



Department of Health and Human Services
Maine Center for Disease Control and Prevention
286 Water Street
11 State House Station
Augusta, Maine 04333-0011
Tel.: (207) 287-8016; Fax: (207) 287-9058
TTY Users: Dial 711 (Maine Relay)

Maine Immunization Program
Tel. (207) 287-3746
Fax (207) 287-8127

2014 National Immunization Survey Childhood Report

The National Immunization Surveys (NIS) are a group of phone surveys used to monitor vaccination coverage among children 19-35 months, teens 13-17 years, and flu vaccinations for children 6 months-17 years. The surveys are sponsored and conducted by the National Center for Immunization and Respiratory Diseases (NCIRD) of the Centers for Disease Control and Prevention (CDC). The National Immunization Surveys provide household, population-based, state and local area estimates of vaccination coverage among children and teens using a standard survey methodology. The surveys collect data through telephone interviews with parents or guardians in all 50 states, the District of Columbia, and some U.S. territories. With permission, a questionnaire is mailed to each child's vaccination provider(s) to collect the information on the types of vaccinations, number of doses and dates of administration. Estimates of vaccination coverage are determined for child and teen vaccinations recommended by the Advisory Committee on Immunization Practices (ACIP), and children and teens are classified as being up-to-date based on the ACIP recommended numbers of doses for each vaccine.

The NIS was first launched in 1994. The target population for the NIS is children who are or will be 19-35 months within a few weeks of being selected to participate in the survey and living in the United States. Data are used to monitor vaccination coverage among 2-year-old children for the following recommended vaccinations:

- Diphtheria and tetanus toxoids and acellular pertussis vaccine (DTaP/DT/DTP)
- Poliovirus vaccine (Polio)
- Measles or Measles-Mumps-Rubella vaccine (MMR)
- Haemophilus influenzae type b vaccine (Hib)
- Hepatitis B vaccine (HepB)
- Varicella zoster (chickenpox) vaccine (VAR)
- Pneumococcal conjugate vaccine (PCV)
- Hepatitis A vaccine (HepA)
- Rotavirus vaccine (ROT)
- Vaccine Series – 4DTaP:3Polio:1MMR:3Hib:3HepB:1VAR:4PCV (4:3:1:3:3:1:4)

For 2014, national vaccination coverage estimates were based on a sample of 14,893 children with completed household interviews and adequate provider data. The NIS is best suited for estimating immunization coverage at a national level, where the standard for error for most estimates is less than 0.5 per cent. However, the NIS also provides coverage estimates on a sub-national basis, including individual states, at a much higher margin for error.

When state-level estimates are published, three potential errors can arise. A state's newest point estimate is often compared with last year's. Such comparisons must be made with awareness of sampling uncertainty. Maine's 2014 estimated coverage for the 4:3:1:3:3:1:4 vaccine series was $84.7 \pm 5.0\%$ compared to 2013's $68.0 \pm 7.5\%$. Factoring in the margins of error, Maine could have had as little as a 4.2% increase in coverage levels or as high as a 29.2% increase in immunization rates. Additionally, NIS results are often used to compare coverage levels between states. In the NIS, coverage differences between states are often smaller than the survey's margin of error for these states. It is impossible to compare a state like Maine whose margin of error is ± 5.0 to another state such as Virginia whose margin of error is as high as $\pm 8.8\%$. Finally, the third potential problem arises when lists of point estimates are translated into ranks. Ranking states from point estimates coverage introduces even more uncertainty than tracking a state's performance over time or comparing states' coverage.

While the NIS continues to provide valuable national and state level data, the Maine Immunization Program (MIP) recognizes that the sampling size used for the survey is too small to accurately depict Maine's true vaccination coverage levels. MIP calculates immunization rates for children 19-35 months of age for the 4:3:1:3:3:1:4 antigen series using data directly from our immunization registry, ImmPact. Not only does the data give us a larger sample size with almost 10,000 Maine children of this age included (the NIS surveyed nearly 15,000 children nationwide), but the data is also up-to-date. It allows us to view what is happening in real time as opposed to relying on data from the previous year. MIP publishes the Maine Immunization Rate Assessment Reports on our website quarterly and these reports include both state and county level rates. The immunization coverage rate for the 2015 Second Quarter is 74.8%, a difference of almost 10% from the NIS estimate. The assessment reports can be found here:

