Title

Multi-Country Human-to-Human Andes Virus Outbreak on a Cruise Ship: A Disaster Report on Prehospital, Healthcare Facility, and Public Health System Challenges — Essential Knowledge for Frontline Clinicians

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Ethical Approval
This report is based exclusively on publicly available information and aggregate event descriptions. The clinical and treatment data are from peer-reviewed literature. No individual-level data were used. This manuscript does not meet criteria for institutional review board evaluation.

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KLK, CKB, AMM contributed equally to the manuscript in conceptualization; writing and revising the original draft; reviewing and approving the final submission.

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Abbreviations

Andes virus (ANDV)

Extracorporeal membrane oxygenation (ECMO)

Hantavirus cardiopulmonary syndrome (HCPS)

Hemorrhagic fever with renal syndrome (HFRS)

Identify-Isolate-Inform (3I)

Personal protective equipment (PPE)

Puumala virus (PUUV)

World Health Organization (WHO)

DISCLAIMER

Due to the rapidly evolving nature of the outbreak, information should be considered current as of the time of publication and may evolve as the science develops.

ABSTRACT

The Andes Virus (ANDV) outbreak reported on 2 May 2026 aboard a luxury vessel departing from Ushuaia, Patagonia, Argentina, was caused by an *Orthohantavirus* that is unique in its person-to-person transmissibility in contrast to zoonotic transmission characteristic of better-known hantaviruses. Outbreak containment requires coordinated international management because passengers and crew embarked and disembarked at several international ports of call prior to outbreak recognition, resulting in cross-border transmission potential. Among those who disembarked, several traveled on flights to various international destinations. Cases have subsequently been identified in multiple countries, including the Tristan da Cunha (United Kingdon territory), Spain, France, Switzerland, South Africa, Canada, and The Netherlands. International health authorities implemented containment measures once notified, including contact tracing, quarantine, and isolation.

ANDV poses unique risks due to its immediately prodromal presymptomatic transmission potential, initial non-specific flu-like symptoms, prolonged incubation period, high case fatality rates, and potential for international dissemination. This report describes a multinational outbreak associated with cruise ship travel and examines its implications and challenges for prehospital, healthcare facility, and public health systems. The event was characterized by delayed recognition, international spread, and complex coordination across

multiple jurisdictions and sectors, including medical and public health authorities, policy- and decision-makers, crisis and emergency risk communication experts, logistics, transportation, and security.

Rapid implementation of public health measures coupled with clinician implementation of the Identify-Isolate-Inform (3I) model at the prehospital and healthcare facility levels are critical actions that can contain ANDV transmission and prevent a pandemic.

EVENT DESCRIPTION

- Event Type: Multicountry infectious disease outbreak
- Event Date: Index case boarded ship on 1 April 2026; outbreak reported to the World Health Organization (WHO) on 2 May 2026
- Location: Luxury cruise ship MV *Hondius* departing from Ushuaia, Patagonia, Argentina
- Response Type: Multinational medical and public health

INTRODUCTION

On 2 May 2026, the United Kingdom (UK) alerted the World Health Organization (WHO) of an unprecedented multicountry outbreak of an *Orthohantavirus* on board the luxury cruise ship MV *Hondius*, a vessel that can accommodate up to 250 passengers and crew. The ship set sail on 1 April 2026, from Ushuaia, Patagonia, Argentina, an area endemic for *Orthohantavirus andesense,* or Andes virus (ANDV). As of 22 May, 12 individuals from that ship manifested symptoms; of those, 3 have died.[1] Ten of the 12 cases were confirmed for ANDV infection, including 1 hospitalized in South Africa, 2 in the Netherlands, 1 in Switzerland, 1 in France, and 1 in Canada. The other 2 are probable: the index case who died on board and 1 crew member in

Tristan da Cunha (Figure 1).[2] A significant number of individuals on the ship disembarked and traveled to various international destinations prior to awareness that there was a potentially deadly contagious virus on board (Table 1).

No rodents were aboard the ship, indicating that the virus was spreading person-to-person. While the situation is novel, the virus is not. ANDV can produce sustained human-to-human transmission; there are no licensed antivirals or vaccines. Unlike other *Orthohantavirus* species (Table 2), ANDV creates enough viremia in human body fluids to allow for limited human-to-human transmission. Infected individuals who travel internationally or remain in confined settings can drive chains of transmission that pose serious global health security and One Health concerns, with potential for wide dissemination and major health and socioeconomic impacts.

