

# **Guidelines on Verification of Measles and Rubella Elimination in the Western Pacific Region**

SECOND EDITION



**World Health  
Organization**  
Western Pacific Region



# **Guidelines on Verification of Measles and Rubella Elimination in the Western Pacific Region**

S E C O N D   E D I T I O N

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**ISBN 978 92 9061 860 7**  
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**Suggested citation.** Guidelines on verification of measles and rubella elimination in the Western Pacific Region Second Edition. Manila, Philippines. World Health Organization Regional Office for the Western Pacific. 2018. Licence: CC BY-NC-SA 3.0 IGO.

**Cataloguing-in-Publication (CIP) data.** 1. Guideline. 2. Measles – prevention and control. 3. Rubella – prevention and control. I. World Health Organization Regional Office for the Western Pacific. (NLM Classification: WC580)

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# Abbreviations

<b>AEFI</b>	adverse events following immunization
<b>CRS</b>	congenital rubella syndrome
<b>GSL</b>	global specialized laboratory
<b>IgG</b>	immunoglobulin G
<b>IgM</b>	immunoglobulin M
<b>JRF</b>	Joint Reporting Form
<b>MCV</b>	measles-containing vaccine
<b>MCV1</b>	first dose of measles-containing vaccine
<b>MCV2</b>	second dose of measles-containing vaccine
<b>MRCV</b>	measles- and rubella-containing vaccine
<b>MSP</b>	measles strategic planning
<b>NMRL</b>	national measles-rubella laboratory
<b>NVC</b>	National Verification Committee
<b>RCV</b>	rubella-containing vaccine
<b>RCV1</b>	first dose of rubella-containing vaccine
<b>RCV2</b>	second dose of rubella-containing vaccine
<b>RRL</b>	regional reference laboratory
<b>RVC</b>	Regional Verification Commission
<b>SIA</b>	supplementary immunization activity
<b>SRVC</b>	Subregional Verification Committee
<b>TAG</b>	Technical Advisory Group
<b>UNICEF</b>	United Nations Children's Fund
<b>VPD</b>	vaccine-preventable disease
<b>WHO</b>	World Health Organization

# Definitions\*

- Disease eradication: worldwide interruption of measles or rubella virus transmission in the presence of a surveillance system that has been verified to be performing well.
- Disease elimination:
  - measles – the absence of endemic measles virus transmission in a defined geographical area (for example, region or country) for  $\geq 12$  months, in the presence of a well performing surveillance system.
  - rubella – the absence of endemic rubella virus transmission in a defined geographical area (for example, region or country) for  $\geq 12$  months and the absence of congenital rubella syndrome (CRS) cases associated with endemic transmission, in the presence of a well performing surveillance system.
- Endemic transmission: the existence of continuous transmission of indigenous or imported measles or rubella virus that persists for  $\geq 12$  months in any defined geographical area.
- Re-establishment of endemic transmission: occurs when epidemiological evidence, supported wherever possible by laboratory evidence, indicates the presence of a chain of transmission of a virus strain that continues uninterrupted for  $\geq 12$  months in a defined geographical area (for example, region or country) where measles or rubella was previously eliminated.
- Measles or rubella outbreak: Two or more measles or rubella cases that are temporally related and epidemiologically or virologically linked, or both. However, rigorous case and contact investigation should be initiated at confirmation of first measles or rubella case.

## CLASSIFICATION OF CASES

- Suspected case of measles or rubella: a patient in whom a health-care worker suspects measles or rubella infection, or a patient with fever and maculopapular (non-vesicular) rash.
- Laboratory-confirmed measles or rubella case: a suspected case of measles or rubella that has been confirmed by a proficient laboratory.
- An epidemiologically linked confirmed measles or rubella case: a suspected case of measles or rubella that has not been confirmed by a laboratory but was geographically and temporally related, with dates of rash onset occurring 7–21 days apart for measles (or 12–23 days for rubella), to a laboratory-confirmed case or, in the event of a chain of transmission, to another epidemiologically confirmed measles or rubella case.

For example: A health-care worker suspects a case of measles, but the person does not receive adequate laboratory testing to confirm either positive or negative results. However, epidemiological investigation reveals that the person was in contact with a laboratory-confirmed measles case 12 days before onset of rash. This person would be classified as an confirmed case by epidemiological linkage measles case. If this was in an outbreak setting, the person could also be considered an epidemiologically confirmed measles case even if contact (within similar time frame) was only established with another epidemiologically confirmed measles case.

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\* Adapted from World Health Organization. Framework for verifying elimination of measles and rubella. Weekly Epidemiological Record. 2013;88:89–100.

- Clinically measles compatible: a case with fever and maculopapular (non-vesicular) rash and one of cough, coryza or conjunctivitis, for which no adequate clinical specimen was taken and which has not been linked epidemiologically to a laboratory-confirmed case of measles or another laboratory-confirmed communicable disease.
- Clinically rubella compatible: a case with maculopapular (non-vesicular) rash and fever (if measured) and one of arthritis/arthralgia or lymphadenopathy, for which no adequate clinical specimen was taken and which has not been linked epidemiologically to a laboratory-confirmed case of rubella or another laboratory-confirmed communicable disease.
- Endemic measles or rubella case: laboratory-linked or epidemiologically linked confirmed cases of measles or rubella resulting from endemic transmission of measles or rubella virus.
- Imported case of measles or rubella: a case exposed to measles or rubella outside the country during the 7–21 days for measles (or 12–23 days for rubella) prior to rash onset and supported by epidemiological or virological evidence, or both.

Note: For cases that were outside the country for only a part of the 7–21-day interval (or 12–23-day interval for rubella) prior to rash onset, additional evidence including a thorough investigation of local contacts of the case is needed to exclude a local source of infection.

- Import-related measles or rubella case: a locally acquired infection occurring as part of a chain of transmission originating from an imported case as supported by epidemiological or virological evidence, or both.

Note: Classification of a case as import-related can be based on genotyping data alone (that is, in the absence of supportive epidemiological data). If transmission of measles or rubella from cases related to importation persists for  $\geq 12$  months, cases are no longer considered import-related but endemic.

- Unknown source measles or rubella case: a confirmed case for which an epidemiological or virological link to importation or to endemic transmission cannot be established.
- Non-measles non-rubella discarded case: a suspected case that has been investigated and discarded as a non-measles, non-rubella case using: (i) laboratory testing in a proficient laboratory; or (ii) epidemiological linkage to a laboratory-confirmed outbreak of another communicable disease that is neither measles nor rubella.

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