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2017 National Immunization Survey Adolescent 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-Teen was first launched in 1994. The target population for NIS-Teen is adolescents who are or will be 13 to 17 years of age 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 13 to 17 year-old adolescents for the following recommended vaccinations:

- Tetanus and diphtheria and acellular pertussis vaccine (Tdap)
- Meningococcal conjugate (MenACWY)
- Human Papilloma Virus (HPV)

For 2017, national vaccination coverage estimates were based on a sample of 20,949 adolescents (347 Maine residents) with completed household interviews and adequate provider data. The NIS-Teen is best suited for estimating immunization coverage at a national level, where the standard for error for most estimates is less than 2 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 2017 estimated coverage for MenACWY was 83.9±4.6% compared to 2016's 83.5±4.8%. Factoring in the margins of error, Maine could have actually had a 4.2% decrease in coverage levels or as high as a 9.8% 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 ±4.6 (one of the highest of all states and territories surveyed) to a more populated state such as Texas whose margin of error is only ±2.5%. 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.

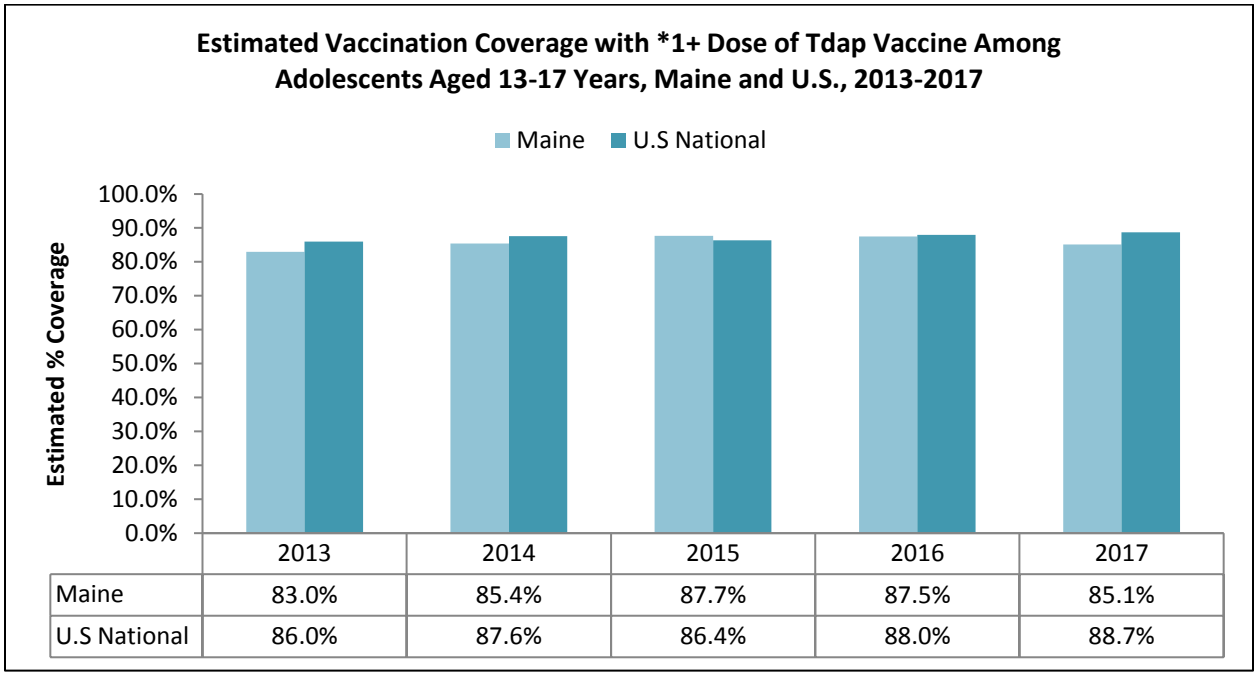
While the NIS continues to provide valuable national and state level data, the Maine Immunization Program (MIP) recognizes that the sampling size used for the survey is too small to accurately depict Maine's true vaccination coverage levels. MIP calculates immunization rates for adolescents 13-18 years of age using data directly from our immunization registry, ImmPact. Not only does the data give us a larger sample size with over 70,000 Maine children of this age included (NIS-Teen surveyed less than 21,000 teens nationwide and only 347 Maine adolescents), 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 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-Teen vaccination data reported was analyzed and graphical representations for each vaccine surveyed show immunization rates for the past 5 year for trending comparisons (Figures 1-4). 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.