At least 33 passengers from 12 nations (Canada, Denmark, Germany, the Netherlands, New Zealand, Saint Kitts and Nevis, Singapore, Sweden, Switzerland, Türkiye, the UK, and the United States), disembarked the *Hondius* at St. Helena between 21-24 April. On 25 April, most of those traveled together on the only commercial flight out of St. Helena, landing in Johannesburg later that day. From there, most continued onward to other worldwide destinations. US residents returned to five different states (Arizona, California, Georgia, Texas, and Virginia), each with its own health authority. All these passengers traveled unmonitored while potentially infectious (Figure 1).

Case 2 was one of the passengers on the flight from St. Helena to OR Tambo International Airport in Johannesburg. She had symptoms prior to boarding the flight to South Africa,[1] transferred to another flight bound for the Netherlands but disembarked prior to takeoff. Subsequently, she collapsed at the airport and was transported to hospital in Kempton Park

where she died. A flight attendant, who had not been on the ship, reported to hospital in the Netherlands with symptoms suggestive of hantavirus cardiopulmonary syndrome (HCPS). While the flight attendant tested negative for the dangerous ANDV on both PCR and antibody tests, her symptoms raised concern for secondary transmission. This illustrates the importance of having prehospital, health care facilities, and public health systems in place to rapidly isolate potentially infectious patients until the cause of their symptoms can be determined. After the UK's notification to WHO on 2 May, the remaining passengers were restricted from leaving the ship and remained in their cabins. Between the 4-5 May, three symptomatic passengers were medevaced from the ship to the Netherlands. On 6 May, as part of the organized disaster response, an emergency team boarded the MV *Hondius*. The team consisted of two public health experts from WHO and the European Center for Disease Prevention and Control (ECDC) for situation assessment and two Dutch medical experts for clinical assessment and management. After anchoring at Tenerife, Canary Islands, 85 passengers and 35 crew disembarked for immediate medevac and repatriation. Asymptomatic Spanish nationals were transported to a Military Facility in Madrid, and the others to their countries of origin. WHO recommended that all remain in prolonged quarantine (42 days).[3]

WHO asked countries with repatriated nationals to initiate contact tracing of all at-risk persons whether primarily exposed while on the ship or on flights or other settings where they had contact with persons on the ship. As the time of this writing, not all have been identified; late-presymptomatic or symptomatic persons may be unknowingly spreading virus to other humans (Figure 2).

SOURCE

This report is based exclusively on publicly available information and aggregate event descriptions. The clinical and treatment data are from peer-reviewed literature. No individual-level data were used. Institutional review board approval was not required.[4]

OBSERVATIONS

Characteristics of *Orthorohantavirus*

Orthohantavirus are negative-sense ribonucleic acid (RNA) viruses, primarily maintained in rodent and bat reservoirs, that can trigger one of two life-threatening syndromes depending on the geographical distribution of the species: (1) Hemorrhagic fever with renal syndrome (HFRS) caused by Eurasian species producing acute rental failure, or (2) hantavirus cardiopulmonary syndrome (HCPS) species found throughout the Americas which can progress to non-cardiogenic pulmonary edema and heart failure (Table 2 and Figure 2).

The primary reservoir for ANDV is the long-tailed pygmy rice rat (*Oligoryzomys longicaudatus*). Spillovers to humans result from inhalation of aerosolized dried viral particles from contaminated rodent urine, feces, or saliva.

ANDV is significantly contagious as demonstrated by its R_0 of 2.12[5] – meaning each infected person spreads the virus to more than 2 susceptible others and so on which can lead to an exponential rise in the epidemiologic curve;[6] but effective public health measures can reduce the reproductive number to below 1, thereby stopping the outbreak and preventing a global pandemic.

WHO Emergency Medical Teams (EMT),[7] prehospital,[8] and other health workers worldwide must be prepared to apply the Identify-Isolate-Inform[9] (3I Tool) concept to patients presenting with respiratory infections who have an epidemiologic risk factor for HPCS.

Physicians and other health care professionals must be sufficiently knowledgeable to identify potential cases and reassure a potentially misinformed public when a different cause of symptoms is detected.

