

Oregon's Population-Based Immunization Rates

Frequently Asked Questions

1) Who is assessed for immunization status?

The assessment covers 24-35 month olds living in your county in 2005. The county denominator is the number of current residents with an adjustment for movement into and out of your county within those first 2 years. In other words, an estimated number of residents who moved out are removed from the denominator while an estimated number of those who moved in are added to the denominator.

2) How is timing and spacing accounted for in these rates? Do the rates only count doses or is spacing and timing a consideration?

Generally, these rates count doses rather than taking spacing and timing details into consideration. However, for shots in the registry for which two dates were reported for the same shot, those "close date shots" (within 24 days) were resolved selecting the shot that was closest to the expected date of administration based on shot frequency distributions. Additionally, no reported MMR or 4th DTaP shot was counted if administered before 362 days from birth.

3) How are mobile kids accounted for in this assessment? If a child has lived in or received shots in multiples counties, to which county are they attached for these rates?

For kids who have received immunizations in multiples counties, they are assigned to the county in which they were living when they last received a shot. Kids that were not born in Oregon, yet have immunizations in the registry, are treated the same way – that is, assigned to the county where they were living at the time of the last immunization. So for counties with large migrant worker populations or large immigrant populations, the kids will be counted in the assessment provided at least one shot is recorded in the registry.

4) Will it make a difference in our ability to compare rates between counties if the percent of shots given in the private or public sector differs greatly from one county to the next?

Rates are calculated irrespective of reporting source, so that county-to-county comparisons can be fairly made. Adjustments to the population-based rates ensure that differences in reporting of data to the ALERT registry between the public and private sector clinics will not be an issue.

5) What are the key differences between these rates and the annual local health department immunization rates?

These countywide rates are population-based which means that children from the entire county population are included. The clinic-based annual local health department assessments include only those children receiving shots at the local health department.

The annual local health department assessments are a review of specific clinic records where each child's record is counted. This means that one child may be counted in more than one health department's rate if they were seen at multiple health departments.

Conversely, for the population-based rates each child is only included once and a child will not appear in multiple countywide assessments.

6) What are the key differences between population-based rates and survey rates?

Immunization coverage rates produced from survey data are based on small samples of children (e.g., National Immunization Survey (NIS), the 1999 Oregon Survey of Two-Year-Olds). For the NIS, 200-400 families with children are surveyed and a follow-up questionnaire is sent to health care providers to ascertain the immunization history of the child. The estimates are then based on completed responses from the parent(s) and the provider(s).

Population-based rates are based on the entire Oregon population at birth and age two, so a one-year birth cohort of approximately 45,000 children is included in the rate calculations. The sources of data include the ALERT registry for shot histories, Oregon Vital Records birth registry to identify the cohort, and U.S. Census county-to-county mobility tables to account for movement.

7) What are confidence intervals (CI) and why do we need them?

Ninety-five percent confidence intervals (95% CIs) are used to reflect potential variability in population estimates. The larger the CI means the greater the range that the point estimate falls within. Generally the larger the population, the smaller the confidence interval and the more precise the point estimate.

For example, with a statewide rate of 71.8% +/- 0.4 (95% CI), there is a 95% chance that the true point estimate or "rate" is between 71.4% and 72.2%, a very narrow range. With a rate of 59.0% +/- 14.8 (95% CI), the range of possible rates is from 44.2% to 73.8%.

8) How were data validated for this project?

The Immunization Program is committed to using best science and best practices to guide program decisions. To review our methods, we contracted with a university demographer. This consultant confirmed that we are following the best science in determining these rates, and that our methods are entirely in line with current demographic and population standards.

The data have been extensively cleaned and checked for internal validity in ALERT, and between ALERT and Vital Records. Other validation checks are presently being developed for comparison to other external datasets as feasible.

For more information about these data, please contact Steve Robison at 971-673-0306 or steve.g.robison@state.or.us