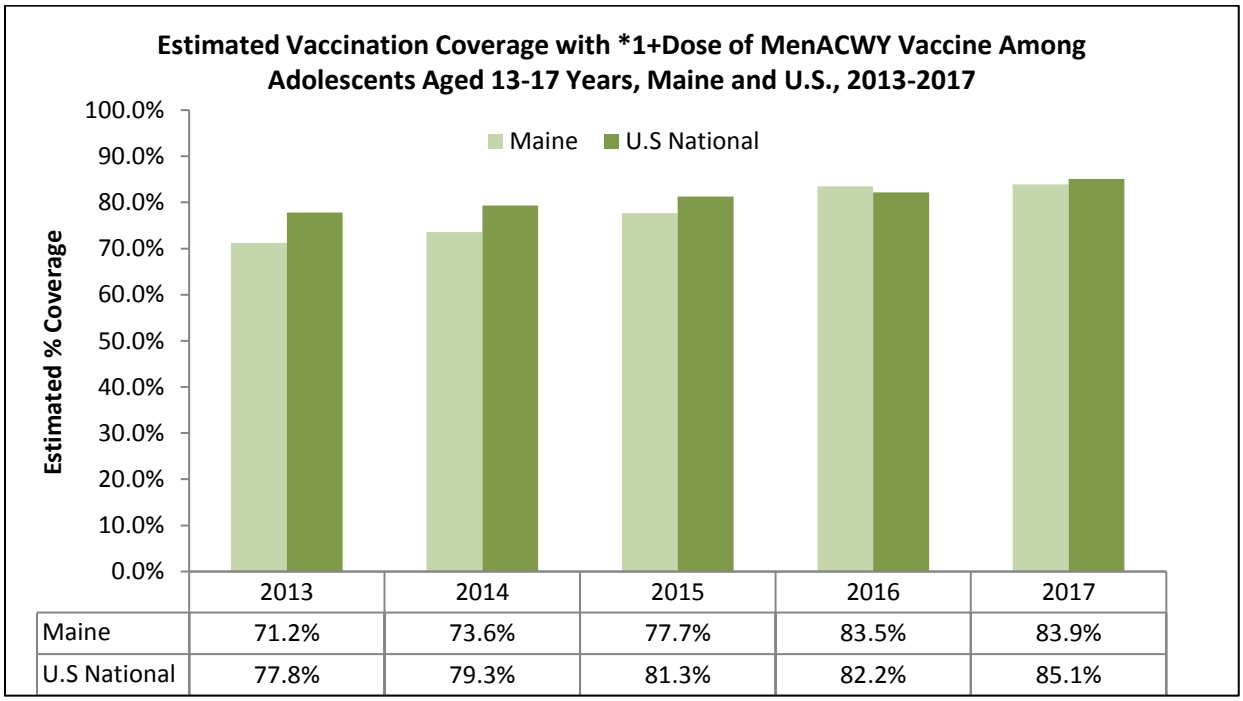
Figure 1: Adolescents 13-17 Years 1+Tdap Vaccine Coverage Estimate, Maine and U.S., 2013-2017



	2013	2014	2015	2016	2017
Maine	83.0%	85.4%	87.7%	87.5%	85.1%
U.S National	86.0%	87.6%	86.4%	88.0%	88.7%

***1+Tdap~** 1 or more doses of tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) or tetanus-unknown type vaccine.
Trend: Overall, Tdap vaccine coverage in Maine has increased in 2016 in comparison to 2013. The highest coverage was in 2015 (87.7% ±4.0) and lowest in 2013 (83.0% ±4.7). Tdap vaccine coverage in Maine is now below national average.

