National Immunization Survey (NIS)

The National Immunization Survey (NIS) provides national and state estimates of vaccination coverage among 19-35 month olds and teens.

Data are collected from a random sample of 320 13-15 month olds in Colorado.

The vaccination coverage reflects immunization practices 2 to 4 years in the past.
Interpreting National Immunization Survey (NIS) Data

An important caveat about the NIS is that because the data are collected from a sample of the population the rates are *estimates* with an associated confidence interval. Subtracting and adding the confidence interval to the reported rate estimate calculates the range that the rate would fall into 95% of the time. The larger the sample size the more precise the rate estimate.

It is important to remember when comparing rates across years or across states that *if the confidence intervals make the range of rates overlap the rates are not statistically different.*

For example, in the table below

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>4:3:1:3:3:1 Reported Rate with Associated Confidence Interval</th>
<th>Statistically, the Range of the Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado (n=442)</td>
<td>72.1 ± 6.8</td>
<td>65.3 - 78.9</td>
</tr>
<tr>
<td>U.S (n=22,462)</td>
<td>77.7 ± 1.4</td>
<td>76.3 - 79.1</td>
</tr>
</tbody>
</table>

The confidence interval for the CO rate is much larger (less precise) than the US rate (more precise) because the sample size for Colorado is much smaller than the US.

The range of the rates overlap thus they are statistically the same.
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey**

- 4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib, depending on vaccine type, 3+ HepB, 1+ varicella, and 4+ PCV

**The 2014 rate is significantly higher than the 2009 and 2010 rate.
4:3:1:3:3:1:4*

Immunization Rate with 95% Confidence Intervals among Colorado and US Children 19-35 Months of Age, by Year, National Immunization Survey (NIS)**

*4+ DTaP, 3+ polio, 1+ MMR, 3 or 4 doses Hib, depending on vaccine type, 3+ HepB, 1+ varicella, and 4+ PCV

**There is no difference between the Colorado and National rate.
4 or More Doses of DTaP Vaccine
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey*

*There is no statistical difference between the years.
1 or More Doses of MMR Vaccine
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey*

*There is no statistical difference between the years.
3 or More Doses of Polio Vaccine
Immunization Rate with 95% Confidence Intervals among Colorado Children
19-35 Months of Age, by Year, National Immunization Survey*

*There is no statistical difference between the years.
3 or 4 Doses of Hib Vaccine, Depending on Vaccine Type
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey

*The 2014 rate is statistically higher than the 2009 and 2010 rates.
3 or More Doses of Hepatitis B Vaccine

Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey (NIS)

*There is no statistical difference between the years.*
1 or More Doses of Varicella Vaccine on or After Child’s First Birthday,
Immunization Rate with 95% Confidence Intervals among Colorado Children
19-35 Months of Age, by Year, National Immunization Survey

*There is no statistical difference between the years.*
4 or More Doses of PCV Vaccine
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey

*There is no statistical difference between the years.
Rotavirus Vaccine*
Immunization Rate with 95% Confidence Intervals among Colorado Children 19-35 Months of Age, by Year, National Immunization Survey**

* > 2 or ≥ 3 doses of Rotavirus vaccine, depending on product type.
**The 2014 rate is statistically higher than the 2009 and 2010 rate.
2+ Hepatitis A
Immunization Rate with 95% Confidence Intervals, by Year, Colorado Children 19-35 Months, National Immunization Survey

*There is no statistical difference between the years.*