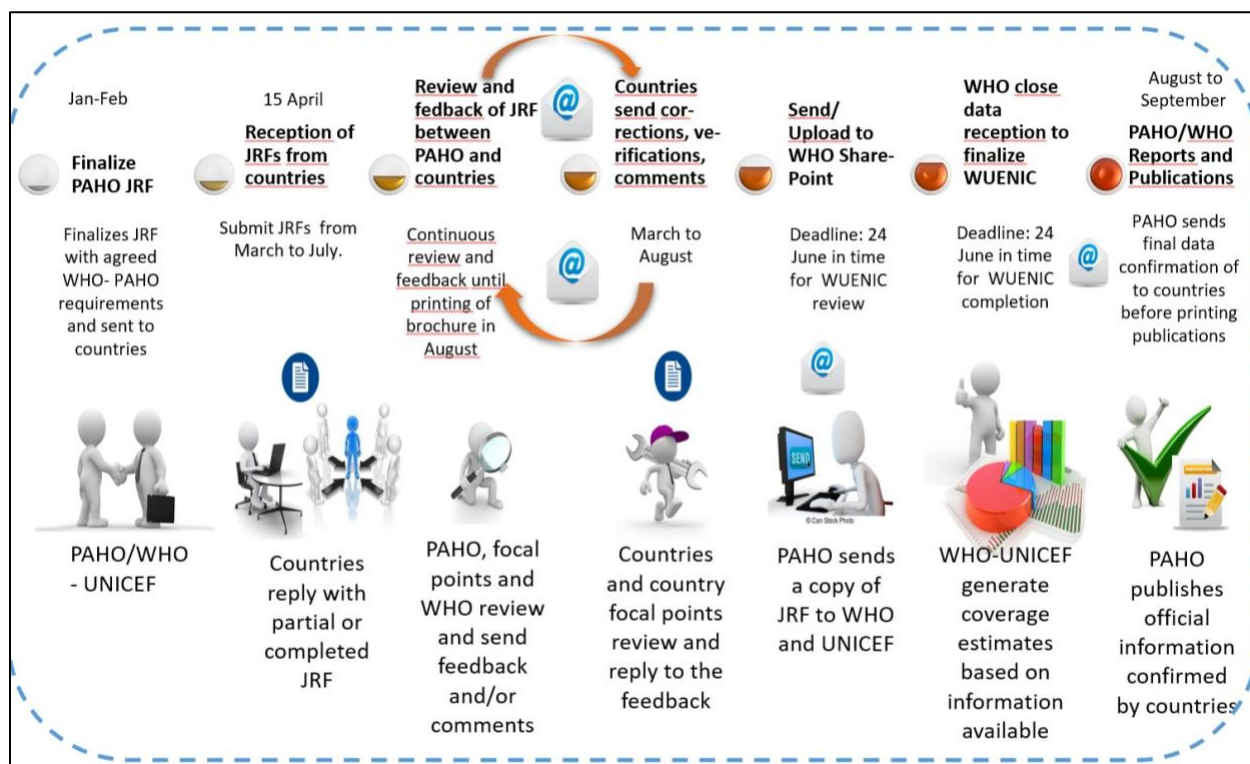


Frequent Asked Questions (FAQs) WHO-UNICEF Joint Reporting Form on Immunization (JRF) and Estimates of National Immunization Coverage (WUENIC)



1. What is the PAHO/WHO-UNICEF Joint Reporting Form (JRF) on immunization?

A. The Joint Reporting Form (JRF) on immunization of the Pan American Health Organization/World Health Organization (PAHO/WHO) and the United Nations Children's Fund (UNICEF) is an official document used by the 194 Member States and associated territories of the United Nations. The information compiled in the JRF includes, in addition to national immunization coverage, reported cases of vaccine-preventable diseases (VPDs), national immunization schedules, as well as performance indicators of the immunization program and financing.

2. What are the WHO and UNICEF Estimates of National Immunization Coverage (WUENIC)?

A. They are systematic assessments of the most likely national vaccination coverage levels for each country carried out annually by WHO and UNICEF.

GLOSSARY

JRF: Joint Reporting Form on immunization

WHO: World Health Organization

PAHO: Pan American Health Organization

UNICEF: United Nations Children's Fund

WUENIC: WHO and UNICEF Estimates of National Immunization Coverage

WHO and UNICEF use the JRF reports and completed immunization surveys, as well as data from the relevant literature (published and gray), to try to distinguish between situations in each country where the available data accurately reflect the immunization system performance and those where data is likely to be compromised and present a misleading view of immunization coverage.

The experts then develop joint estimates of the most likely vaccination coverage levels for each country, known as WUENIC estimates.

3. When did the WUENIC estimates begin developing?

A. The process of creating the WUENIC estimates began in 1999 considering five vaccines. In 2001, all the revisions to the methodology and the respective approvals were carried out. That same year, the process was taken to the countries and the first WUENIC estimates were published.¹

Since then, these reviews have been conducted every year and, vaccination coverage estimates are now made for 15 vaccines.

In 2018, the WUENIC estimates were established as the official source for monitoring Sustainable Development Goal 3.b.1.²

4. What is the methodology to generate WUENIC estimates based on?

A. It is important to highlight that the WHO and UNICEF Working Group reviews each country's data individually and applies predefined deterministic rules. All decisions of the group are documented, reproducible, and publicly available on the WHO website.³

5. What are the vaccination data sources that are used to create the WUENIC estimates?

A. There are various vaccination data sources:

- **Administrative coverage:** Reported by national authorities through the JRF and based on aggregated data from administrative reports from health service providers on the number of vaccines administered during a given period (numerator data) and reported target population data (denominator data). It may be biased by the quality of the numerator and/or denominator data.

