

Childhood Immunizations

DEFINITION

Childhood immunizations is the percentage of children ages 19 months - 35 months who have received the entire 4:3:1:3:3 Series of vaccinations as recommended by the Advisory Committee on Immunization Practices (ACIP). The Series includes 4 doses of Diphtheria, Tetanus and Pertussis (DTaP); 3 doses of Polio; 1 dose of Measles, Mumps, Rubella (MMR); 3 doses of Haemophilus influenzae type b (Hib); and 3 doses of Hepatitis B vaccines. The ACIP has also added pneumococcal disease and varicella (chickenpox) vaccines to its recommendations, but they are not included in the 4:3:1:3:3 Series.

SIGNIFICANCE

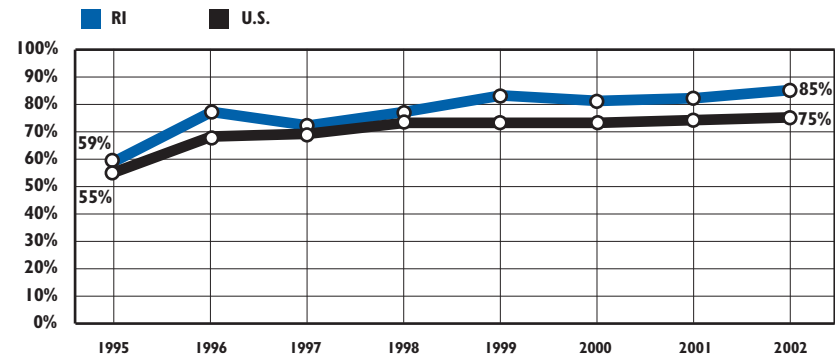
Adequate immunization protects children against several diseases that killed or disabled children in past decades.¹ Vaccines interact with the immune system to produce antibodies that protect the body if exposed to the disease in the future.² Individual benefits of vaccination include protection from illness, improved quality of life and productivity, and prevention of death. Societal benefits include creation and maintenance of community immunity, prevention of disease outbreaks, and reduction of

health-related costs.³ Although many of the diseases children are vaccinated for are rare, it is important to continue to immunize them until the diseases are completely eradicated.⁴

Vaccines are one of the most cost-effective tools in preventing disease.⁵ In order to eliminate cost as a barrier to vaccination, the federal Vaccines for Children (VFC) program allows states to purchase vaccines at a discounted price. Providers then administer the vaccines at no cost to eligible children including those who are uninsured, underinsured, or Medicaid eligible.^{6,7}

Rhode Island is one of a few states that purchases all vaccines for children and distributes them to providers. In order to ensure that vaccines reach all children, the Rhode Island Department of Health works in partnership with Rhode Island health plans to maintain and share KIDSNET immunization data.⁸ In accordance with national recommendations, Rhode Island requires vaccination against the following diseases prior to entry into child care, Head Start or kindergarten: Diphtheria, Tetanus and Pertussis (DTaP); Hepatitis B; Haemophilus influenzae type b (Hib); Measles, Mumps, Rubella (MMR); Polio; and Varicella (chickenpox).⁹

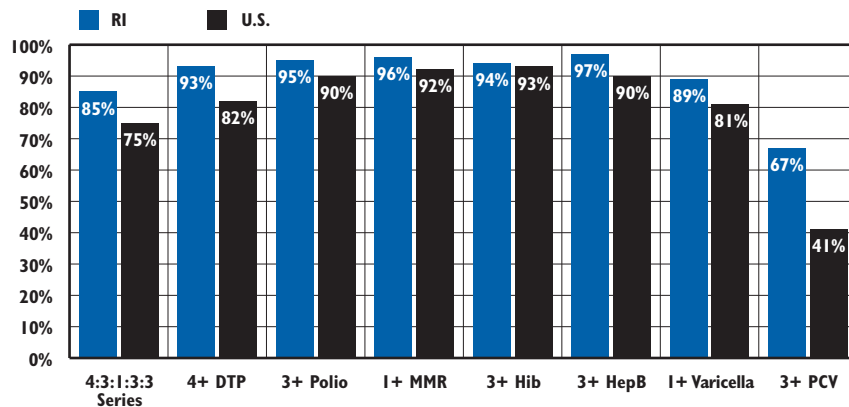
Immunized Children, Ages 19 Months – 35 Months, United States and Rhode Island, 1995-2002



Source: Centers for Disease Control and Prevention, National Immunization Survey, 1995-2002.

