

Children Affected by Lead Exposure

DEFINITION

Children affected by lead exposure is the percentage of children under age six with a confirmed elevated blood lead level (EBLL, ≥ 3.5 $\mu\text{g}/\text{dL}$) at any time prior to December 31, 2025.^{1,2} These data pertain to children eligible to enter kindergarten in the fall of 2027 (i.e., those born between September 1, 2021 and August 31, 2022).

SIGNIFICANCE

Lead exposure 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 Even at very low levels, lead exposure can cause irreversible damage, including slowed growth and development, learning disabilities, behavioral problems, and neurological damage. In severe cases, with a diagnosis of lead poisoning, the result can be seizures, comas, and even death.^{4,5} The societal costs of childhood lead exposure include reduced future earnings due to cognitive impairment along with increased medical expenses, special education needs, and youth justice system involvement.^{6,7}

Homes, schools, and child care facilities built before 1978 may contain lead-based paint or lead-contaminated

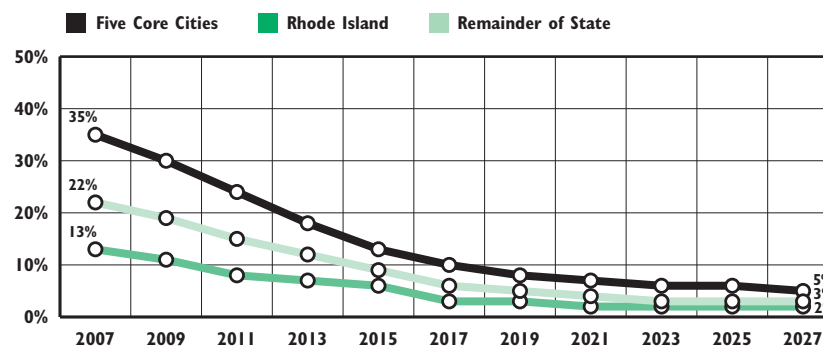
dust. Additionally, children can be exposed through lead service lines, where water pipes connect homes or buildings to public water mains. However, almost all cases in Rhode Island are a result of lead-based paint exposure.⁸

There is no safe lead level in children. In 2021, the Centers for Disease Control and Prevention lowered its blood reference value from 5 $\mu\text{g}/\text{dL}$ to 3.5 $\mu\text{g}/\text{dL}$, aligning with the top 2.5% blood lead levels (BLLs) of children ages one to five. This new lower reference value will allow parents and health officials to take corrective actions sooner for children with the highest elevated blood lead levels.^{1,9}

While the percentage of children with elevated blood lead levels has been declining nationally and in Rhode Island, children from low-income neighborhoods remain at greater risk of lead exposure. In Rhode Island, children living in the five core cities face higher risks due to older housing stock.¹⁰⁻¹²

In 2025, 598 (5.4%) of the 11,048 Rhode Island children under age six who were screened had confirmed elevated blood lead levels of ≥ 3.5 $\mu\text{g}/\text{dL}$. Children living in the five core cities (8.5%) were almost three times as likely as children in the remainder of the state (3.4%) to have confirmed elevated blood lead levels of ≥ 3.5 $\mu\text{g}/\text{dL}$.¹³

Children Entering Kindergarten with History of Elevated* Blood Lead Level, Rhode Island, Five Core Cities, and Remainder of State, 2007-2027



Source: Rhode Island Department of Health, Healthy Homes and Childhood Lead Poisoning Prevention Program, Children entering kindergarten between 2007 and 2027. *Elevated blood lead level of ≥ 5 $\mu\text{g}/\text{dL}$ for children entering kindergarten before 2027.

