

Measles resurgence in Indonesia in 2026: post-pandemic immunity gaps and emerging public health challenges

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Dear Editor,

The resurgence of measles in Indonesia during the first quarter of 2026 represents a significant public health concern that may warrant increased attention and reassessment of broader public health preparedness¹. Data from the Ministry of Health of the Republic of Indonesia indicate that, from the first week through the twelfth week (end of March) of 2026,

measles outbreaks have been reported across multiple regions, affecting at least 14 provinces nationwide (Figure 1). During this period, suspected measles cases were reported, many of which were laboratory confirmed, as shown in Table 1². For a disease that is fully preventable through effective vaccination, these figures represent a substantial regression in progress

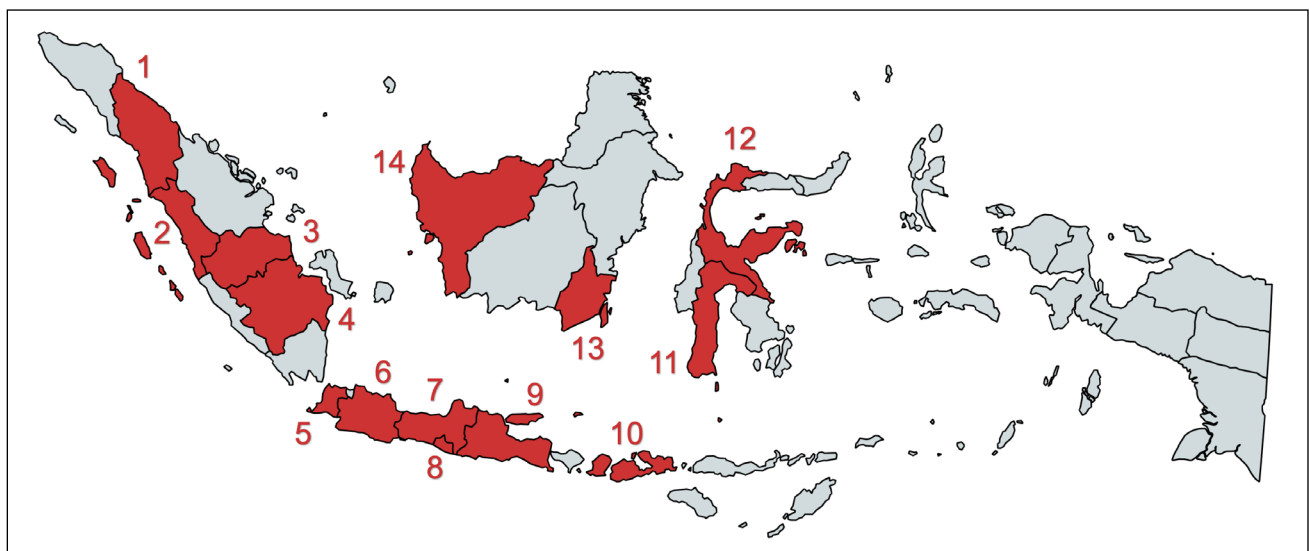


Figure 1. Schematic geographic distribution of provinces with reported measles cases across selected provinces in Indonesia, including (1) North Sumatra, (2) West Sumatra, (3) Jambi, (4) South Sumatra, (5) Banten, (6) West Java, (7) Central Java, (8) Special Region of Yogyakarta, (9) East Java, (10) West Nusa Tenggara, (11) South Sulawesi, (12) Central Sulawesi, (13) South Kalimantan, and (14) West Kalimantan based on surveillance data from the Ministry of Health of the Republic of Indonesia in 2026 (as of the end of March 2026). The map was generated using MapChart (<https://www.mapchart.net>).



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Table 1. Distribution of suspected measles cases and confirmed measles cases by reporting week during the observation period, based on surveillance data from the Ministry of Health of the Republic of Indonesia in 2026 (as of the end of March 2026). The data illustrate the temporal trend of measles cases from week 1 to week 12, highlighting variations in suspected and confirmed cases that may reflect transmission dynamics and surveillance response.

Week	Suspected measles cases	Measles cases
Week 1	2,932	2,220
Week 2	2,040	1,570
Week 3	2,139	1,650
Week 4	2,144	1,585
Week 5	1,975	1,492
Week 6	1,826	1,447
Week 7	1,756	1,377
Week 8	1,756	1,392
Week 9	2,094	1,664
Week 10	1,787	1,379
Week 11	481	368
Week 12	211	146

toward measles–rubella elimination³, which may reflect gaps in population immunity and vaccination coverage. Notably, the Ministry of Health of the Republic of Indonesia² has also reported a substantial decline in both suspected and confirmed measles cases over this period, with daily reported cases decreasing by approximately 93%, from a peak of 2,220 cases in the first week to 146 cases by mid-March 2026. This trend may suggest the impact of ongoing public health responses, although continued monitoring remains essential².

