

# Childhood Immunizations

## DEFINITION

*Childhood immunizations* is the percentage of children ages 19 months to 35 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 2019, 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 a number of 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>

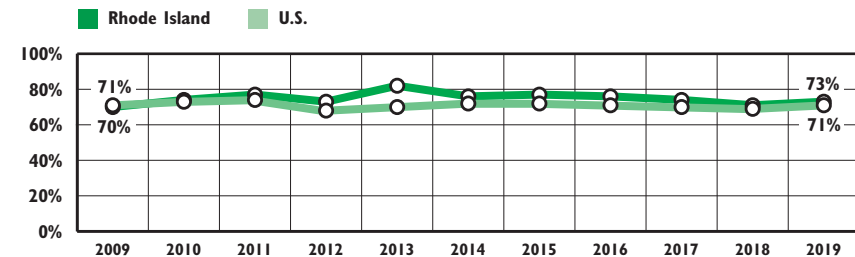
The federal *Vaccines for Children* program is used to eliminate cost as a barrier to vaccination. It allows states to obtain vaccines at a discounted price. Local providers then administer the vaccines at no cost to eligible children under age 19, including those who are uninsured, underinsured, or Medicaid-eligible.<sup>4</sup> Due to the federal *Affordable Care Act (ACA)*, children and individuals enrolled in new health insurance plans now 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, 2009-2019

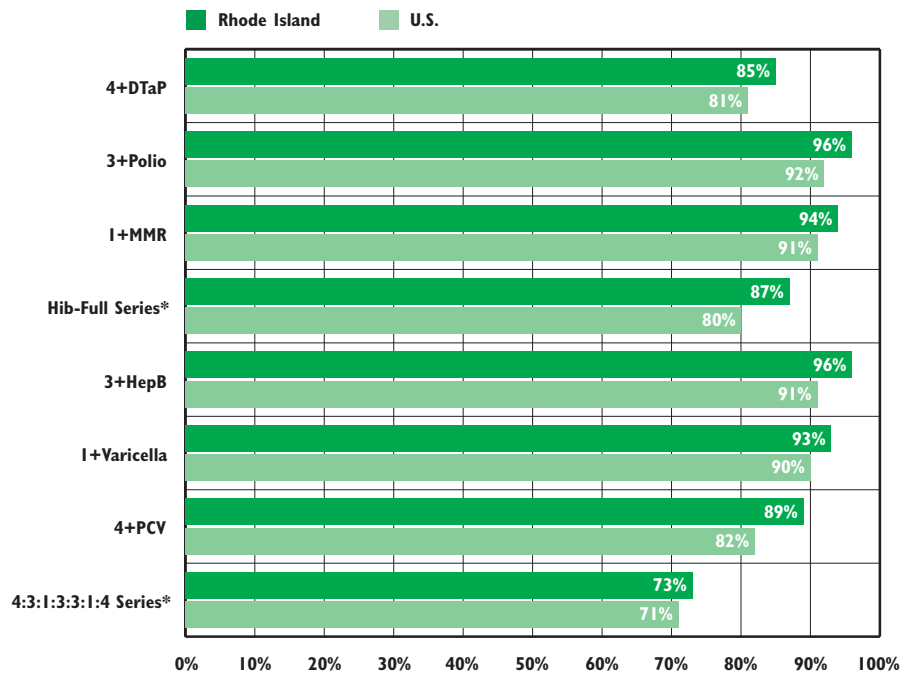


\*Fully immunized children received the 4:3:1:0:3:1:4 series in 2009 and 2010; and the 4:3:1:3:3:1:4 series from 2011-2017. In 2018, the National Immunization Survey-Child (NIS-Child) methodology changed from coverage among children 19 to 35 months of age to coverage by age 24 months.

Source: Centers for Disease Control and Prevention, *National Immunization Survey*, 2009-2019.

- ◆ In 2019, 73% of Rhode Island's children by age 24 months were fully immunized, above the national average of 71%.<sup>9</sup>
- ◆ In 2017-2019, the U.S. rate for fully immunized children by age 24 months was 51% for uninsured children, 66% for children with Medicaid coverage, and 77% 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>11,12</sup> Federal law requires that families be provided with information about each vaccine, including risks and benefits about the vaccine.<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 2019-2020 school year, 1% (202) of kindergarten students had exemptions from vaccination requirements. Of these exemptions, 91% were for religious reasons and 9% were for medical reasons.<sup>15</sup>
- ◆ In the 2019-2020 school year, 3.4% (822) of 7th grade students had exemptions from vaccination requirements. Of these exemptions, 85% were for religious reasons and 15% were for medical reasons.<sup>16</sup>

## Vaccination Coverage Among Children, by Age 24 Months, Rhode Island and United States, 2019



Source: Rhode Island Department of Health analysis of data from the *National Immunization Survey-Children*, 2019.

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

◆ Due to COVID-19 and the subsequent lockdown, routine childhood vaccinations were disrupted, and fewer children received vaccinations and well-visits.<sup>17</sup>

◆ In response, the state created the Pediatric Primary Care Relief Program to provide support to pediatric primary care providers. These grants helped pediatric primary care providers reopen and meet new safety requirements so that children and families would not experience barriers to access care. As of fall 2020, vaccination rates had caught up to where they were the previous year.<sup>18</sup>

### References

<sup>1</sup> Centers for Disease Control and Prevention. (2018). *Why are childhood vaccines so important?* Retrieved March 9, 2021, from [www.cdc.gov](http://www.cdc.gov)

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## Immunizations for Elementary and Middle School Students

◆ Of the immunizations needed for school entry in 2020, entering kindergarteners had coverage rates between 89% and 96%, while entering 7th grade students had rates between 70% and 80%.<sup>19,20</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>21</sup>

◆ According to the *2019 National Immunization Survey*, 79% of Rhode Island adolescents received the 3+HPV vaccine, compared to 54% nationally; 96% of Rhode Island adolescents received the 1+Tdap vaccine, compared to 90% nationally; and 98% of Rhode Island adolescents received the 1+MenACWY vaccine, compared to 89% nationally.<sup>22</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>23,24</sup>

◆ During the 2019-2020 school year, 95 schools participated in VBYG. In total, 3,776 vaccine doses were administered to 1,825 students. 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>25</sup>

◆ The School Located Vaccination (SLV) program administered 26,412 doses of the influenza vaccine to both children and adults at school-based clinics throughout Rhode Island from September 2020 to January 2021. The goal of SLV is to ensure all Rhode Island children receive their annual flu vaccination at no out-of-pocket cost.<sup>26</sup>