

Andes Hantavirus at FIFA World Cup 2026: No vaccine, no protocol, no time

Hantavirus des Andes lors de la Coupe du Monde de la FIFA 2026: Pas de vaccin, pas de protocole, pas de temps

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On 1 April 2026, the motor vessel Hondius departed Ushuaia, Argentina, carrying 147 passengers and crew from 23 countries (1). Subsequent reports indicate three fatalities, six laboratory-confirmed infections, and a total of nine suspected cases under investigation (1). According to available public health updates, the World Health Organization (WHO) has supported the response by deploying an infectious disease expert to the vessel, coordinating medical evacuations of severe cases to intensive care units (ICUs) in Europe, and distributing approximately 2,500 diagnostic kits to reference laboratories across five countries (2). The causative agent has been identified as Andes hantavirus, a rare hantavirus strain for which limited human-to-human transmission has been documented under specific conditions (1). Ongoing investigations are focused on transmission dynamics, exposure pathways, and containment measures in the confined maritime environment. The event has attracted additional attention due to its proximity to major international gatherings scheduled for June 2026, such as the Fédération Internationale de Football Association (FIFA) World Cup 2026, which will open on 11 June, underscoring the importance of rapid containment and cross-border surveillance. Therefore, the timing could not be worse.

FIFA WORLD CUP 2026: A TOURNAMENT WITH AN UNPRECEDENTED FOOTPRINT

The 2026 FIFA World Cup spans three nations: the United States, Canada, and Mexico. It will feature 48 teams,

104 matches, 16 host cities, and a tournament window from 11 June to 19 July 2026. FIFA projects more than five million in-stadium spectators, a figure that would break every attendance record in World Cup history. Six CONMEBOL (ie; Confederación Sudamericana de Fútbol) nations have qualified, including Argentina, Chile, Brazil, and Uruguay, all within the endemic range of Andes virus. Their supporters will travel in large numbers. Many will have spent time in rural or peri-urban settings with active rodent populations before departure. The incubation window for Andes hantavirus ranges from 1 to 8 weeks (1). A person infected in Buenos Aires boards a flight to Dallas, remains asymptomatic throughout, and deteriorates in a World Cup host city three weeks later. That is not theoretical. That is the Hondius timeline, replayed on land.

WHAT ANDES HANTAVIRUS DO CLINICALLY?

Andes hantavirus causes Hantavirus pulmonary syndrome, with a case fatality rate of 35% to 40% (3). No licensed antiviral or vaccine exists. Survival depends entirely on early intensive care units: mechanical ventilation, hemodynamic support, and extracorporeal membrane oxygenation in refractory cases (3). Containment is complicated by the biology of transmission. Data from the 2018-2019 Epuén cluster in Chubut Province, Argentina, demonstrate that peak infectiousness coincides with fever onset, a window of approximately 24 hours (4). Standard entry screening cannot intercept a traveller who is not yet symptomatic. In that outbreak, three super-spreader

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events produced 34 confirmed infections and 11 deaths from a single introduction (4). The median reproductive number without infection control measures was 2.12

(4). With structured containment, it fell to 0.93 (4). That interval between 2.12 and 0.93 represents exactly what a pre-tournament protocol must deliver (Figure 1).