¹ More information: <https://www.who.int/bulletin/volumes/87/7/08-053819/en/>

² Sustainable Development Goal 3.b.1: Proportion of the target population covered by all vaccines included in their national program

³ WHO/UNICEF estimates of national immunization coverage:

https://www.who.int/immunization/monitoring_surveillance/routine/coverage/en/index4.html

- Official coverage: Estimated coverage reported by national authorities through the JRF that reflects their assessment of most likely coverage based on any combination of administrative coverage, survey-based estimates, or other data sources or adjustments. Approaches to determining official coverage may vary from country to country.
- Survey coverage: Based on estimated population-based survey coverage (MICS, DHS, immunization coverage surveys, etc.) among children 12-23 months or 24-35 months after a review of the survey methods and results. The information is based on the combination of vaccination history from documented evidence or reminder from the caregiver. Results from the survey are considered for the corresponding birth cohort according to the data collection period.
- Other sources: Use of other evaluations published in literature, such as gray literature, and additional information, like vaccine shortages, results from data quality analyses, as well as opinions from local experts and WHO.

6. Are these data analyzed to conduct the WUENIC estimates?

A. The estimates are not based on *ad hoc* adjustments to the data reported by the countries, nor are data assumed if they are not available.

In some cases, the data is available from a single source, and generally this is the coverage data reported at the national level. In cases where data is not available for a country/vaccine/year, data from previous and subsequent years are considered and interpolated to estimate the coverage of the missing years. In cases where data sources are mixed and show great variation, an attempt is made to identify the most likely estimate by considering possible biases in the available data.

The Working Group, in turn, uses the R statistical tool and Prolog logic programming to analyze the data.⁴

⁴ For the methods, please refer to the following resources:

* Burton and col. 2009. WHO and UNICEF estimates of national infant immunization coverage: methods and processes

<https://www.who.int/bulletin/volumes/87/7/08-053819/en/>

* Burton and col. 2012. A Formal Representation of the WHO and UNICEF Estimates of National Immunization Coverage: A Computational Logic Approach

<https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbX3dWVuaWN8Z3g6MzJiZDhjMDIyYzdkNTJmMw>

* Brown and col. 2013. An Introduction to the Grade of Confidence Used to Characterize Uncertainty Around the WHO and UNICEF Estimates of National Immunization Coverage

<https://benthamopen.com/contents/pdf/TOPHJ/TOPHJ-6-73.pdf>

7. What is the process for JRF reporting to generate the WUENIC estimates that the countries of the Region of the Americas follow?

A. PAHO plays an active and crucial role in supporting the countries of our Region in the process of generating the WUENIC estimates and reporting their data through the JRF. The steps for the countries of the Americas are as follows:

Step 1: Every year, countries report their immunization data through the JRF to PAHO and UNICEF. This includes the official coverage for vaccines used in each country. This information is compiled and reviewed by PAHO and UNICEF and goes through a joint validation process. Finally, the reported data is sent to WHO and UNICEF.

Step 2: Based on these reported official administrative coverage data ("*Official*") and data from surveys conducted in the countries ("*Survey*"), WHO and UNICEF make coverage estimates (WUENIC) for each of the countries ("*Estimates*") in order to make them comparable with each other.

Step 3: The WUENIC estimates for each country are sent to ministries of health requesting comments or clarifications before publication.

Step 4. The final version of these WUENIC estimates is disseminated at global, regional, and country levels through a session and a press release.

8. Do these estimates have limitations? If so, what are they?

A. Yes, the WUENIC estimates have some limitations. These include the following:

- Both globally and in the Region of the Americas, the number of surveys conducted by the countries has decreased.
- Sometimes survey questions are not harmonized with immunization programs and differences are found in the schedules.
- The quality of the data, which directly affects the estimates. In the case of the Americas, although most countries have consistency between the official data reported by countries and estimates, there are examples of countries in which there are discrepancies, as is the case of the following country in 2019:

Country x:												
DTP3-cv	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<i>Estimate</i>	85	87	94	80	76	76	71	73	77	67	81	81
<i>Official</i>	85	87	96	86	84	86	85	89	91	81	95	91
<i>Survey</i>	NA	NA	NA	NA	NA	NA	NA	71	74	NA	NA	NA

In the 2018-2019 period, the results from a survey carried out among children up to 23 months were published (with which the coverage found was assigned to the years 2015 and 2016). As can be seen, although the official coverage reported by the country in the years 2016 to 2019 is above 90%, the WUENIC estimate (which considers the survey results) reduces coverage to 81% for those years.

9. Why are the WUENIC estimates important?

A. A historical representation of immunization coverage is important to assess trends in immunization program performance, to better establish the relationship between immunization service delivery and disease occurrence, and to provide a framework for setting future goals to achieve coverage.

10. What are WUENIC estimates used for?

A. The WUENIC estimates are used to monitor and compare the performance of immunization programs at the national, regional, and international levels in a standardized way. Since 2018, they are the official source to monitor compliance with Sustainable Development Goal 3.b.1.

They are also used as an information resource by Gavi (formally known as the Vaccine Alliance) and other immunization funding agencies in developing countries. Additionally, the analysis and dissemination of national reports make it possible to put immunization on countries' political agendas.⁵

PAHO/FPL/IM/20-0015

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⁵ WUENIC estimates:

https://apps.who.int/immunization_monitoring/globalsummary/timeseries/tswucoveredtp3.html