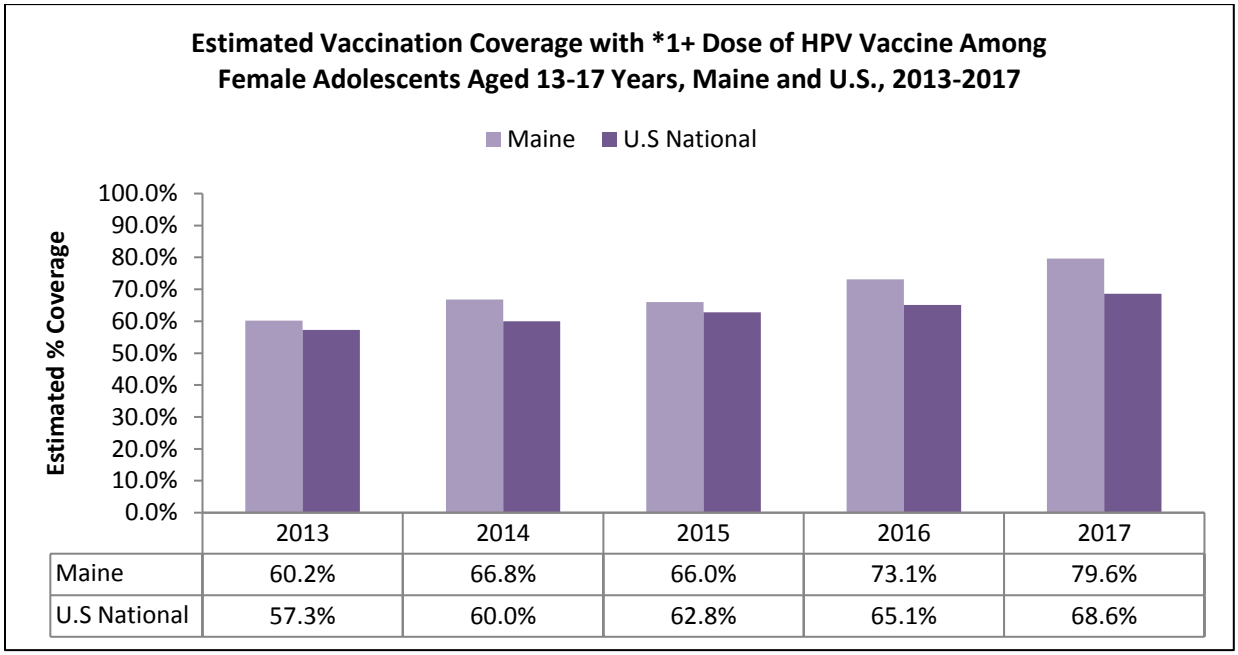
Figure 2: Adolescents 13-17 Years 1+MenACWY Vaccine Coverage Estimate, Maine and U.S., 2013-2017



	2013	2014	2015	2016	2017
Maine	71.2%	73.6%	77.7%	83.5%	83.9%
U.S National	77.8%	79.3%	81.3%	82.2%	85.1%

***1+MenACWY** ~ 1 or more dose of meningococcal conjugate vaccine or meningococcal-unknown type vaccine.
Trend: Overall, MenACWY vaccine coverage in Maine has increased in 2016 in comparison to 2013. The highest coverage rate was in 2017 (83.9% ±4.6) and lowest in 2013 (71.2% ±5.6). MenACWY vaccine coverage in Maine is now below national coverage.

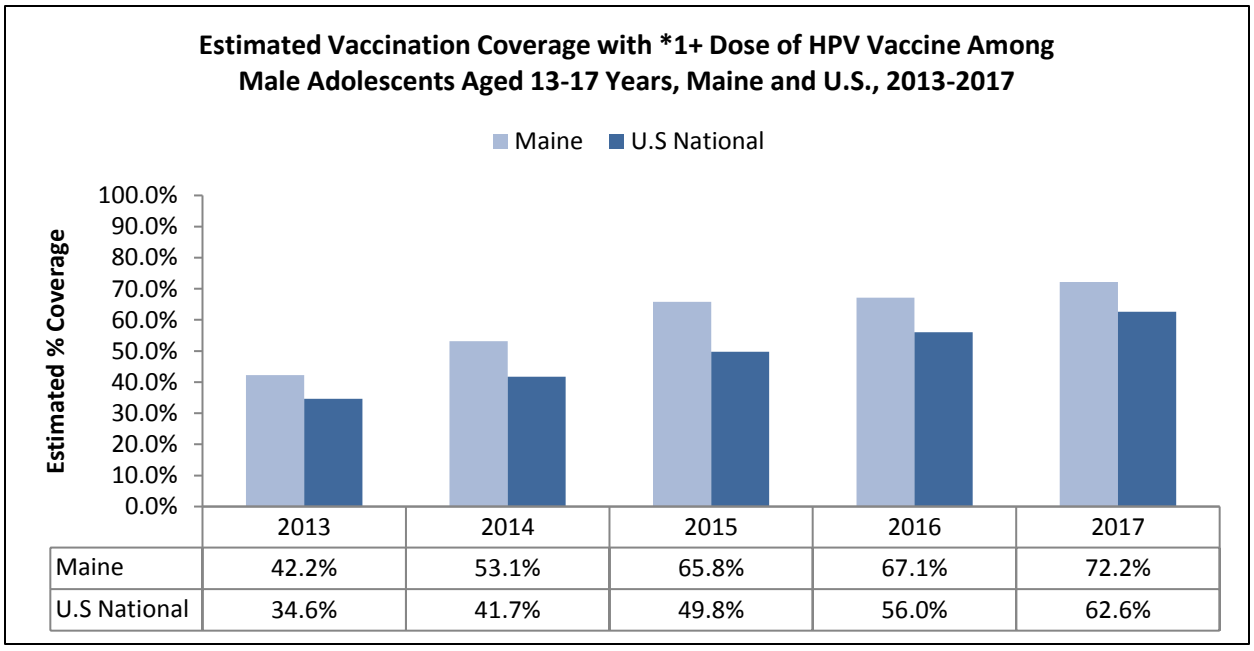
Figure 3: Adolescent Females 13-17 Years 1+HPV Vaccine Coverage Estimate, Maine and U.S., 2013-2017



