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Letter to the Editor

Reemergence of yellow fever in Venezuela, 2025/2026

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As of February 25, 2025, the Yellow fever virus (YFV) infection outbreak was reported officially in six countries according to the Pan American Health Organization (PAHO): Brazil, Bolivia, Colombia, Ecuador, Guyana, and Peru (2024-2026 outbreak) (https://shiny.paho-phe.org/yellowfever/) [1]. Overall, 392 cases and 163 deaths (41.6%) were notified in the region (Table 1).

In 2025, the National Institute of Health of Colombia (NIH-Col) reported a confirmed case of YF imported from the Apure state, Venezuela, in its Weekly Epidemiological Bulletin (www.ins.gov.co) for the 28th epidemiological week (EW; July 6-12). A week later, a second case, also from Apure, was confirmed and notified in Colombia (29th EW; July 13-19). After three weeks, a third confirmed case from Amazonas (32nd EW; August 3-9) was also notified by the NIH-Col. This raised regional concerns about YF circulation and suggested active virus circulation in Venezuela, especially in frontier areas, despite the lack of official reports from that country and from PAHO in its YF platform (https://shiny.paho-phe.org/yellowfever/), even as late as February 24, 2026.

On February 24, 2026, the Ministry of Health (MoH) of Venezuela reported 36 confirmed YF cases (https://bit.ly/4ckWtZ8), diagnosed by RT-PCR or IgM ELISA, apparently originating from 14 states (Fig. 1), as well as 92 epizootics in eight states (Fig. 1). Of the total human cases, 20 (55.6%) had a fatal outcome (Table 1) (https://shiny.paho-phe.org/yellowfever/). Those cases were confirmed at the Rafael Rangel National Institute of Hygiene of Venezuela (NIH-Ven) in Caracas, the capital (https://inhrr.gob.ve/?p=10318).

A total of 66.7% (24/36) of the cases occurred in males (age range, 2-64 years), and the remaining 33.3% in females (age range, 15-88 years). Overall, 75% of cases occurred in the 10–49-year age group. Symptom onset occurred between June 14, 2025, and January 22, 2026. A total of 33.3% (12/36) of cases were from Barinas (with 7 deaths) (Fig. 1).

States located near the expanding enzootic area (referred in Venezuela as the "San Camilo wave"), such as Apure, Barinas, Cojedes, Guárico, Lara, Mérida, Portuguesa, and Táchira, accounted for 63.9% of the total reported cases (Fig. 1) (https://bit.ly/4rP9ijg).

The confirmation of 36 human cases of yellow fever (YF) in Venezuela between June 2025 and January 2026, with a case fatality rate (CFR) of 55.6% (Table 1), is a major public health concern amid the ongoing regional resurgence in South America. Considering the three imported cases detected in Colombia, the Venezuelan confirmed cases sum up to 39 [2]. Although YF data from Venezuela was not included in official regional summaries until February 26, 2026 (https://shiny.paho-phe.org/yellowfever/), epidemiological signals such as the imported cases detected in Colombia from Apure and Amazonas strongly suggested active transmission in Venezuelan border states months earlier [3]. This pattern mirrors previous scenarios in which delayed reporting and limited transparency obscured early outbreak dynamics, allowing silent expansion of enzootic transmission [4].

The current outbreak appears to be closely linked to the expansion of the "San Camilo wave," which affects multiple states in western and central Venezuela [5]. The concentration of cases in Barinas and neighboring states (Apure, Portuguesa, Cojedes, Guárico, Lara, Mérida, and Táchira) highlights a geographic corridor of sylvatic transmission with potential cross-border implications [5]. Similar patterns of enzootic amplification and spread through non-human primate (NHP) populations were documented in Brazil during the 2016–2019 epidemic, in which epizootics preceded and predicted human outbreaks [2]. The occurrence of epizootics across eight Venezuelan states underscores the role of NHPs as sentinels and reinforces the need for systematic surveillance of wildlife and insect vectors to identify the true reservoir(s) of the virus within an integrated One Health strategy (Supplementary Material, https://osf.io/h84yd) [4].