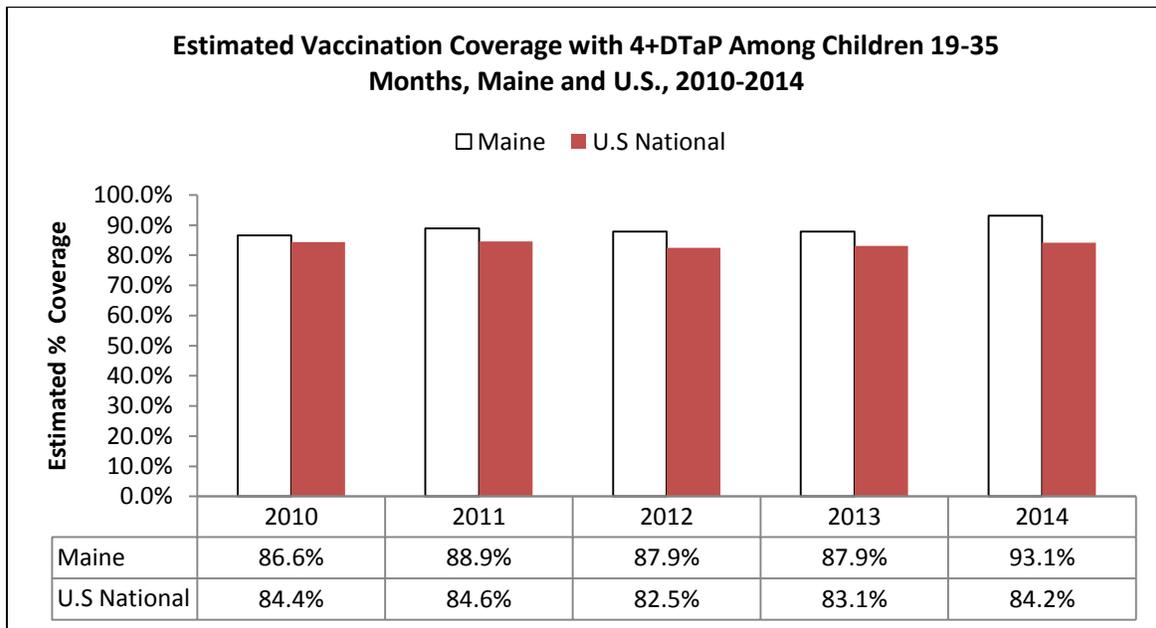
<http://www.maine.gov/dhhs/mecdc/infectious-disease/immunization/publications/index.shtml>

Vaccination is the most effective and efficient way to ensure these children, their family members and the community, particularly those who are immunocompromised, are protected against these vaccine preventable diseases. This is perhaps one of the most important reasons why MIP will continue to encourage parents and physicians to vaccinate their children and to help reach the goal of the Maine Immunization Program to bring the State vaccine coverage rate for each of these vaccines to 100%.

The NIS vaccination data reported was analyzed and graphical representations for each vaccine surveyed show immunization rates for the past 5 year for trending comparisons (Figures 1-11). Additionally, summary tables were generated (Tables 1 & 2) to show Maine's coverage ranking both nationally and in HHS Region 1 (the New England states).

As always, thank you for your commitment to keeping Maine's children free of vaccine preventable disease.

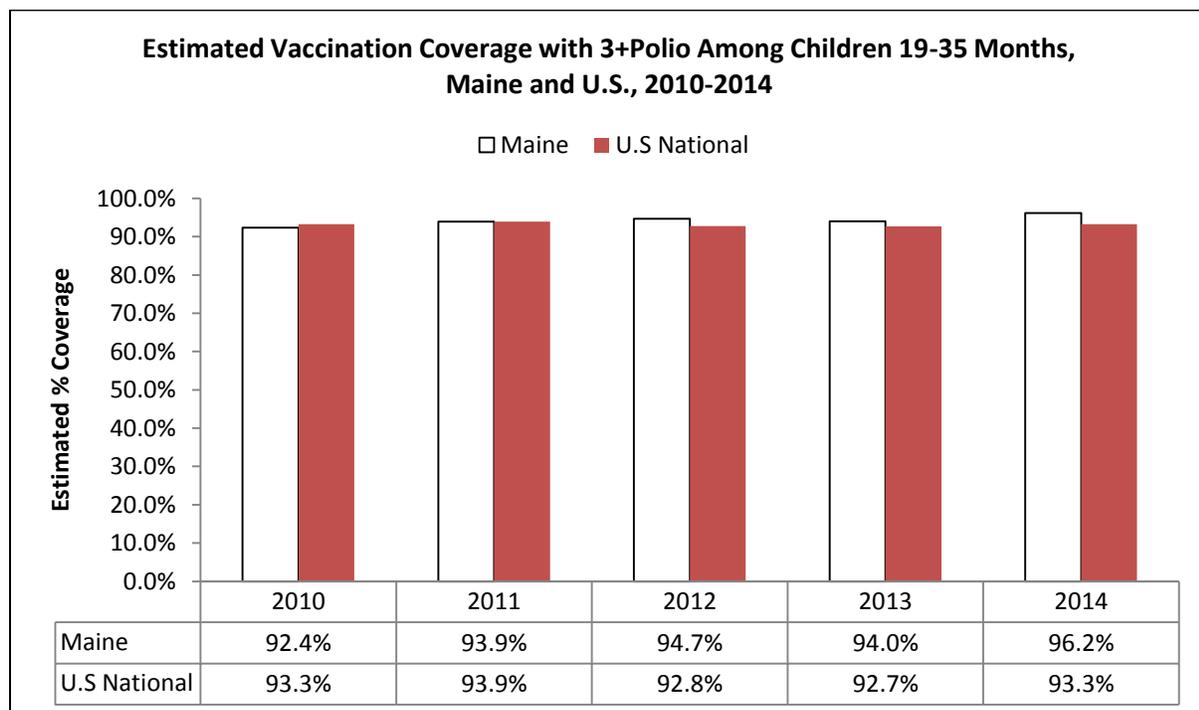
Figure 1: Children 19-35 Months 4+DTaP Vaccine Coverage Estimate, Maine and U.S., 2010-2014



4+ DTaP ~ ≥4 doses of diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccine.

