Case definitions

WHO suggested outbreak case definitions

Case definitions for case finding

<table>
<thead>
<tr>
<th>Suspected measles case</th>
<th>An illness in a patient with fever and generalized maculopapular (non-vesicular) rash, or in a patient whom a health care worker suspects has measles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical measles case</td>
<td>Any person in whom a clinician suspects measles infection; or Any person with fever and maculopapular rash (i.e., non-vesicular) and:</td>
</tr>
<tr>
<td></td>
<td>– cough, or</td>
</tr>
<tr>
<td></td>
<td>– coryza (i.e., runny nose) or</td>
</tr>
<tr>
<td></td>
<td>– conjunctivitis (i.e., red eyes).</td>
</tr>
</tbody>
</table>

Final case classifications

<table>
<thead>
<tr>
<th>Laboratory-confirmed measles case</th>
<th>A suspected case of measles that has been confirmed positive by testing in a proficient laboratory, and vaccine-associated illness has been ruled out</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epidemiologically linked measles case</td>
<td>A clinical case of measles that has not been confirmed by a laboratory, but was geographically and temporally related, with dates of rash onset occurring 7–21 days apart from a laboratory-confirmed case or another epidemiologically linked measles case.</td>
</tr>
<tr>
<td>Clinically compatible measles case</td>
<td>A clinical case of measles, but no adequate clinical specimen was taken and the case has not been linked epidemiologically to a laboratory-confirmed or epidemiologically linked case of measles or other communicable disease.</td>
</tr>
</tbody>
</table>

For more information: outbreaktoolkit@who.int
<table>
<thead>
<tr>
<th>Discarded case</th>
<th>A suspected measles case that has been investigated and discarded as non-measles through:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- negative laboratory testing in a proficient laboratory on an adequate specimen collected during the proper time after rash onset; or</td>
</tr>
<tr>
<td></td>
<td>- epidemiological linkage to a laboratory-confirmed outbreak of another communicable disease that is not measles; or</td>
</tr>
<tr>
<td></td>
<td>- confirmation of another etiology; or</td>
</tr>
<tr>
<td></td>
<td>- failure to meet the clinically compatible measles case definition.</td>
</tr>
</tbody>
</table>

2 Confirmation methods:

- Detection of anti-measles IgM antibody by enzyme immunoassay (EIA). This is the gold standard. Results of IgM should be reported within four days of the specimen’s arrival at the laboratory.
- Diagnostically significant titre change in anti-measles IgG antibody level in acute or convalescent sera, or documented seroconversion (IgG negative to IgG positive).
- Positive reverse transcription-polymerase chain reaction (RT-PCR) or viral isolation in cell culture.

Measles Outbreak Guide (Geneva: World Health Organization; 2022)

**WHO surveillance case definition**


**WHO other definitions**

**Definition of measles outbreak**

- **Suspected measles outbreak:** Five or more measles cases (with dates of rash onset occurring 7–21 days apart) that are epidemiologically linked.

- **Laboratory-confirmed measles outbreak:** Two or more laboratory-confirmed measles cases that are temporally related (with dates of rash onset occurring 7–21 days apart) and epidemiologically or virologically linked, or both.

**Acute measles-related death**

A measles-related death is a death in an individual with confirmed (clinically, laboratory or epidemiologically) measles in which death occurs within 30 days of rash onset and is not due to other unrelated causes, e.g., a trauma.

Measles Outbreak Guide (Geneva: World Health Organization; 2022)

**Data collection tools**

- Line list: Not available; adapt variables in page 17.
• Electronic tools: EWARS in a box

Laboratory confirmation


Response tools and resources

- See link to information on the WHO Measles kits
- For WHO offices, the kits are now part of the WHO catalogue and the order details can be found here - https://intranet.who.int/tools/wcat/QuickSearch.aspx#, using “measles kit” in the search field.
- Planning and Implementing High-Quality Supplementary Immunization Activities for Injectable Vaccines Using an Example of Measles and Rubella Vaccines (Geneva: World Health Organization; 2016)

Training

- Measles outbreak training | OpenWHO

Other resources

- Surveillance guide for vaccine-preventable diseases in the WHO South-East Asia Region. Module 1: Measles and rubella (New Delhi: World Health Organization Regional Office for South-East Asia; 2017).
- Measles elimination field guide (Manilla: World Health Organization Regional Office for the Western Pacific; 2013).

For more information: outbreaktoolkit@who.int
• Guidelines for measles and rubella outbreak investigation and response in the WHO European Region (Copenhagen: World Health Organization Regional Office for Europe; 2013).
• African regional guidelines for measles and rubella surveillance (Brazzaville: World Health Organization Regional Office for Africa; 2015).
• WHO Guide for clinical case management and infection prevention and control during a measles outbreak (Geneva: World Health Organisation; 2020)