The epidemiological pattern of the outbreak is consistent with a potential widening immunity gap in the post-pandemic period. In 2025, the Ministry of Health of the Republic of Indonesia reported 11,094 confirmed measles cases, alongside 63,769 suspected cases, representing a 147% increase compared to 2024, and 69 associated deaths. Infants under one year of age, most of whom had not yet received immunization, accounted for the highest proportion of cases (68%). These figures suggest that Indonesia may be among the countries with a relatively high global measles burden, although direct comparisons require standardized international data. Disruptions to routine immunization services, compounded by persistent vaccine hesitancy since the COVID-19 pandemic, may have contributed to a substantial number of children missing their scheduled measles–rubella vaccinations. This hesitancy may represent an important contributing factor to declining vaccination coverage, further expanding the pool of susceptible individuals. Consequently, the increasing number of zero-dose and under-immunized children may create conditions conducive to sustained transmission of the measles virus, one of the most highly contagious pathogens in humans^{4–6}.

Vaccination status data indicate a substantial immunity gap, reflected in the predominance of measles cases among unvaccinated individuals during the 2025–2026 period, highlighting persistent inequities in access to immunization services. Despite Indonesia’s well-established primary healthcare system through the Puskesmas (Primary Health Care Center) network, the outbreak may highlight potential weaknesses in local implementation, particularly in affected areas (Figure 1), where geographic barriers, limited healthcare access, and sociocultural factors may continue to hinder vaccine uptake. This pattern is further illustrated by an outbreak investigation in Brondong Subdistrict, Lamongan District, East Java, Indonesia, in 2023, which demonstrated a propagated outbreak characterized by person-to-person transmission within the community. In that setting, low immunization coverage, especially for the second dose, appeared to be a major contributing factor to a growing susceptible population. This gap may have been influenced by vaccine hesitancy and high dropout rates associated with the long interval between doses, with post-pandemic disruptions acting as an additional contributing factor, collectively increasing the risk of transmission and facilitating outbreak occurrence^{5–9}.

From both virological and clinical perspectives, effective outbreak control requires the integration of molecular surveillance into routine public health practice to better characterize transmission dynamics. Measles is a highly contagious, vaccine-preventable disease caused by an enveloped virus of the family *Paramyxoviridae*, genus *Morbillivirus*, with current vaccines providing protection against all known circulating strains. In Indonesia, multiple genotypes, including G2, G3, D8, and D9, have been reported, while in Southeast Asia, B3 and D8 pre-

dominate and require continuous monitoring. In addition, whole-genome sequencing may help distinguish endemic transmission from potential introductions, while advanced diagnostics such as digital PCR may enhance detection sensitivity. Integrating these data into digital health platforms could support real-time epidemiological analysis and more targeted public health responses¹⁰⁻¹².

Addressing vaccine hesitancy is likely to remain an important challenge, particularly in affected regions where it is driven by sociocultural, religious, and informational factors, and where conventional top-down communication strategies may be insufficient in some settings. Effective responses should prioritize targeted community engagement involving local leaders, religious authorities, educators, and community health workers, supported by transparent communication on vaccine safety and the risks of measles complications to counter misinformation and rebuild public trust. These challenges, taken together, may be consistent with the concept of “immunity debt” following the COVID-19 pandemic, characterized by an expanded pool of susceptible individuals and an increased risk of vaccine-preventable disease outbreaks^{3,5,6,8,13,14}. Addressing this requires sustained health system strengthening, including restoration of immunization services, enhancement of surveillance systems, and reinforcement of healthcare workforce capacity to mitigate the long-term impacts of disruptions to essential health services.

In conclusion, the measles resurgence in Indonesia in 2026 represents a potential setback that may be associated with immunity gaps, inequities in healthcare access, and post-pandemic effects. Effective control is likely to require prioritizing expanded outbreak response immunization targeting missed cohorts, alongside full restoration of routine immunization services using a no-missed-opportunity approach. In parallel, culturally appropriate risk communication strategies are essential to address vaccine hesitancy through community engagement and transparent messaging. Surveillance systems could be strengthened through the integration of molecular epidemiology and real-time digital platforms to support early detection and rapid response. Sustained political commitment and targeted investment will be critical to restore immunization coverage, reduce transmission, and realign progress toward measles and rubella elimination goals.

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Not applicable.

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Not applicable.

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CONFLICT OF INTEREST:

The author declares no conflict of interest.

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