Trend: Overall, DTaP coverage in Maine has remained relatively stable (above 85%) with a statistically significant increase in 2014.

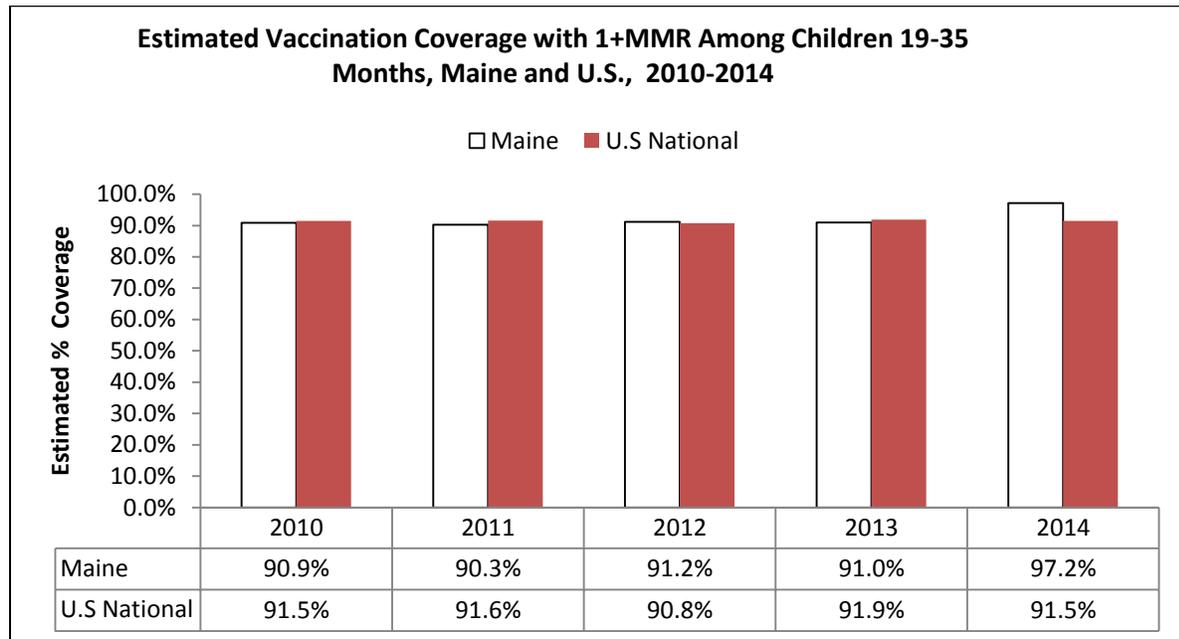
Figure 2: Children 19-35 Months 3+Polio Vaccine Coverage Estimate, Maine and U.S., 2010-2014



3+ Polio ~ ≥3 doses of any poliovirus (Polio) vaccine.

Trend: Overall, Polio coverage in Maine has remained relatively stable (above 90%). Since 2011, Polio vaccine coverage in Maine has met or exceeded the National coverage.

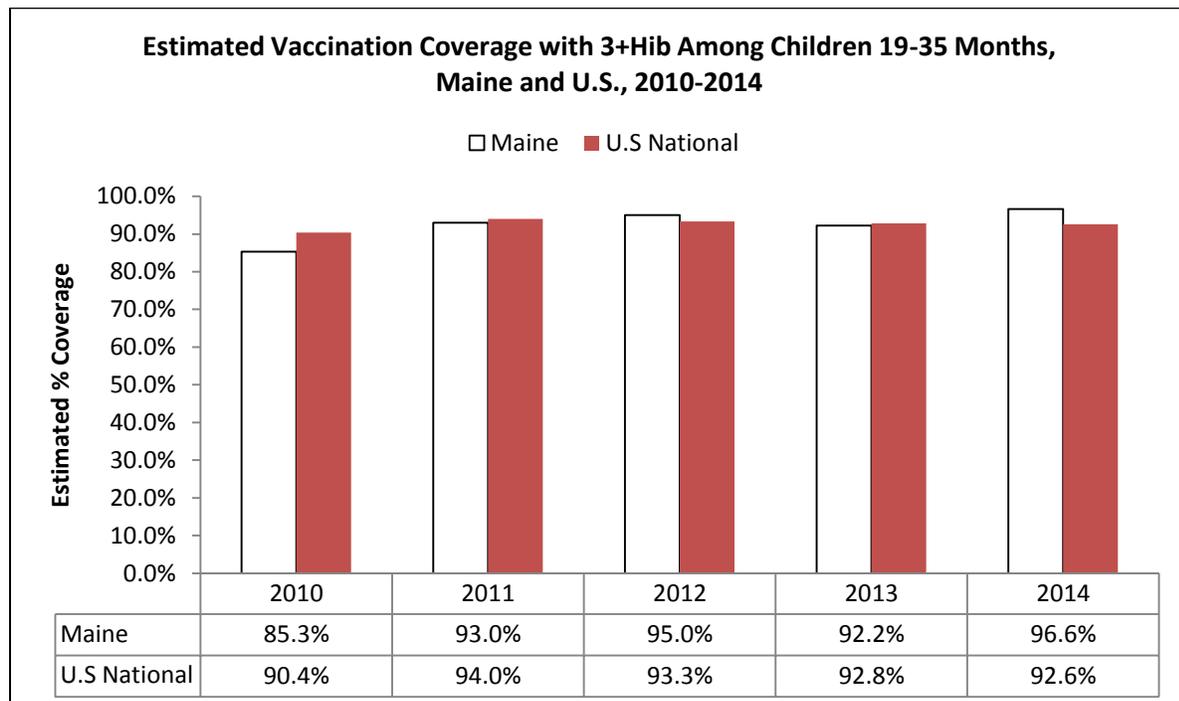
Figure 3: Children 19-35 Months 1+MMR Vaccine Coverage Estimate, Maine and U.S., 2010-2014



