

Children with Asthma

DEFINITION

Children with asthma is the rate of hospitalizations for asthma 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 hospitalization.

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 of asthma is unknown, various genetic, environmental, birth, and health status factors have been linked to an increased risk for asthma.^{1,2,3}

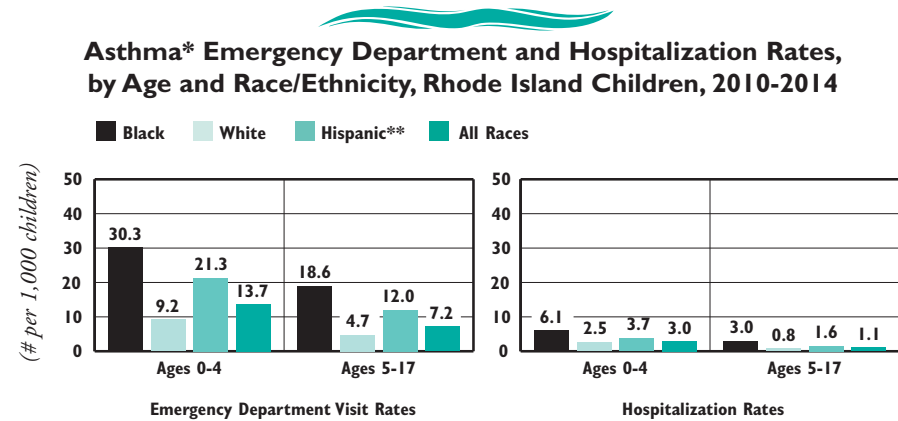
Nationally, asthma is the most common chronic condition among children.⁴ After peaking at 9.6% in 2009, asthma prevalence among U.S. children fell to 8.6% in 2014.^{5,6} The highest rates of asthma are among males, Black and American Indian/Alaska Native children, and children living in poverty.⁷ Racial 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, lack of access to preventive medical care, and genetic factors.^{8,9}

Compared with adults, children have higher rates for primary care and emergency department visits for asthma, similar hospitalization rates, and lower death rates.¹⁰ Asthma remains the third-ranked 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, if adhered to and supported by enhanced care and community-based interventions, can improve health outcomes and reduce costly asthma hospitalizations.^{12,13,14,15,16}

In Rhode Island in 2014, the average charge of an asthma emergency department visit for a child was \$1,729 and \$11,365 for a child hospitalization due to asthma.¹⁷



Source: Rhode Island Department of Health, Hospital Discharge Database, 2010-2014; U.S. Census Bureau, Census 2010. *Rates are for primary diagnosis of asthma. **Hispanic children can be of any race.

◆ In Rhode Island between 2010 and 2014, non-Hispanic Black children, Hispanic children, and children under age five 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; 13% (1,334) of all asthma emergency department visits for children under age 18 resulted in a hospitalization.¹⁸

◆ In Rhode Island between 2010 and 2014, boys under age 18 had higher asthma emergency department (10.8 per 1,000 boys) and hospitalization (2.0 per 1,000 boys) rates than girls under age 18 (6.9 and 1.3 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 2010 and 2014, 62% had RIte Care/Medicaid coverage, 32% had private health insurance, and 5% were self-pay (which could mean they were uninsured or that their insurance did not cover the cost of care). Among hospital admissions during that time, 50% had RIte Care/Medicaid coverage, 45% had private health insurance, and 5% were self-pay.²⁰

◆ Between the 2009-10 and 2012-13 school years in Rhode Island, 37% (6,744) of children with asthma were chronically absent in at least one of the school years. Chronic absenteeism is defined as missing 10% or more days of school.²¹

Table 24.

Asthma Emergency Department Visits and Hospitalizations for Children Under Age 18, Rhode Island, 2010-2014

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	# OF CHILD HOSPITALIZATIONS WITH PRIMARY ASTHMA DIAGNOSIS	RATE OF CHILD HOSPITALIZATIONS WITH PRIMARY ASTHMA DIAGNOSIS, PER 1,000 CHILDREN
Barrington	4,597	94	4.1	28	1.2
Bristol	3,623	73	4.0	16	0.9
Burrillville	3,576	78	4.4	21	1.2
Central Falls	5,644	364	12.9	58	2.1
Charlestown	1,506	48	6.4	7	0.9
Coventry	7,770	169	4.4	37	1.0
Cranston	16,414	635	7.7	139	1.7
Cumberland	7,535	140	3.7	31	0.8
East Greenwich	3,436	51	3.0	11	0.6
East Providence	9,177	359	7.8	108	2.4
Exeter	1,334	27	4.0	7	1.0
Foster	986	15	3.0	6	1.2
Glocester	2,098	25	2.4	12	1.1
Hopkinton	1,845	55	6.0	12	1.3
Jamestown	1,043	22	4.2	4	NA
Johnston	5,480	212	7.7	58	2.1
Lincoln	4,751	136	5.7	30	1.3
Little Compton	654	8	2.4	0	0.0
Middletown	3,652	149	8.2	24	1.3
Narragansett	2,269	48	4.2	3	NA
New Shoreham	163	1	NA	0	0.0
Newport	4,083	241	11.8	21	1.0
North Kingstown	6,322	146	4.6	31	1.0
North Providence	5,514	211	7.7	42	1.5
North Smithfield	2,456	47	3.8	12	1.0
Pawtucket	16,575	930	11.2	167	2.0
Portsmouth	3,996	82	4.1	15	0.8
Providence	41,634	3,603	17.3	601	2.9
Richmond	1,849	30	3.2	8	0.9
Scituate	2,272	44	3.9	12	1.1
Smithfield	3,625	53	2.9	20	1.1
South Kingstown	5,416	116	4.3	15	0.6
Tiverton	2,998	31	2.1	16	1.1
Warren	1,940	55	5.7	11	1.1
Warwick	15,825	491	6.2	91	1.2
West Greenwich	1,477	25	3.4	2	NA
West Warwick	5,746	272	9.5	43	1.5
Westerly	4,787	192	8.0	26	1.1
Woonsocket	9,888	665	13.5	70	1.4
Four Core Cities	73,741	5,562	15.1	896	2.4
Remainder of State	150,215	4,381	5.8	919	1.2
Rhode Island	223,956	9,943	8.9	1,815	1.6

Source of Data for Table/Methodology

Rhode Island Department of Health, Center for Health Data and Analysis, Hospital Discharge Database, 2010-2014.

The Centers for Disease Control and Prevention requests that states report asthma hospitalization data only where asthma is the primary diagnosis. Due to this change, data in this indicator are not comparable to data included in Factbooks prior to 2010.

**The denominator used to compute the 2010-2014 rate of hospitalizations is the number of children according to the 2010 U.S. Census, multiplied by five. Census data for rates by age, race, and ethnicity and were provided by the Rhode Island Department of Health.

NA: Rates should not be calculated due to small numbers and the lack of statistical reliability.

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

References

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(continued on page 177)