

Questions and Answers about the National Immunization Survey (NIS)

Courtesy of the Centers for Disease Control and Prevention

1. What is the NIS?

We do the NIS to measure the vaccination coverage among preschool children in the US at the levels of the nation, each state, and 28 major urban areas. The NIS provides estimates of coverage that can be compared among all the areas measured.

The NIS contractor calls randomly generated telephone numbers to contact and interview parents or guardians in families with children 19 to 35 months of age. Telephone numbers are linked to the geographic areas based on area code and prefix. All families that participate are asked for permission to contact their children immunization providers in order to collect the providers' information about dates that the child was vaccinated.

2. What do the numbers really mean?

The numbers estimate the proportion of 19 to 35 month old children who have received all the recommended doses of routine childhood vaccines.

3. What's a 95% confidence interval (CI)?

A 95% confidence interval is a concept from random sampling theory where an estimate of the coverage rate in a large population is produced from the rate found in a randomly picked group of children who are part of the large group. The CI indicates that if the survey were repeated over and over, 95% of the surveys would produce a coverage estimate that fell within the range of the 95% confidence interval. If two confidence intervals do not overlap, we can say the coverage levels in the two populations are most likely different from each other.

4. What do the ranges mean?

We use ranges to indicate the lower and upper estimate for the confidence interval. The width of the range depends on the size of the sample, the sampling method, and the actual coverage level. (See answer to previous question.)

5. When was the NIS first conducted?

The NIS started in April 1994.

6. Who oversees the NIS?

The Data Management Division of NIP and the Office of Research Methodology of NCHS oversee the NIS. The NIS is conducted under contract with Abt Associates of

Cambridge Massachusetts.

7. What does it mean when the (successive survey) numbers go up and down?

If the numbers go up and down within the range of the confidence interval, it is likely that there is no true difference between the two numbers. If there is very little or no overlap between the two confidence intervals around two NIS estimates, it is likely that there is a statistical difference between the two estimates.

8. How accurate and reliable are these numbers?

The NIS is accurate and reliable. The accuracy is supported by the agreement between the NIS, a telephone survey, and the National Health Interview Survey, a nationally representative, household, door-to-door survey. The reliability of the NIS is reflected in the size of the confidence interval; it is more reliable at the national level than at the state or urban level because the number of interviews overall is so much larger than the number of interviews for any state.

9. Why do the vaccination rates derived from the NIS differ from those derived by other methods such as CASA, registries, HEDIS, etc.?

There are many possible reasons why the rates could differ, including different age ranges (19-35 months, 24-35 months), different computation rules (all doses, only age-appropriate doses), different sampling methods (population vs. provider vs. registry based), incomplete records (missing doses given by different providers), different vaccine combinations (4-3-1, 4-3-1-3, 4-3-1-1-2[HEDIS 3.0/1997]), etc.

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