	2013	2014	2015	2016	2017
Maine	60.2%	66.8%	66.0%	73.1%	79.6%
U.S National	57.3%	60.0%	62.8%	65.1%	68.6%

***1+HPV** ~ 1 or more doses of human papillomavirus, either quadrivalent or bivalent.
Trend: Overall, HPV vaccine coverage in Maine has increased in 2016 in comparison to 2013. The highest coverage rate was in 2017 (79.6% ±6.9) and lowest in 2013 (60.2% ±8.8). HPV vaccine coverage in Maine has been above national coverage for female adolescents.

Figure 4: Adolescent Males 13-17 Years 1+HPV Vaccine Coverage Estimate, Maine and U.S., 2013-2017



	2013	2014	2015	2016	2017
Maine	42.2%	53.1%	65.8%	67.1%	72.2%
U.S National	34.6%	41.7%	49.8%	56.0%	62.6%

***1+HPV** ~ 1 or more doses of human papillomavirus, either quadrivalent or bivalent.
Trend: Overall, HPV vaccine coverage in Maine has increased in 2016 in comparison to 2013. The highest coverage rate was in 2017 (72.2% ±7.7) and lowest in 2013 (42.2% ±8.5). HPV vaccine coverage in Maine has been significantly above national coverage for male adolescents

Table 1: Adolescents 13-17 Years National Vaccine Coverage Estimate Ranking, Maine 2013-2017

National Vaccine Coverage Ranking for Maine Among Adolescents 13-17 Years, 2013-2017					
Vaccine	**2013**	**2014**	**2015**	**2016**	**2017**
1+Tdap	37th	31st	25th	27th	43rd
1+MenACWY	31st	34th	31st	26th	28th
1+HPV – All	-	-	-	8th	5th
Up-to-Date HPV - All	-	-	-	5th	6th
1+HPV - Females	14th	9th	20th	8th	7th
Up-to-Date HPV - Females	5th	16th	23rd	4th	12th
1+HPV - Males	9th	8th	5th	7th	8th
Up-to-Date HPV - Males	13th	11th	3rd	6th	5th

Table 2: Adolescents 13-17 Years New England Vaccine Coverage Estimate Ranking, Maine, 2017

New England Vaccine Coverage Ranking for Maine Among Adolescents 13-17 Years, 2017						
Vaccine	**Connecticut**	**Maine**	**Massachusetts**	**New Hampshire**	**Rhode Island**	**Vermont**
1+Tdap	3rd	**6th**	1st	2nd	4th	5th
1+MenACWY	1st	**6th**	3rd	4th	2nd	5th
1+HPV All	6th	**4th**	2nd	5th	1st	3rd
Up-to-Date HPV All	6th	**5th**	2nd	4th	1st	3rd
1+HPV Females	5th	**4th**	3rd	6th	1st	3rd
Up-to-Date HPV Females	4th	**6th**	3rd	5th	1st	2nd
1+HPV Males	6th	**5th**	2nd	4th	1st	3rd
Up-to-Date HPV Males	6th	**4th**	2nd	5th	1st	3rd