Patients with ANDV have high viral loads in body fluids, which explains its unique ability among *Orthohantavirus* to have documented person-to-person spread. The only other *Orthohantavirus* with notable viral loads in human body fluids is Puumala virus (PUUV), where viral particles reach significant levels in human saliva. Thus, while unconfirmed, PUUV could also potentially spread between humans.

Current wisdom claims that human-to-human transmission of ANDV requires close human contact, such as sexual intimacy, deep kissing, sharing utensils or food, and breastfeeding[10] during the symptomatic prodromal phase. However, there may be additional forms of transmission, since ANDV can be aerosolized during severe coughing. Therefore, proper infection precautions and setting-appropriate personal protective equipment (PPE) are necessary.

Clinical disease develops after a wide-ranging 7–51-day incubation period (mean of 18 days) and results from immune dysregulation producing severe inflammation rather than direct cytopathic effects of the virus. Viral RNA is detectable in blood and body fluids during the incubation period for up to 2 weeks *before* symptom onset, indicating that presymptomatic transmission is possible (Figure 2).

ANALYSIS

Clinical Manifestations

- *Prodromal phase* (2–7 days): Fever, headache, myalgias, gastrointestinal symptoms, and occasionally petechiae. High systemic viremia with viral RNA detectable by quantitative reverse transcription quantitative polymerase chain reaction (RT-qPCR) in blood, nasopharyngeal secretions, saliva, and gingival crevicular fluid. Infectious virus particles remain viable in these fluids. Furthermore, the prodromal phase can mimic many other diseases.
- *Cardiopulmonary phase*: Abrupt onset of cough, dyspnea, tachycardia, hypotension, and rapid progression to non-cardiogenic pulmonary edema; which, in approximately 66%, progress to cardiogenic shock, myocardial depression, and respiratory failure. Case fatality rate ranges between 21% to 50%; death frequently results within 24 hours of hospitalization.[2]

Viral shedding time for ANDV is extremely prolonged at 16 days, meaning isolation must continue for at least that length of time. Remarkably, ANDV has been detected in the semen 278 days[6] and 71 months[11] after recovery.

Clinicians must maintain a high index of suspicion for ANDV, especially in patients with compatible symptoms and exposure history related to endemic areas or contact with confirmed cases as defined by WHO.[12] For suspected cases, rigorous infection control, including appropriate PPE, is mandatory due to the risk of human-to-human transmission.

Patient Management

The overall mortality rate using standard supportive care is 25-30%. Recent outbreaks in Argentina and Chile have shown a 32% mortality rate. With extracorporeal membrane oxygenation (ECMO) support, there is an 80% survival rate.[13] Early arterial-venous (AV)

ECMO[14] is crucial before shock manifests. Supportive care focused on meticulous hemodynamic and respiratory management remains the mainstay of treatment:

- Prevent fluid overload to avoid exacerbating pulmonary edema.
- Early AV-ECMO is lifesaving in severe cases and should be initiated promptly.

Physicians should liaise with infectious disease specialists to consider experimental or off-label therapies, especially after high-risk exposures. These treatments include:

- Post-exposure prophylaxis: Favipiravir shows promising results in preclinical trials if administered pre-viremia, though clinical data are limited.
- Convalescent plasma and monoclonal antibodies: A clinical trial showed reduced mortality to 14% compared with standard care (32%).[15]
- Ribavirin: While useful for one of the HFRS viruses (Hantaan), has not significantly improved survival in human HCPS trials.[16]
- Immunomodulation: Immunotherapies (Table 3)

Pandemics Can Be Stopped: Knowledge and Preparedness Are Key

The 2018-2019 Epuyén outbreak in Argentina demonstrates that human-to-human ANDV transmission can sustain multiple secondary generations of infections through "super-spreaders."[5] The evolving 2026 multinational ship outbreak involving diverse international passengers illustrates how globalized travel can rapidly disseminate ANDV, raising concerns of a widespread public health emergency.

Efficient outbreak suppression relies on early recognition, contact tracing, strict quarantine and isolation, effective PPE use, active health monitoring during the entire incubation period, prompt supportive care, appropriate patient counseling (e.g., safer-sex practices indefinitely, no breastfeeding during acute illness), and rodent-control in endemic areas.