1+MMR ~ ≥1 dose of measles-mumps-rubella (MMR) vaccine.

Trend: Overall, MMR coverage in Maine has remained relatively stable (above 90%) with a statistically significant increase in 2014.

Figure 4: Children 19-35 Months 3+Hib Vaccine Coverage Estimate, Maine and U.S., 2010-2014

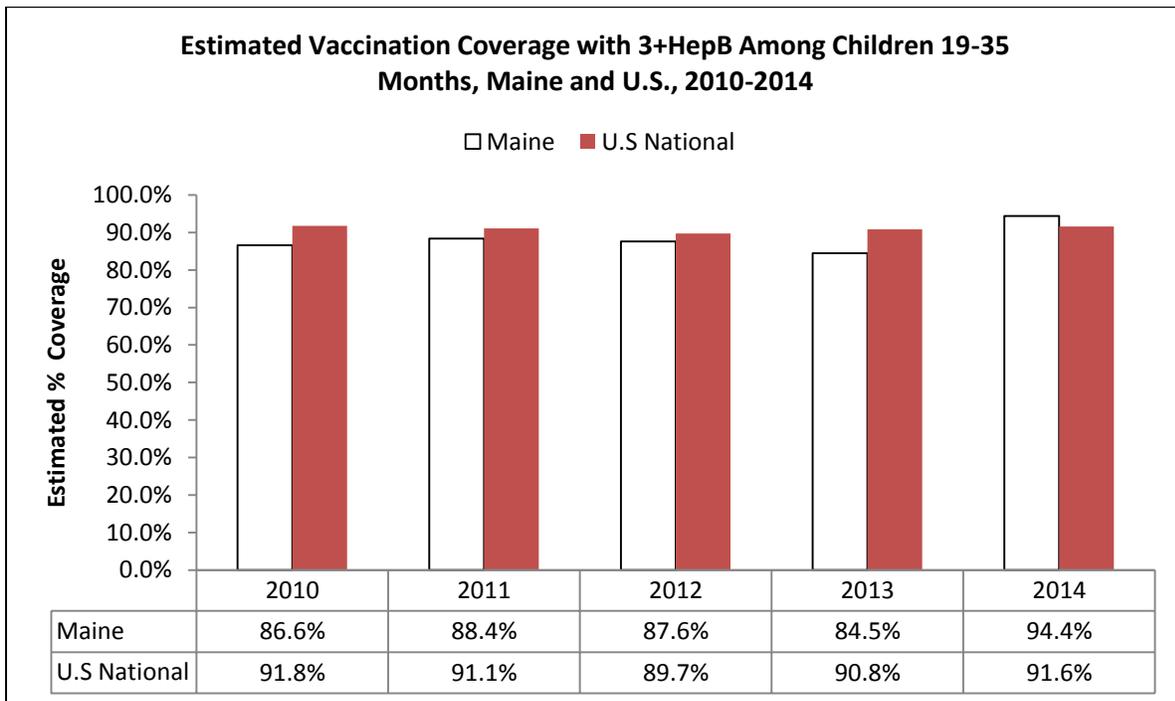


3+Hib ~ ≥3 doses of Haemophilus influenzae type b (Hib) vaccine.

Trend: Overall, Hib vaccine coverage in Maine has remained relatively stable (above 85%) with a statistically significant increase in 2014.

Note: Hib vaccine is not part of the vaccine requirements for school children in Maine.