◆ The number of children with blood lead levels ≥ 5 $\mu\text{g}/\text{dL}$ has been steadily declining in all areas of Rhode Island over the past two decades. Compared to the remainder of the state, the five core cities have over three times the rate of children with elevated blood levels.¹³

Lead Exposure and Academic Performance

◆ Exposure to lead can negatively impact academic performance in early childhood. 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. Children with lead exposure are also at increased risk for absenteeism, grade repetition, and special education services.^{14,15}

◆ Safe lead-free homes, schools, and communities are important to prevent lead exposure. This includes ensuring that Rhode Island homes (including rental properties), schools, and buildings are free of lead exposure through lead in the paint, dust, and water (through corrosion of lead services lines) by complying with lead inspections, remediations and practices, and providing equitable plans for full replacements of lead pipes.^{8,16}

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Table 19. Lead Poisoning in Children Entering Kindergarten in the Fall of 2027, Rhode Island

CITY/TOWN	NUMBER TESTED FOR LEAD POISONING	CONFIRMED WITH BLOOD LEAD LEVEL ≥ 3.5 $\mu\text{g}/\text{dL}$	
		NUMBER	PERCENT
Barrington	167	<5	*
Bristol	159	6	3.8%
Burrillville	127	5	3.9%
Central Falls	331	40	12.1%
Charlestown	56	<5	*
Coventry	328	6	1.8%
Cranston	846	42	5.0%
Cumberland	399	9	2.3%
East Greenwich	184	<5	*
East Providence	487	17	3.5%
Exeter	47	<5	*
Foster	45	<5	*
Glocester	81	<5	*
Hopkinton	55	<5	*
Jamestown	32	<5	*
Johnston	322	11	3.4%
Lincoln	203	6	3.0%
Little Compton	17	<5	*
Middletown	152	5	3.3%
Narragansett	58	<5	*
New Shoreham	14	<5	*
Newport	200	13	6.5%
North Kingstown	273	<5	*
North Providence	362	9	2.5%
North Smithfield	98	5	5.1%
Pawtucket	833	48	5.8%
Portsmouth	125	<5	*
Providence	2,533	244	9.6%
Richmond	68	<5	*
Scituate	111	6	5.4%
Smithfield	146	<5	*
South Kingstown	177	7	4.0%
Tiverton	124	6	4.8%
Warren	95	<5	*
Warwick	739	31	4.2%
West Greenwich	63	<5	*
West Warwick	314	12	3.8%
Westerly	143	9	6.3%
Woonsocket	499	30	6.0%
Unknown RI Town	35	<5	*
Five Core Cities	4,396	375	8.5%
Remainder of State	6,617	223	3.4%
Rhode Island	11,048	598	5.4%



Lead Screening

◆ The recently established reference value of 3.5 $\mu\text{g}/\text{dL}$, will allow parents and health officials to take corrective actions sooner.¹

◆ An environmental inspection of a child's home is offered when a venous test is $\geq 5\mu\text{g}/\text{dL}$. The 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 2025, 290 environmental inspections were offered, 79 were performed, 64 were refused, 36 had no response or were unable to be contacted, and three had moved.^{13,17}

◆ 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 and is free of charge. In 2025, 73% of children received a blood lead screening test by age 18 months, and 36% received one test by age 18 months and a second by age 36 months.^{11,13,18}



Lead Rental Registry

◆ Rhode Island law requires landlords who lease residential property built before 1978 to have lead certificates as required by the 2002 Lead Hazard Mitigation Act, giving families access to information about their rental homes.¹⁹

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 are 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 2027 reflect the number of Rhode Island children eligible to enter school in the fall of 2027 (i.e., born between 09/01/21 and 08/31/22)

Children confirmed positive for lead exposure (blood lead level ≥ 3.5 $\mu\text{g}/\text{dL}$) 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 2025. 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 $\mu\text{g}/\text{dL}$ receive a confirmatory venous test.

The denominator for percent confirmed is the number of children entering kindergarten in the fall of 2027 who were tested for lead exposure. Data include both venous and confirmed capillary tests.

Of the 922 children entering kindergarten in 2027 who had an initial blood lead screen of ≥ 3.5 $\mu\text{g}/\text{dL}$, 324 did not receive a confirmatory second test. Their blood lead level status is unknown.

*The data are not reported in accordance with the Rhode Island Department of Health's small number data policy.

Five core cities are Central Falls, Newport, Pawtucket, Providence, and Woonsocket.

See Methodology Section for more information.

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Source of Data for Table/Methodology for Housing and Health

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 Children with Asthma and Housing Related Falls.

Five core cities are Central Falls, Newport, Pawtucket, Providence, and Woonsocket.

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