The demographic profile of affected individuals, predominantly males and individuals aged 10–49 years, suggests occupational and environmental exposure in rural or forest-fringe settings [3]. This pattern is consistent with sylvatic transmission cycles involving *Haemagogus* and *Sabethes* mosquitoes (Fig. 1), particularly in regions experiencing agricultural expansion, deforestation, and human encroachment into forest ecosystems (Supplementary Material, https://osf.io/h84yd) [2,4]. As observed in prior Venezuelan outbreaks, low adult vaccination coverage remains a critical vulnerability [5]. Historical data from Venezuela have shown suboptimal immunization rates, particularly in border and rural states, facilitating periodic reemergence [4].

Including the reported Venezuelan cases, the PAHO regional CFR of 42.8% increases to 43.9% (Table 1). Such elevated mortality may reflect delayed healthcare access, limited intensive care capacity,

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Table 1
Yellow fever in South America, considering the confirmed cases from Venezuela.

Country	Cases	Deaths	CFR%
Colombia	173	77	44.5
Brazil	127	51	40.2
Peru	65	27	41.5
Venezuela[a]	**36**	**20**[d]	**55.6**
Bolivia	17	6	35.3
Ecuador	11	8	72.7
Guyana	4	1	25.0
Total[b]	433	190	43.9
Total by PAHO[c]	397	170	42.8

[a] 39 cases if we consider the 3 imported cases in Colombia.
[b] Including Venezuela.
[c] Totals by PAHO as of February 25, 2026, before inclusion of Venezuela in their report.
[d] PAHO reports this number of YF deaths from Venezuela (https://shiny.pahо-phe.org/yellowfever/).

underdiagnosis of milder cases, or a combination of these factors [2,3,5]. Previous analyses have emphasized that under-resourced surveillance systems and diagnostic delays contribute to late YF clinical recognition and worse outcomes [1,2,5]. In the Venezuelan context, prolonged strain on the health system and competing priorities may have further impaired early case detection and response capacity [5].

The cross-border dimension of this outbreak deserves particular attention. The detection of imported cases in Colombia before official acknowledgment in Venezuela illustrates how population mobility can serve as an early warning signal of undetected transmission [2,3,5]. As highlighted during earlier Venezuelan reemergence events, forced migration and porous borders increase the risk of regional dissemination [3–5]. Given the presence of competent vectors in neighboring countries, sustained transmission in frontier areas could amplify regional risk.

Vaccination remains the cornerstone of prevention [2]. The reemergence of YF in multiple South American countries during 2024–2026 reflects persistent gaps in coverage and challenges in maintaining herd immunity [1]. In Venezuela, catch-up campaigns targeting adults in high-risk rural and peri-urban zones are urgently needed, alongside reinforcement of routine childhood immunization (https://osf.io/h84yd) [5]. Special attention should be given to border communities, indigenous populations, and mobile groups. Furthermore, strengthening entomological surveillance and integrating human, animal, and environmental data are essential for detecting early epizootic signals and preventing urban spillover [4]. Post acceptance (March 6, 2026), published news suggest that in 2026, new cases and deaths due to YF continue occurring in Venezuela, particularly in Lara state, where the state Governor have confirmed 2 deaths (in two consecutive days, March 5 and 6), one in an adult female in the municipality Simón Planas (Sarare) (http://bit.ly/4ufHUfC); it is possible that more cases will be

