

Reemergence of Measles in the Americas and Risks for Colombia Amid Vaccination Coverage Gaps

Reemergencia del sarampión en las Américas y riesgos para Colombia ante brechas de cobertura vacunal

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Dear Editor:

The study published in *JAMA* by Kiang and colleagues evaluated the epidemiologic impact of declining childhood vaccination in the United States, estimating that measles could reestablish endemic transmission within approximately two decades under current coverage levels and sooner if coverage declines further¹. These findings highlight the fragility of eliminating vaccine-preventable diseases when herd immunity weakens.

Measles is caused by a single-stranded negative-sense RNA virus of the genus *Morbillivirus* (family *Paramyxoviridae*), with a basic reproduction number (R_0) estimated between 12 and 18, making it one of the most contagious pathogens. Transmission occurs through aerosols and respiratory secretions. Clinically, it presents with fever, cough, coryza, and conjunctivitis, followed by a maculopapular rash and Koplik spots. Although usually self-limited, it can lead to severe complications such as pneumonia and encephalitis. Case fatality ranges from 0.1% to 0.3% in high-income settings but can exceed 1%–5% in vulnerable populations².

The epidemiologic history of measles in Colombia reflects the impact of vaccination on disease control. Before vaccine introduction and consolidation of the Expanded Program on Immunization (EPI), measles was endemic with periodic epidemics. Intensified campaigns in the 1990s and 2000s led to sustained incidence reductions and interruption of endemic transmission, resulting in the regional certification of measles elimination in 2016. However, the outbreak that occurred between 2018 and 2019, as well as the introduction of three imported cases in late February 2026^{3,4}, highlight the persistent risk associated with case importation and the accumulation of susceptible individuals, a situation that has been exacerbated by declines in vaccination coverage during the COVID-19 pandemic^{4,5}.

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The measles outbreak that began in 2025 in the Region of the Americas primarily in Canada, Mexico, and the United States of America with sustained transmission and deaths, demonstrates how declining vaccination coverage can rapidly reverse elimination status. In a context of high human mobility and regional connectivity, these events increase the risk of case importation into countries with gaps in population immunity related to vaccination^{1,6}.

Kiang et al.'s model also underscores the nonlinear nature of epidemiologic risk: relatively small reductions in coverage generate disproportionate increases in cases, whereas modest vaccination gains substantially reduce the projected burden¹. This pattern aligns with measles transmission dynamics and reinforces the need to maintain high, homogeneous coverage.

In Colombia, it is imperative to target vaccination strategies according to territorial risk, ensure sustained financing of the EPI, strengthen nominal registries to identify susceptible individuals, and maintain evidence-based public communication with rapid response to importations. Historical experience shows that elimination is reversible; sustaining vaccination coverage $\geq 95\%$, closing subnational immunity gaps, and strengthening epidemiological surveillance are decisive to prevent the reemergence of measles in the country.

Author contributions

BRO is responsible for the conception, drafting, and critical revision of the document.

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Ethical considerations

This work was prepared with academic rigor, adhering to principles of transparency, accuracy, and respect in scientific discussion. All information presented is based on verifiable evidence and was developed without compromising the ethical integrity of scientific communication.

Conflict of interest

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