

## NPM 10: CHILDHOOD VACCINATION

### GOAL

To increase the percent of children and adolescents who have completed recommended vaccines.

### SIGNIFICANCE

Vaccination is one of the greatest public health achievements of the 20th century, resulting in dramatic declines in morbidity and mortality for many infectious diseases.<sup>1</sup> Childhood vaccination is considered among the most cost-effective preventive services available, as it averts a potential lifetime lost to death and disability.<sup>2</sup> Currently, there are 15 different vaccines recommended by the Centers for Disease Control and Prevention from birth through age 18, many of which require multiple doses for effectiveness as well as boosters to sustain immunity.<sup>3</sup> While there was no significant decline in overall vaccination coverage for the combined 7-vaccine series for children aged 24 months in 2020 and 2021, the first two years of the COVID-19 pandemic, vaccination coverage declined, however, by 4-5 percentage points for children living below the federal poverty line or in rural areas.<sup>4</sup> The childhood immunization status measure for health plans is part of the Core Set of Children's Health Care Quality Measures for Medicaid and CHIP and the National Committee for Quality Assurance's Healthcare Effectiveness Data and Information Set.

### DEFINITION

**Numerator:** Number of children who have completed the combined 7-vaccine series of routinely recommended vaccinations (4:3:1:3\*:3:1:4 or  $\geq 4$  doses of diphtheria and tetanus toxoids and acellular pertussis vaccine;  $\geq 3$  doses of poliovirus vaccine;  $\geq 1$  dose of measles-containing vaccine;  $\geq 3$  or  $\geq 4$  doses (depending upon product type) of Haemophilus influenzae type b conjugate vaccine;  $\geq 3$  doses of hepatitis B vaccine;  $\geq 1$  dose of varicella vaccine; and  $\geq 4$  doses of pneumococcal conjugate vaccine) by age 24 months.

**Denominator:** Number of children born in a calendar year.

### HEALTHY PEOPLE 2030 OBJECTIVE

- Related to IID Objective 02: Reduce the proportion of children who receive 0 doses of recommended vaccines by age 2 years. (Baseline: 1.3 percent of children born in 2015 had received 0 doses of recommended vaccines by their 2nd birthday, Target: 1.3 percent).
- Related to Immunization and Infectious Disease (IID) Objective 06: Increase the vaccination coverage level of 4 doses of the diphtheria-tetanus-acellular pertussis (DTaP) vaccine among children by age 2 years. (Baseline: 80.7 percent of children born in 2015 received 4 or more doses of DTaP by their 2nd birthday, Target: 90.0 percent).

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<sup>1</sup> Centers for Disease Control and Prevention (CDC). Ten great public health achievements--United States, 1900-1999. MMWR Morb Mortal Wkly Rep. 1999;48(12):241-243.

<sup>2</sup> Maciosek MV, LaFrance AB, Dehmer SP, et al. Updated Priorities Among Effective Clinical Preventive Services [published correction appears in Ann Fam Med. 2017 Mar;15(2):104]. Ann Fam Med. 2017;15(1):14-22.

<sup>3</sup> Centers for Disease Control and Prevention. Immunization Schedules.

<sup>4</sup> Hill HA, Chen M, Elam-Evans LD, Yankey D, Singleton JA. Vaccination Coverage by Age 24 Months Among Children Born During 2018-2019 - National Immunization Survey-Child, United States, 2019-2021. MMWR Morb Mortal Wkly Rep. 2023;72(2):33-38. Published 2023 Jan 13.

- Related to IID Objective 03: Maintain the vaccination coverage level of 1 doses of the measles-mumps-rubella (MMR) vaccine among children by age 2 years. (Baseline: 90.8 percent of children born in 2015 received at least 1 does of MMR by their 2nd birthday, Target: 90.8 percent).

**STATUS**

Table 1 lists the estimated immunization coverage with measles, mumps, and rubella (MMR); diphtheria, tetanus, and acellular pertussis (DTaP); poliovirus (Polio); and varicella vaccines (VAR) among kindergartners nationwide and in Delaware and nationwide. As shown here, the percentages across each vaccination category are comparable between the state and nation.

**Table 1. Vaccination Percentages Among Kindergartners, 2022-2023 School Year.**

	<b>2 Doses of MMR</b>	<b>5 Doses of DTaP</b>	<b>4 Doses of Polio</b>	<b>2 Doses of VAR</b>
Nation	93.1%	92.7%	93.1%	92.9%
Delaware	95.1%	93.8%	94.0%	94.0%

In addition, in 2021, the percentage of Delaware children who received by age 24 months all recommended doses of the combined seven-vaccine series is **76.6 percent**, which places Delaware as having the **10<sup>th</sup> highest vaccination rate nationwide**. The nationwide percentage is **70.0 percent**. Note that the seven-vaccine series is as follows: diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine; measles, mumps and rubella (MMR) vaccine; poliovirus vaccine; Haemophilus influenzae type b (Hib) vaccine; hepatitis B (HepB) vaccine; varicella vaccine; and pneumococcal conjugate vaccine (PCV).