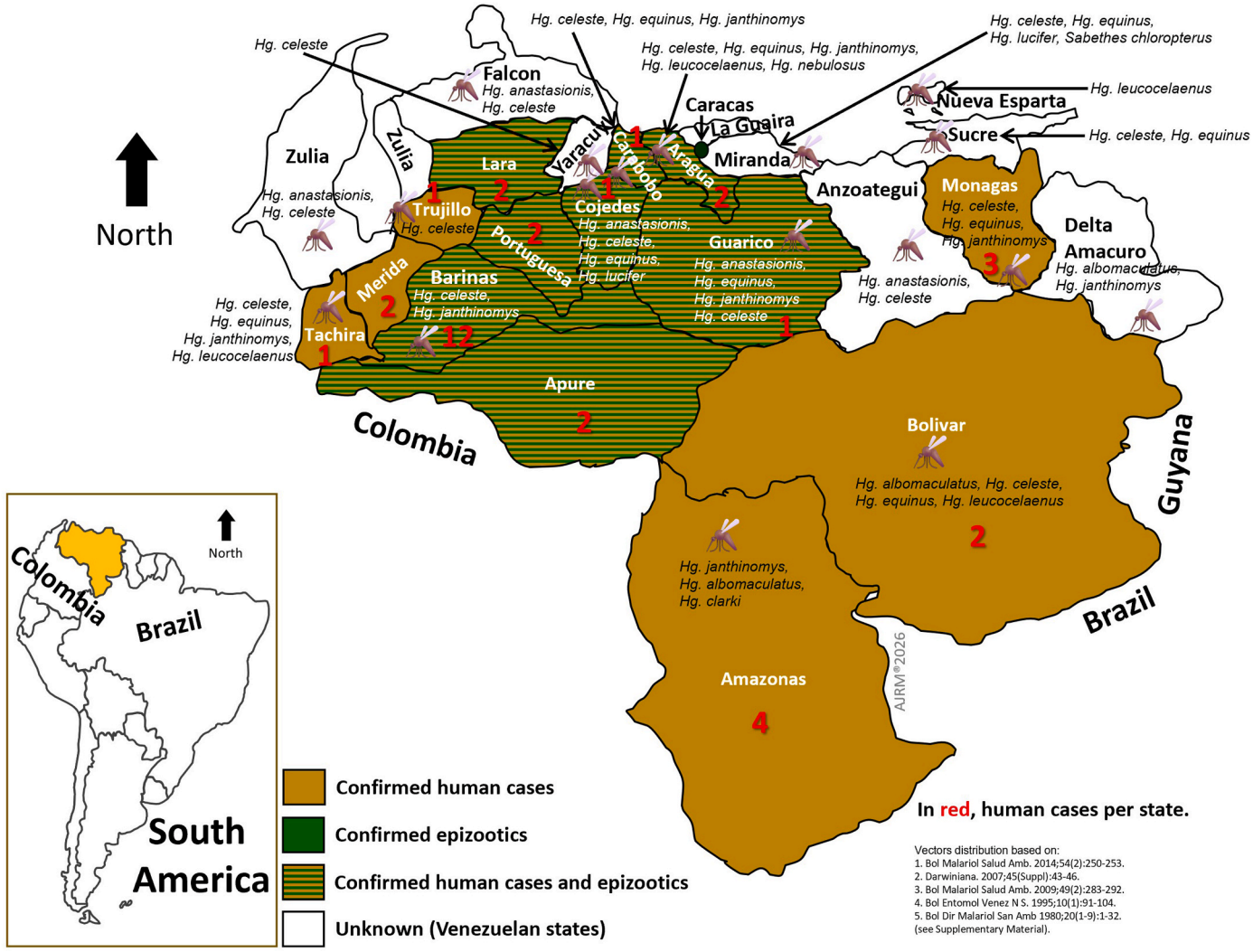

Fig. 1. Yellow fever in Venezuela, 2025/2026 (Human Cases, Epizootics and Vectors) (see Supplementary Material, https://osf.io/h84yd).

informed in this and other states of Venezuela during 2026.

The 2025/2026 reemergence of YF in Venezuela confirms active enzootic circulation with significant mortality and regional implications [2,3]. Immediate actions should prioritize transparent reporting, intensified vaccination in high-risk states, cross-border coordination, and reinforcement of One Health surveillance systems (https://osf.io/h84yd) [4]. Failure to address these gaps risks sustained transmission and further expansion of this preventable yet highly lethal disease.

CRediT authorship contribution statement

Alfonso J. Rodriguez-Morales: Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Juan-Carlos Navarro:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **David A. Forero-Peña:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **Daniel Romero-Alvarez:** Writing – review & editing, Writing – original draft, Visualization, Validation, Supervision, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization.

Ethical statement

We confirm that the manuscript has been read and approved by all named authors and that no other persons have satisfied the criteria for authorship but are not listed. We further confirm that all have approved the order of authors listed in the manuscript. The material is original and has not been previously published elsewhere. Furthermore, we confirmed that no generative artificial intelligence (AI) or AI-assisted technologies were used in the writing process.

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Declaration of competing interest

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Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.nmni.2026.101737.

Data availability

Data is available upon reasonable request.

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