Figure 5: Children 19-35 Months 3+HepB Vaccine Coverage Estimate, Maine and U.S., 2010-2014

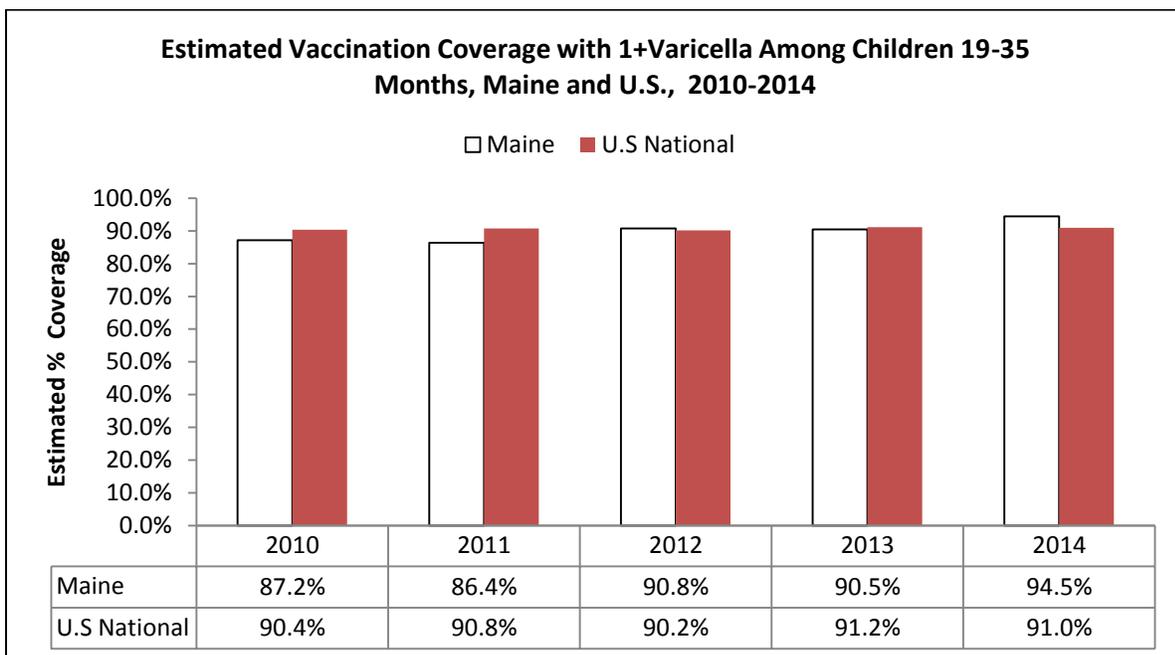


3+ HepB ~ ≥3 doses of hepatitis B (HepB) vaccine.

Trend: Overall, HepB vaccine coverage in Maine has remained relatively stable (above 84%) with a statistically significant increase in 2014.

Note: HepB vaccine is not part of the vaccine requirements for school children in Maine.

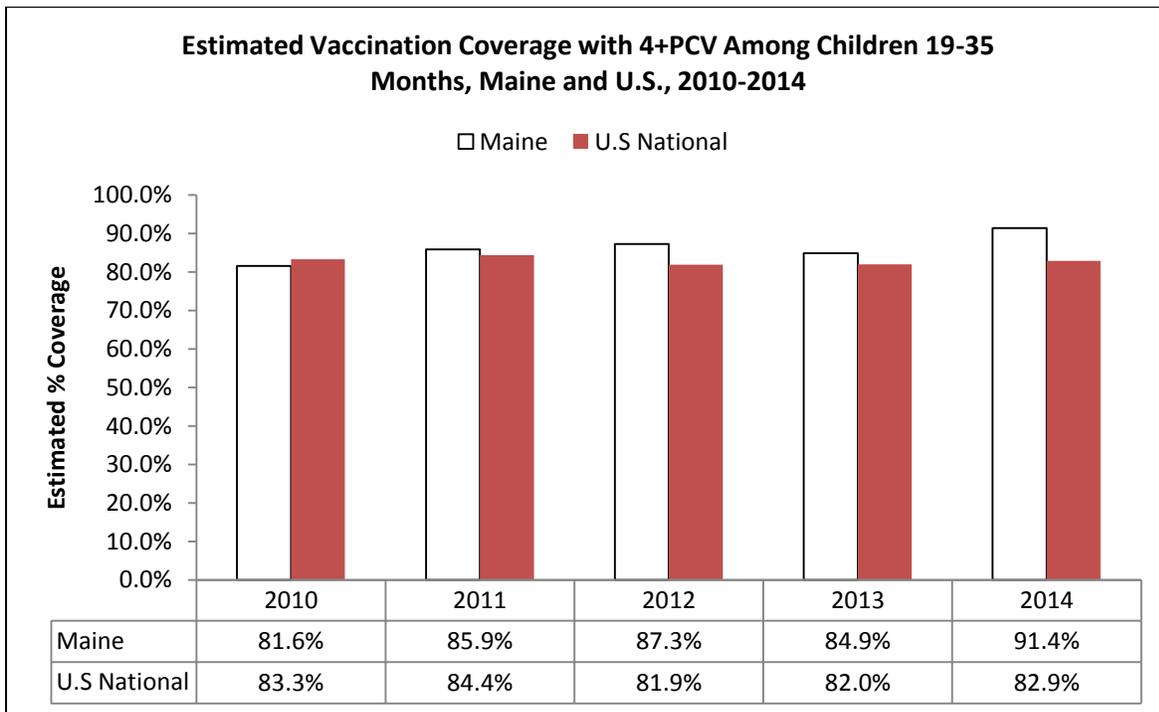
Figure 6: Children 19-35 Months 1+VAR Vaccine Coverage Estimate, Maine and U.S., 2010-2014



1+Varicella ~ ≥ 1 dose of varicella (VAR) vaccine at or after child's first birthday, unadjusted for history of varicella disease (by parent/guardian report or provider records).

