

# Childhood Immunizations

## DEFINITION

*Childhood immunizations* is the percentage of children ages 19 months to 24 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 2020 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 many 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,

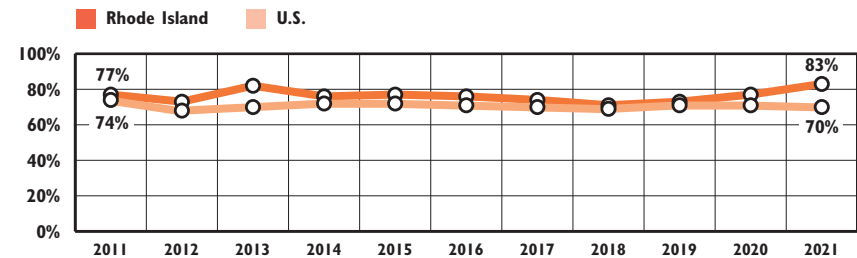
it is important to continue to immunize against them until the diseases are completely eradicated.<sup>1,2,3</sup>

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.<sup>4</sup> Due to the federal *Affordable Care Act*, children and individuals enrolled in health insurance plans have access to recommended vaccines without deductibles or copays, when delivered by an in-network provider.<sup>5</sup>

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.<sup>6</sup>

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.<sup>7,8</sup>

## Fully Immunized Children\*, Rhode Island and United States, 2011-2021



\*Fully immunized children received the 4:3:1:3:3:1:4 series. In 2018, the National Immunization Survey-Child (NIS-Child) methodology changed from coverage among children 19 to 35 months of age to coverage by age 24 months.

Source: Centers for Disease Control and Prevention, *National Immunization Survey-Children*, 2011-2021.

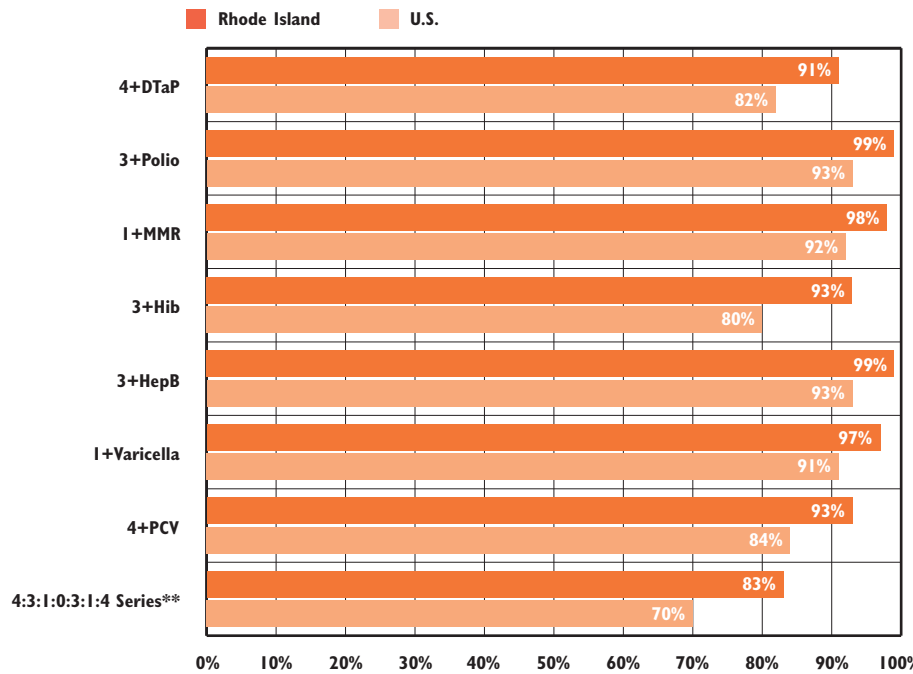
- ◆ In 2021, 83% of Rhode Island's children were fully immunized by age 24 months, above the national average of 70%.<sup>9</sup>
- ◆ In 2019-2021, the U.S. rate for children being fully immunized by age 24 months was 45% for uninsured children, 64% for children with Medicaid coverage, and 78% for children with private health insurance coverage.<sup>10</sup>
- ◆ Vaccine concerns have led some parents to request alternative vaccination schedules or to refuse some or all immunizations, which contribute to under-immunization.<sup>11</sup> Federal law requires that families be provided with information about each vaccine, including risks and benefits about the vaccine.<sup>12</sup>

## Immunizations for School Entry

- ◆ Of the immunizations needed for school entry in 2022, entering kindergarteners had coverage rates between 90% and 96%, while entering 7th grade students had rates between 72% and 83%.<sup>13</sup>
- ◆ In Rhode Island, children may be exempt from receiving one or more vaccines for medical or religious reasons.<sup>14</sup> In the 2022-2023 school year, 149 kindergarten students and 346 students in 7th grade had exemptions from vaccination requirements. Of these exemptions, for kindergarten, 93% were for religious reasons and 7% were for medical reasons. For 7th grade, 91% were for religious reasons and 9% were for medical reasons.<sup>15</sup>



## Vaccination Coverage Among Children, by Age 24 Months, Rhode Island and United States, 2021



Source: Rhode Island Department of Health analysis of data from the *National Immunization Survey-Children*, 2021.

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

◆ The U.S. Centers for Disease Control and Prevention recommends that everyone ages six months and older receive the COVID-19 vaccine, and that everyone ages five years and older receive boosters if eligible.<sup>16</sup>

◆ As of January 2023, 40% of Rhode Island children ages five to nine, 57% of Rhode Island children ages 10 to 14, and 73% of Rhode Island youth ages 15 to 18 were at least partially vaccinated for the prevention of COVID-19.<sup>17</sup>



## 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.<sup>18</sup>

◆ According to the 2021 *National Immunization Survey*, 83% of Rhode Island adolescents received the 3+HPV vaccine, compared to 62% nationally; 97% of Rhode Island adolescents received the 1+Tdap vaccine, compared to 92% nationally; and 93% of Rhode Island adolescents received the 1+MenACWY vaccine, compared to 89% nationally.<sup>19</sup>

◆ 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.<sup>20,21</sup>

◆ During the 2021-2022 school year, 74 schools participated in VBYG, up from 47 schools the year prior. In total, 2,889 vaccine doses were administered to 1,201 students; up from 1,055 vaccine doses administered to 451 students the year prior, returning to toward pre-pandemic numbers. Vaccines administered included influenza, HPV, MCV4, hepatitis A, hepatitis B, measles, mumps, and rubella, polio, tetanus, diphtheria, tetanus, diphtheria, pertussis, and varicella (chicken pox).<sup>22</sup>

◆ The School Located Vaccination (SLV) program administered 19,271 doses of the influenza vaccine to both children and adults at school-based clinics throughout Rhode Island from October 2022 to November 2022. The goal of SLV is to ensure all Rhode Island children receive their annual flu vaccination at no out-of-pocket cost.<sup>23</sup>

### References

<sup>1</sup> U.S. Department of Health & Human Services. (2022). *Five important reasons to vaccinate your child*. Retrieved February 3, 2023, from [www.hhs.gov](http://www.hhs.gov)

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