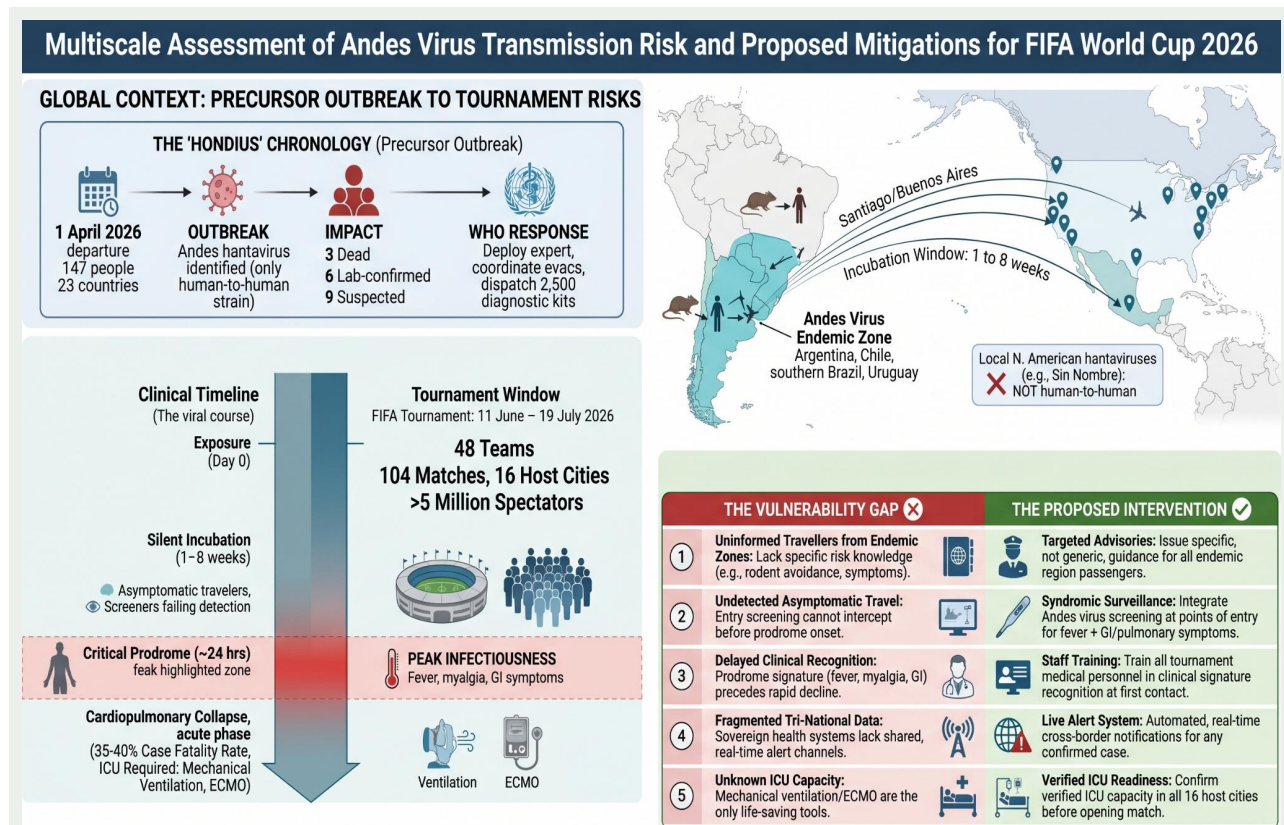


Figure 1. Multiscale Assessment of Andes Virus Transmission Risk and Proposed Mitigations for FIFA World Cup 2026.

CONMEBOL: Confederación Sudamericana de Fútbol. ECMO: Extracorporeal membrane oxygenation. FIFA: Fédération Internationale de Football Association. GI: Gastrointestinal. ICU: Intensive care unit. WHO: World Health Organization.

THE SURVEILLANCE GAP: NO ONE HAS CLOSED

Mass gathering medicine has established frameworks for managing infection risk at major sporting events (5, 6). These address respiratory viruses, vector-borne and foodborne threats, and heat illness. Enhanced surveillance, rapid reporting, and public health interventions are critical during mass events. For example, during the 2006 FIFA World Cup, enhanced surveillance systems improved detection and response to infectious disease events, although no significant outbreaks were linked to the event itself (7). Similar systems could be adapted for Andes hantavirus monitoring.

A dedicated hantavirus protocol for a FIFA World Cup does not appear in the published literature. Two points clarify the precise nature of the risk. First, the dominant hantavirus strains in the three host nations, chiefly Sin Nombre virus in the United States and Canada, do not transmit between people (3). The risk pathway is directional: from South American endemic regions into the tournament environment, not from local reservoirs. Second, that directionality makes surveillance tractable if the infrastructure exists to act on it. The tri-national structure of this tournament is where that infrastructure

currently fails. A confirmed case in Houston may have a close contact who transited through Toronto the day before. Another may have disembarked in Monterrey before any symptoms appeared. Three sovereign health systems, without a shared real-time notification channel, cannot trace that scenario efficiently enough.