Trend: Overall, varicella vaccine coverage in Maine has remained relatively stable (above 85%) with a statistically significant increase in 2014.

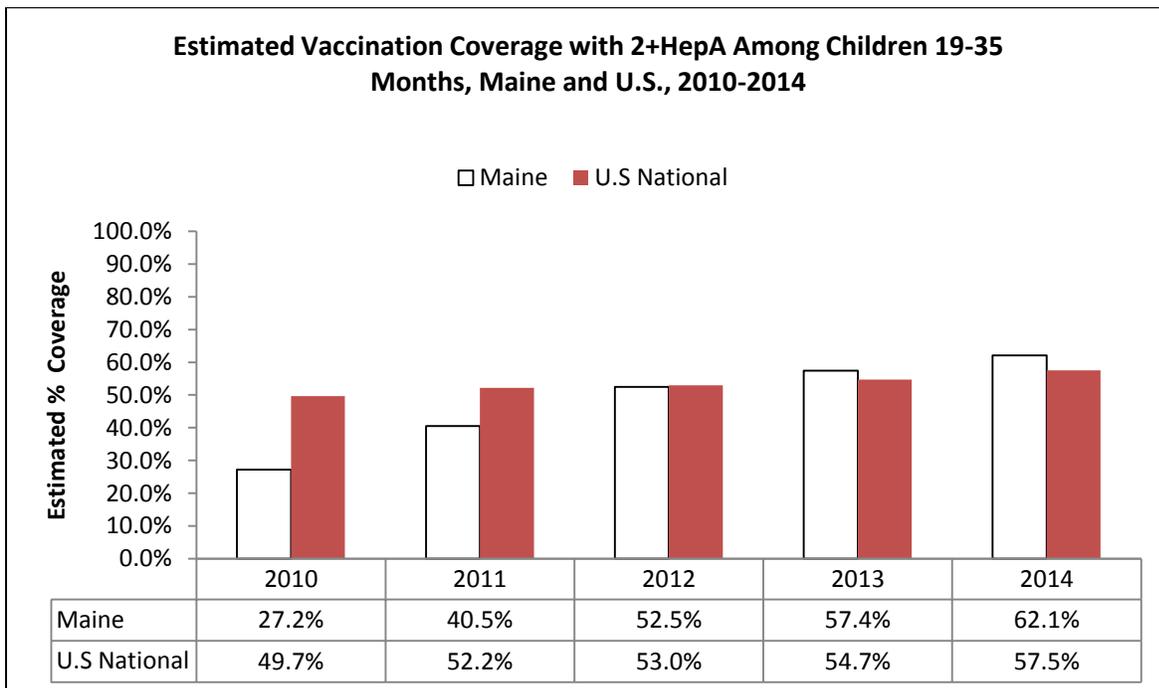
Figure 7: Children 19-35 Months 4+PCV Vaccine Coverage Estimate, Maine and U.S., 2010-2014



4+PCV ~ ≥ 4 doses of pneumococcal conjugate vaccine (PCV).

Trend: Overall PCV vaccine coverage in Maine has remained relatively stable (above 80%) with a statistically significant increase in 2014. PCV vaccine coverage in Maine has been above national coverage since 2011.

Figure 8: Children 19-35 Months 2+HepA Vaccine Coverage Estimate, Maine and U.S., 2010-2014

