

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

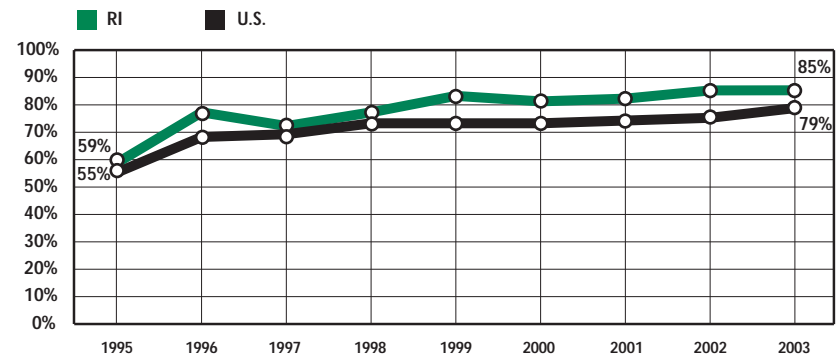
Adequate immunization protects children against several diseases that killed or disabled children in past decades.¹ Vaccines interact with the immune system to produce antibodies that protect the body if exposed to the disease in the future.² Individual benefits of vaccination include protection from 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

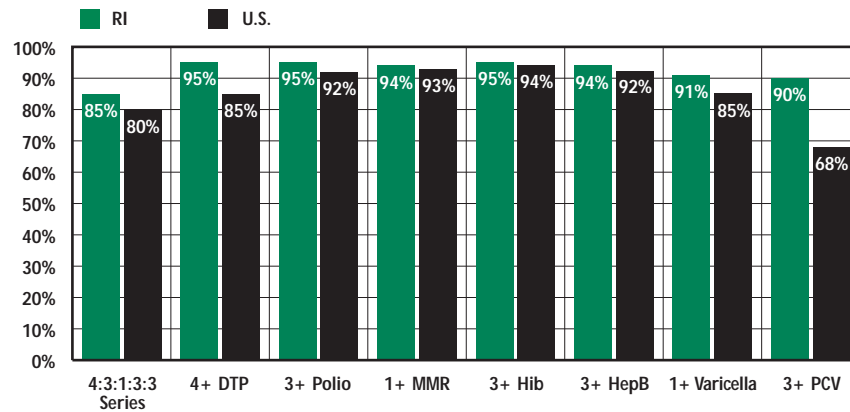
Immunized Children, Ages 19 Months – 35 Months, United States and Rhode Island, 1995-2003



Source: Centers for Disease Control and Prevention, National Immunization Survey, 1996-2003.

- ◆ In 2003, 85% of Rhode Island children ages 19-35 months were fully immunized with the 4:3:1:3:3 Series, compared to 79% nationally.¹⁰
- ◆ Despite the improvement of vaccination rates overall, racial, ethnic and income disparities persist. In the United States during 2003, 83% of White children were fully immunized, compared to 79% of Asian children, 77% of Hispanic children and 73% of Black children. Nationally in 2003, children at or above the poverty level had an 81% vaccination rate while children below the poverty level had a 75% vaccination rate.¹¹
- ◆ Strategies to reduce the racial, ethnic and income disparities in vaccination coverage include:
 - Ensure that all children have early access to health care.
 - Make connections and improve coordination with WIC and school-based health centers.
 - Educate parents to track their children's immunization status.
 - Collect site-specific immunization statistics so that providers can identify children who need additional vaccinations.¹²

Vaccination Coverage Among Children
Ages 19 Months - 35 Months, United States and Rhode Island, 2003



Source: Centers for Disease Control and Prevention, National Immunization Survey, 2003.

- ◆ In 2003, Rhode Island ranked among the top 5 states on vaccination rates for four childhood vaccines and in the top 20 for the remaining three 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 Between 2002 and 2003, Rhode Island increased the percentage of 19 to 35 month olds vaccinated with PCV from 67% to 90%, the second highest rate in the nation.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 2003-2004 Rhode Island School Immunization Survey included 46,506 children over the age of 19 months across 762 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
- ◆ During 2003, 107 children in Rhode Island obtained exemptions from receiving one or more vaccines for medical or religious reasons. Of these, 52 (49%) were exempted from receiving all vaccines.¹⁷

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).¹⁸
- ◆ 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.¹⁹
- ◆ During the 2003-2004 school year, 53 schools participated in the program. Of the 1,534 students who enrolled in the program, 95% received immunizations and 85% completed all the immunizations for which they were enrolled.²⁰

References for Indicator

- ¹ Federal Interagency Forum on Child and Family Statistics. (2003). *America's children: Key national indicators of well-being 2003*. Washington, DC: U.S. Government Printing Office.
- ² *Epidemiology and prevention of vaccine-preventable diseases*, 7th ed. (2002). Waldorf, MD: Public Health Foundation.
- ³ Atkinson, W.L., Pickering, L.K., Schwartz, B., Weniger B., Iskander, J., Watson, J. (2002). General recommendations on immunization. *Morbidity and Mortality Weekly Report*. Vol. 51, RR-2.
- ⁴ National Immunization Program. (2001). *Why immunize?* Bethesda, MD: Centers for Disease Control and Prevention.
- ⁵ *Immunizations appropriations fact sheet*. (2002). Washington, DC: Association of State and Tribal Health Officers.
- ⁶ National Immunization Program. (2002). *Vaccines for children program: Provider information*. 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.
- ^{8,9} Rhode Island Department of Health, Vaccine Program, 2005.
- ^{10,11,13,15} Centers for Disease Control and Prevention, National Immunization Survey, 2002 and 2003.
- ¹² *A report on reaching underserved ethnic and minority populations to improve pediatric immunizations rates*. (2002). Bethesda, MD: National Foundation for Infectious Diseases.
- ¹⁴ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2000). Preventing pneumococcal disease among infants and young children. *Morbidity and Mortality Weekly Report*. Vol. 51, RR-2..
- ^{16,17} Rhode Island Department of Health, RI School Immunization Survey, 2003-2004.
- ¹⁸ National Immunization Program. (2004). *Recommended childhood and adolescent immunization schedule—United States, 2004*. Bethesda, MD: Centers for Disease Control and Prevention.
- ^{19,20} Rhode Island Immunization Program. (2004). *Vaccinate before you graduate 2003-2004 Rhode Island annual report*. Providence, RI: Rhode Island Department of Health.