FIVE ACTIONS BEFORE 11 JUNE

We propose the following framework for FIFA medical teams and host nation health authorities. First, issue targeted traveller health advisories for all South American endemic countries. These must be specific: rodent-exposure avoidance, symptom awareness, and clear thresholds for seeking medical evaluation, not generic zoonosis alerts. Second, integrate Andes hantavirus into syndromic surveillance at all points of entry across all three host nations. Any traveller from an endemic region presenting with fever and pulmonary or gastrointestinal symptoms should enter a structured clinical assessment pathway immediately. Third, train all tournament medical personnel in hantavirus prodrome recognition. Fever, myalgia, and gastrointestinal symptoms preceding acute respiratory deterioration constitute the clinical signature. The interval between prodrome and cardiopulmonary

collapse is short. Recognition at first clinical contact is the decisive intervention. Fourth, activate a live tri-national alert system before the tournament opens. A confirmed case in any host city must generate automated, immediate notification to public health authorities in the other two countries. Retrospective data sharing is not adequate for this transmission scenario. Fifth, confirm ICU readiness across all 16 host cities before 11 June. Mechanical ventilation and hemodynamic support are the only available therapeutic tools (3). Hospitals must declare verified capacity before the opening match, not in response to a case.

THE WINDOW IS NOW

WHO has assessed the global public health risk from the Hondius outbreak as low (2). That is accurate at the population level. It does not account for five million spectators converging across three countries, a meaningful proportion of whom will arrive from the endemic zone of the world's only confirmed person-to-person hantavirus. COVID-19 established a principle that belongs in every mass gathering medicine protocol: responses drafted after an event begins are always too late (5). The Hondius outbreak is the signal. The evidence is available. The infrastructure exists across three capable health systems. What remains is the decision to act before 11 June.

To conclude, the Hondius outbreak highlights how rare, high-impact pathogens can reveal gaps in global preparedness during major international gatherings. Although overall risk remains low, the 2026 FIFA World Cup creates conditions where rapid travel and uneven surveillance could amplify delayed detection. The key challenge is not uncertainty about the pathogen but the speed and coordination of cross-border detection and response. Strengthening these systems before the tournament is essential to prevent isolated cases from becoming wider outbreaks.

TO TAKE HOME MESSAGE

A rare pathogen with limited human-to-human transmission can still become a major public health threat when introduced into high-density, highly mobile global events—making pre-event surveillance, rapid tri-national communication, and frontline clinical awareness essential rather than optional.

Artificial intelligence usage statement

This manuscript employed, in May 2026, ChatGPT (ephemeral chat mode) for revising academic writing and spelling mistakes only. After using this tool, the authors thoroughly reviewed and edited the content and took full responsibility for the publication work (8).

REFERENCES

1. World Health Organization. Hantavirus cluster linked to cruise ship travel, Multi-country. Disease Outbreak News. Geneva: WHO; 4 May 2026. Link: <https://www.who.int/emergencies/disease-outbreak-news/item/2026-DON599> (Last visit: May 18, 2026).
2. World Health Organization. WHO's response to hantavirus cases linked to a cruise ship. Geneva: WHO; 7 May 2026. Link: <https://www.who.int/news/item/07-05-2026-who-s-response-to-hantavirus-cases-linked-to-a-cruise-ship> (Last visit: May 18, 2026).
3. Afzal S, Ali L, Batool A, Afzal M, Kanwal N, Hassan M, et al. Hantavirus: an overview and advancements in therapeutic approaches for infection. *Front Microbiol.* 2023;14:1233433.
4. Martinez VP, Di Paola N, Alonso DO, Perez-Sautu U, Bellomo CM, Iglesias AA, et al. "Super-Spreaders" and person-to-person transmission of Andes virus in Argentina. *N Engl J Med.* 2020;383(23):2230-41.
5. Dergaa I, Ben Saad H, Souissi A, Musa S, Abdulmalik MA, Chamari K. Olympic Games in COVID-19 times: lessons learned with special focus on the upcoming FIFA World Cup Qatar 2022. *Br J Sports Med.* 2022;56(12):654-6.
6. Dergaa I, Ben Saad H, Zmijewski P, Farhat RA, Romdhani M, Souissi A, et al. Large-scale sporting events during the COVID-19 pandemic: insights from the FIFA World Cup 2022 in Qatar with an analysis of patterns of COVID-19 metrics. *Biol Sport.* 2023;40(4):1249-58.
7. Williams CJ, Schenkel K, Eckmanns T, Altmann D, Krause G. FIFA World Cup 2006 in Germany: enhanced surveillance improved timeliness and detection. *Epidemiol Infect.* 2009;137(4):597-605.
8. Dergaa I, Zakhama L, Dziri C, Ben Saad H. Enhancing scholarly discourse in the age of artificial intelligence: A guided approach to effective peer review process. *Tunis Med.* 2023;101(10):721-6.