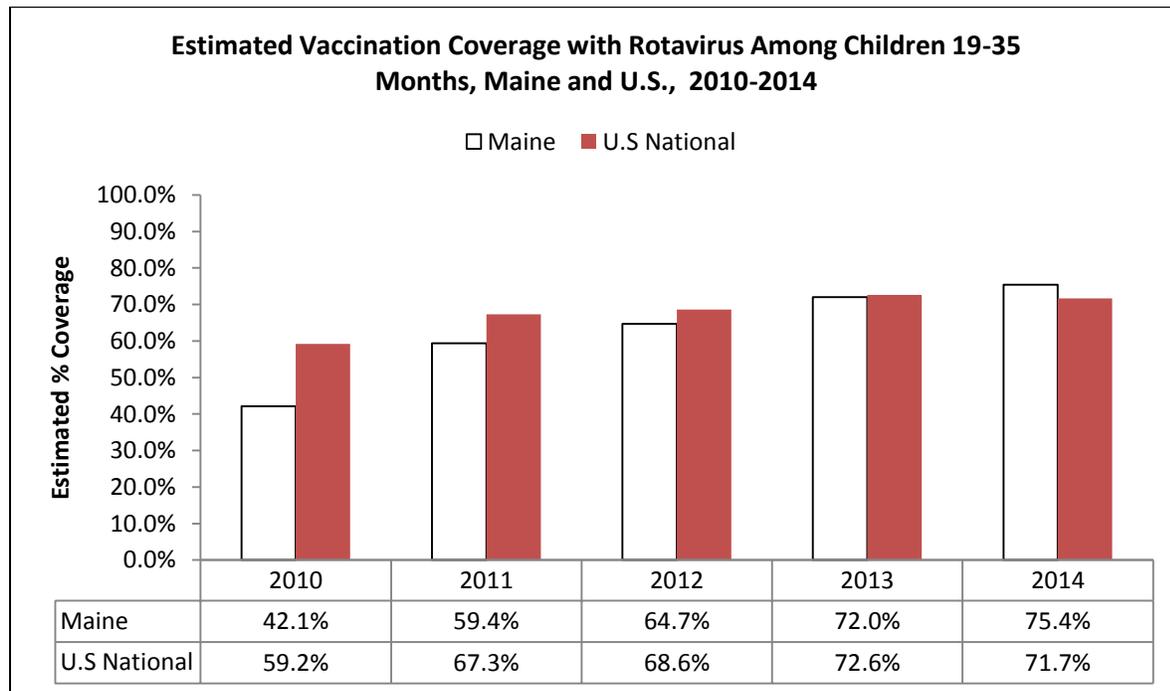


2+HepA ~ ≥ 2 doses of hepatitis A (HepA) vaccine.

Trend: Overall, HepA vaccine coverage has remained relatively stable (above 50% since 2012) with a statistically significant increase in 2014.

Note: HepA vaccine is not part of the vaccine requirements for school children in Maine.

Figure 9: Children 19-35 Months Rotavirus Vaccine Coverage Estimate, Maine and U.S., 2010-2014

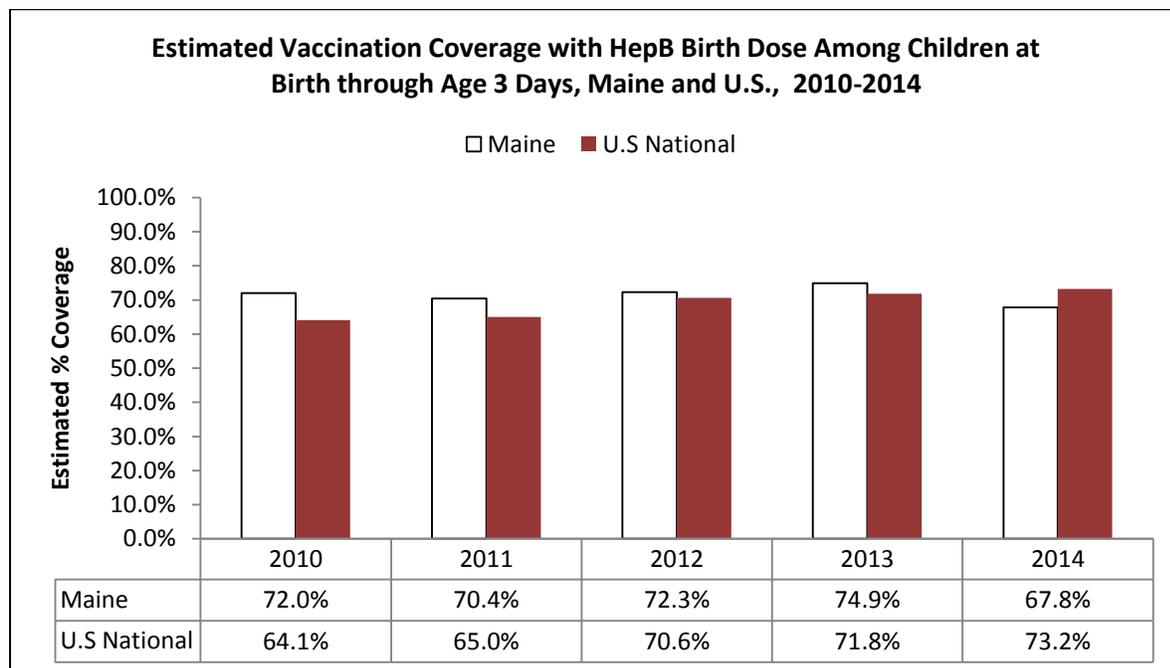


Rotavirus ~≥2 or ≥3 doses of Rotavirus vaccine, depending on product type received (≥2 doses for Rotarix® [RV1] or ≥3 doses for RotaTeq® [RV5]).

Trend: Overall, Rotavirus vaccine coverage has increased with the highest coverage in 2014. Rotavirus vaccine coverage in Maine has consistently remained below National coverage with the exception of 2014.

Note: Rotavirus vaccine is not part of the vaccine requirements for school children in Maine.

Figure 10: Hepatitis B Birth Dose Vaccine Coverage Estimate, Maine and U.S., 2010-2014

