarettes are harmful to youth. They contain, among other chemicals, nicotine which is highly addictive and can harm brain development. Some e-cigarette pods have as much or more nicotine as a pack of cigarettes.¹³
- ◆ **E-Cigarettes:** Nationally in 2018, current e-cigarette use among high school students reached 21%, higher than use of traditional tobacco cigarettes or any other tobacco product.¹⁴ In Rhode Island in 2017, 20% of high school students reported current use of e-cigarettes and 40% reported ever using e-cigarettes.¹⁵ Effective January 1, 2018, the General Assembly passed legislation prohibiting the use of e-cigarettes in schools.¹⁶
- ◆ **Cigarettes:** Cigarette use has reached record low levels among U.S. middle and high school students.¹⁷ In 2017, 6% of Rhode Island high school students reported currently smoking cigarettes. Fifty-nine percent of Rhode Island high school students who reported current cigarette use in 2017 also reported trying to quit smoking in the past year.¹⁸
- ◆ **Hookah, cigars, and smokeless tobacco:** The prevalence of youth hookah, cigar, and smokeless tobacco use has declined nationally and in Rhode Island.¹⁹ In 2017, 5% of Rhode Island high school students reported currently smoking tobacco in a hookah, 7% reported currently smoking cigars, and 5% reported current use of smokeless tobacco.²⁰

Tobacco to 21

- ◆ The Centers for Disease Control and Prevention, the Institute of Medicine, and the American Academy of Pediatrics suggest that raising the minimum legal sale age for tobacco products to 21 may prevent or delay initiation of tobacco use by adolescents.^{21,22,23} Nationally, 88% of adult cigarette users who smoke daily report starting by age 18.²⁴ Rhode Island's minimum sale age is 18 years. As of January 2018, seven states have set the age to 21 (HI, CA, NJ, OR, ME, MA, VA).^{25,26}

Current Substance Use, Rhode Island High School Students by Select Subgroups, 2017

	ALCOHOL USE*	E-CIGARETTE USE*	CIGARETTE USE*	MARIJUANA USE*	PRESCRIPTION DRUG MISUSE**
Female	26%	17%	5%	23%	3%
Male	20%	22%	7%	23%	4%
Black, Non-Hispanic	19%	12%	1%	27%	4%
White, Non-Hispanic	25%	23%	7%	22%	3%
All other races, Non-Hispanic	NA	16%	1%	19%	2%
Multiple races, Non-Hispanic	29%	20%	6%	38%	1%
Hispanic	20%	16%	6%	23%	4%
9th Grade	16%	17%	6%	15%	4%
10th Grade	20%	21%	5%	20%	5%
11th Grade	26%	22%	4%	26%	3%
12th Grade	33%	21%	9%	33%	2%
All Students	23%	20%	6%	23%	4%

Source: 2017 Rhode Island Youth Risk Behavior Survey, Rhode Island Department of Health, Center for Health Data and Analysis. *Current use is defined as students who answered yes to using respective substances in the 30 days prior to the survey. **Prescription drug misuse is defined as those without a doctor's prescription. NA is not available due to small sample size.

◆ Among Rhode Island high school students in 2017, 23% reported current alcohol consumption, 23% reported current marijuana use, 20% reported current use of e-cigarettes, 11% reported current binge drinking, 6% reported current cigarette use, 5% reported currently using over the counter drugs to get high, and 4% reported currently misusing prescription drugs.²⁷

◆ In 2017, a majority of Rhode Island high school students reported that they have never smoked a cigarette (81%) or used an e-cigarette product (60%).²⁸

◆ Cigarette excise taxes are a potential funding stream for state tobacco control programs.²⁹ Between SFY 2002-2018, Rhode Island cigarette tax revenue increased from \$79.4 million to \$143.1 million and state tobacco control funding decreased from \$3 million to \$388,000. Only .27% of the cigarette tax in SFY 2018 went toward tobacco control and smoking cessation programs.^{30,31,32,33}

Family and Community Exposure

◆ Having parents or friends who use tobacco, alcohol, and other drugs, as well as living in communities where there is drug use, are risk factors for teen substance use.³⁴ In Rhode Island in 2017, 35% of middle school students and 33% of high school students reported living with someone who smokes cigarettes. One in six (17%) Rhode Island high school students under age 18 who used an e-cigarette during the past 30 days reported buying it in a store, despite laws prohibiting sales to minors. One in seven (14%) high school students who had ever taken a prescription drug without a doctor's prescription reported taking it from a friend or relative without their knowledge.³⁵

Exposure to Substances at Birth

◆ Neonatal abstinence syndrome (NAS) refers to the objective and subjective signs and symptoms attributed to the cessation of prenatal exposure of substances. Neonatal opioid withdrawal syndrome, more specifically, refers to the withdrawal symptoms related to opioid exposure. Not all substance exposed newborns are diagnosed with NAS.³⁶

◆ In Rhode Island in 2017, 113 newborns were diagnosed with NAS, at a rate of 106 per 10,000 births; almost as high as the highest rate in 2015 at 114 per 10,000 births, and double the rate of 37.2 in 2006.³⁷

◆ Eighty-three percent of babies born with NAS in 2017 were born to white mothers, 94% were born to mothers who were covered by Medicaid, and 52% lived in the four core cities.³⁸

◆ NAS rates will not decrease until Opiate Use Disorder rates decreases in the general population. Adequate treatment options and services for those struggling with Opiate Use Disorder are needed before and during pregnancy, at birth, and throughout parenting for the whole family.³⁹

References

^{1,4,6} Facing addiction in America: The Surgeon General's report on alcohol, drugs, and health. (2016). Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General.

² Substance-free youth. (2015). Washington, DC: Child Trends.

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