- ◆ In 2002, 85% of Rhode Island children ages 19-35 months were fully immunized with the 4:3:1:3:3 Series, compared to 75% nationally. Immunization rates increased by 44% in Rhode Island between 1995 and 2002, compared to a 36% increase nationwide.¹⁰
- ◆ Despite the improvement of vaccination rates overall, racial and ethnic disparities persist. In the United States during 2002, 82% of Asian children were fully immunized, compared to 78% of White children, 73% of Hispanic children and 68% of Black children.¹¹
- ◆ Nationally in 2002, children at or above the poverty level had a 76% vaccination rate while children below the poverty level had a 69% vaccination rate. In contrast, in Rhode Island in 2002, children below the poverty level actually had a higher vaccination rate (90%) than children at or above the poverty level (84%).¹²

**Vaccination Coverage Among Children
Ages 19 Months - 35 Months, United States and Rhode Island, 2002**



Source: Centers for Disease Control and Prevention, National Immunization Survey, 2002.

◆ In 2002 Rhode Island ranked among the top ten states on vaccination rates for every childhood vaccine except Hib. Rhode Island had the best vaccination rates in the nation for five standard vaccines.¹³

◆ Pneumococcal vaccine (PCV) was added to the national ACIP recommendations in 2000. The vaccine protects against pneumonia, bacteremia, sinusitis and acute otitis media (ear infection).¹⁴ In 2002, Rhode Island ranked first in the nation for the percentage of 19-35 month olds vaccinated with PCV (67%).¹⁵

◆ The Rhode Island Immunization Program conducts an annual statewide school immunization survey to assess immunization levels of children entering kindergarten, 7th grade, and attending licensed child care centers and Head Start programs. The 2002-2003 Rhode Island School Immunization Survey included 44,290 children over the age of 19 months across 795 sites. Immunization rates for each of the vaccines included in the survey were at least 95% for children in child care, Head Start and kindergarten.¹⁶

Adolescent Immunization

◆ Many adolescents are affected by diseases that are preventable with proper vaccination. Adolescents who have not been previously vaccinated against varicella (chicken pox) and hepatitis B or have not received a second dose of measles, mumps and rubella (MMR) need to be immunized and all adolescents require a booster dose for tetanus and diphtheria (Td).¹⁷

◆ In order to ensure that all teenagers are appropriately vaccinated before they leave school, the Rhode Island Department of Health's Immunization Program has partnered with the Rhode Island Childhood Immunization Action Coalition to create Vaccinate Before You Graduate (VBYG). The program informs parents and educates students on the importance of immunization and then holds vaccination clinics throughout the year at each participating school. The immunizations are funded through the state's Vaccine for Children Programs and are offered at no cost to students.¹⁸

◆ During the 2002-2003 school year, 49 schools participated in the program. Of the 1,640 students who enrolled in the program, 94% received immunizations and 84% completed all the immunizations for which they were enrolled.¹⁹

References for Indicator

- ¹ *America's Children: Key National Indicators of Well-Being 2003*. (2003). Washington, DC: Federal Interagency Forum on Child and Family Statistics.
- ² *Epidemiology and Prevention of Vaccine-Preventable Diseases, 7th ed.* (2002). Waldorf, MD: Public Health Foundation.
- ³ Atkinson, W.L. et al (February 2002). General Recommendations on Immunization. *MMWR*, Vol. 51, RR-2.
- ⁴ *Why Immunize?* (2001). Bethesda, MD: Centers for Disease Control and Prevention, National Immunization Program.
- ⁵ *Immunizations Appropriations Fact Sheet*. (2002). Washington, DC: Association of State and Tribal Health Officers.
- ⁶ *Vaccines for Children Program: Provider Information*. (2002). Bethesda, MD: Centers for Disease Control and Prevention, National Immunization Program.
- ⁷ *NPI Reference Guide on Vaccines and Vaccine Safety*. (2002). Washington, DC: National Program for Immunization.
- ⁸ Rhode Island Department of Health, Vaccine Program. (2004).
- ⁹ *State Vaccine Requirements: Rhode Island*. (2002). Washington, DC: National Network for Immunization Information.
- ^{10,11,12,13,15} Centers for Disease Control and Prevention, National Immunization Survey, 2002.
- ¹⁴ Preventing Pneumococcal Disease Among Infants and Young Children. *MMWR*, Vol. 51, RR-2. (October 2000). U.S. Department of Health and Human Services, Centers for Disease Control and Prevention.
- ¹⁶ Rhode Island Department of Health, RI School Immunization Survey, 2002-2003.
- ¹⁷ *Recommended Childhood and Adolescent Immunization Schedule—United States, 2003*. (2002). Bethesda, MD: Centers for Disease Control and Prevention, National Immunization Program.
- ^{18,19} *Vaccinate Before You Graduate 2002-2003 Rhode Island Annual Report*. (August 2003). Providence, RI: Rhode Island Department of Health, RI Immunization Program.