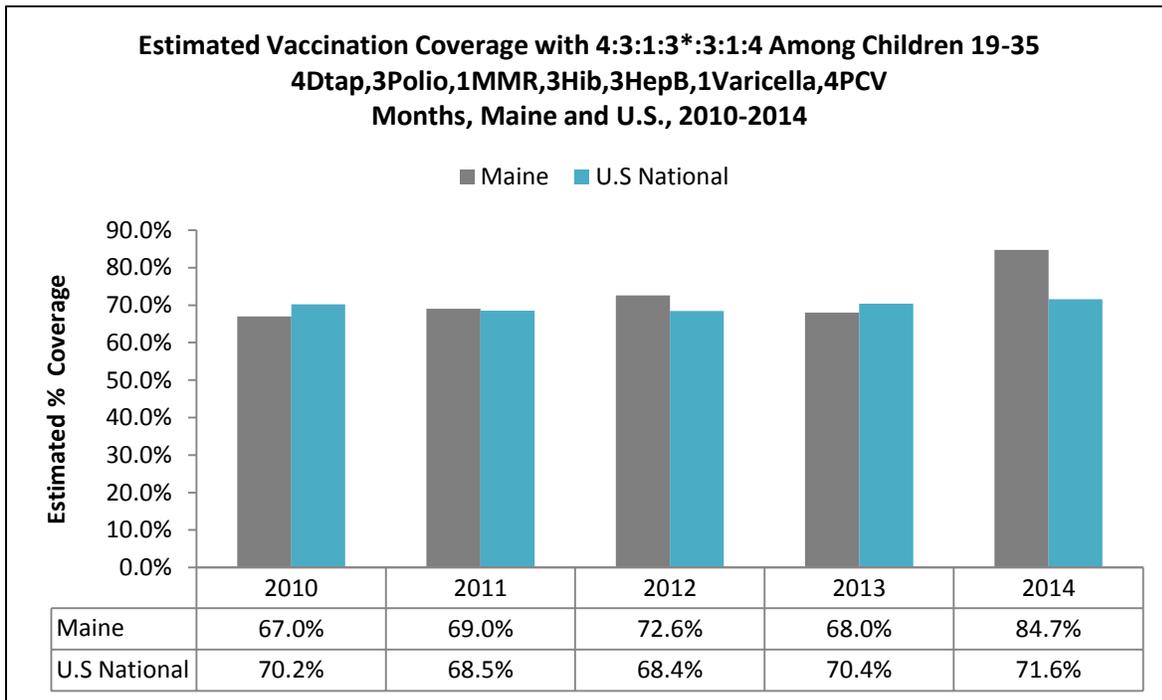


Hepatitis B Birth Dose ~≥1 dose of Hepatitis B vaccine, administered from birth through age 3 days.

Trend: Overall, Hepatitis B vaccine coverage has remained relatively stable (over 65%).

Note: Hepatitis B vaccine is not part of the vaccine requirements for school children in Maine.

Figure 11: Children 19-35 Months 4:3:1:3:3:1:4 Vaccine Series Vaccine Coverage Estimate, Maine and U.S., 2010-2014



4:3:1:3:3:1:4 antigen series – 4:3:1 plus ≥ 3 doses of Haemophilus influenzae (Hib) vaccine of any type, ≥ 3 doses of hepatitis B (HepB) vaccine, ≥ 1 dose of varicella (Var) vaccine, and ≥ 4 doses of pneumococcal conjugate vaccine (PCV).

Trend: Overall, 4:3:1:3:3:1:4 antigen series coverage in Maine increased over the five year period with a statistically significant increase in 2014.

Note: Hib and HepB vaccines are not part of the vaccine requirements for school children in Maine.

Table 1: Children 19-35 Months National Vaccine Coverage Estimate Ranking, Maine 2010-2014

National Vaccine Coverage Ranking for Maine Among Children 19-35 Months, 2010-2014					
Vaccine	2010	2011	2012	2013	2014
4+Dtap	16 th	5 th	8 th	10 th	1 st
3+Polio	34 th	25 th	15 th	20 th	8 th
1+MMR	33 rd	36 th	27 th	30 th	1 st
3+Hib	34 th	34 th	16 th	29 th	4 th
3+HepB	48 th	41 st	43 rd	51 st	15 th
1+Var	50 th	46 th	20 th	30 th	7 th
4+PCV	41 st	17 th	6 th	19 th	1 st
2+HepA	33 rd	49 th	27 th	20 th	12 th
Rotavirus	51 st	43 rd	37 th	30 th	20 th
HepB Birth Dose	38 th	36 th	25 th	40 th	35 th
4:3:1:3:3:1:4	33 rd	14 th	12 th	28 th	1 st

Table 2: Children 19-35 Months New England Vaccine Coverage Estimate Ranking, Maine, 2014

New England Vaccine Coverage Ranking for Maine Among Children 19-35 Months, 2014						
Vaccine	Connecticut	Maine	Massachusetts	New Hampshire	Rhode Island	Vermont
4+Dtap	6 th	1 st	3 rd	2 nd	4 th	5 th
3+Polio	6 th	2 nd	4 th	3 rd	1 st	5 th
1+MMR	4 th	1 st	2 nd	6 th	3 rd	5 th
3+Hib	6 th	2 nd	3 rd	4 th	1 st	5 th
3+HepB	5 th	3 rd	2 nd	4 th	1 st	6 th
1+Var	5 th	2 nd	4 th	1 st	3 rd	6 th
4+PCV	6 th	1 st	4 th	2 nd	3 rd	5 th
2+HepA	1 st	4 th	2 nd	5 th	3 rd	6 th
Rotavirus	5 th	6 th	3 rd	2 nd	1 st	4 th
HepB Birth Dose	1 st	4 th	3 rd	5 th	2 nd	6 th
4:3:1:3:3:1:4	5 th	1 st	4 th	2 nd	3 rd	6 th