Preventing ANDV's Pandemic Potential: A Call to Action

The luxury cruise ship outbreak provides a preview of ANDV's pandemic potential. Three immediate preparedness actions are essential:

- **First**, update clinical protocols. Current hantavirus guidelines assume zoonotic transmission and brief infectious periods. ANDV requires extended quarantine and isolation precautions, enhanced PPE for all patient contacts, and systematic health screening of travelers from endemic regions.
- **Second**, recalibrate surveillance systems. Unlike other hantaviruses, ANDV can sustain transmission chains far from rodent reservoirs. Prehospital settings, emergency departments, clinics, and physicians' offices must become sentinel sites for identifying and immediately isolating imported cases and preventing secondary spread by promptly informing public health authorities.
- **Third**, research priorities must shift toward pandemic preparedness. The development of rapid diagnostics, effective antivirals, and post-exposure prophylaxis cannot wait for the next global outbreak.[17]

Rapid implementation of public health measures coupled with frontline clinician implementation of the Identify-Isolate-Inform model are critical actions that can contain ANDV transmission and prevent a pandemic.

Table 1

Itinerary and passenger characteristics of the MV *Hondius* from 1 April to 18 May 2026.

Date	Stop	Disembarked	Embarked	Guest/Crew: Total
01 April	Ushuaia, Patagonia, Argentina	0	115	114/61: 175
04-07 April	South Georgia Island (UK)	0	0	114/61: 175
04	Godthul, South Georgia	0	0	114/61: 175
05	Grytviken, South Georgia	0	0	114/61: 175
06	St. Andrews Bay, South Georgia	0	0	114/61: 175
07	Gold Harbour, South Georgia	0	0	114/61: 175
07	Cooper Island and Drygalski Fjord	0	0	114/61: 175
13-16 April	Tristan da Cunha Archipelago (UK)	1 crew	6 guests	120/60: 180
13	Edinburgh of Seven Seas	0	0	120/60: 180
14	Inaccessible Island	0	0	120/60: 180
15	Edinburgh of Seven Seas	0	0	120/60: 180
16	Nightingale Island	0	0	120/60: 180
17 April	Gough Island (UK) (~400 km to Tristan da Cunha)	0	0	120/60: 180
21-24 April	St. Helena (UK)	32 guests	1 crew	88/61:149
27 April	Ascension Island (UK) (1,293 km northeast from St. Helena)	2 guests	0	86/61: 146
02 May	Guest deceased at sea	0	0	85/61: 145
06 May	Transit (3 sick patients medically evacuated to Netherlands, 4 public health and medical staff boarded)	2 guests, 1 crew	4 medical guests	87/60: 147
10-11 May	Arrival offshore Tenerife, Canary Islands, Spain	85 guests, 35 crew	0	2 medical guests/ 25 crew: 27
18 May	Rotterdam, Netherlands	20 crew, 2 medical	0	**0/5: 5**

Table 2. Characteristics of Andes Virus and other Notable Human *Orthohantavirus*

A comparison of the important characteristics of key New World and Old World *Orthohantavirus.*

Features	New World Orthohantavirus Cardiopulmonary Syndrome		Old World Orthohantavirus Hemorrhagic Fever with Renal Syndrome		
	Andes Virus (ANDV)	**Sin Nombre (SNV)**	**Hantaan Virus (HTNV)**	**Seoul Virus (SEOV)**	**Puumala Virus (PUUV)**
Human-to-Human Transmission	Yes	No	No	No	No, Not documented, but possible
Presymptomatic Transmission	Yes, but minimal	No	No	No	No
Clinical Syndrome	HCPS (severe)	HCPS (severe)	HFRS (severe)	HFRS (moderate)	HFRS (mild, nephropathia epidemica)
Incubation Period	6-51 days (median ~14-17 days)	7-33 days (median 14-17 days)	2-6 weeks	2-6 weeks	2-6 weeks
Prodromal Phase	2-7 days: fever, myalgia, headache, GI symptoms, petechiae, mucosal bleeds	2-7 days: fever, myalgia, headache, GI symptoms	3-7 days: fever, headache, myalgia, abdominal/back pain	3-6 days: fever, headache, myalgia, abdominal/back pain	7 days: fever, headache, myalgia, abdominal/back pain
Classic Symptoms	Similar to SNV but with petechiae; human-to-human transmission	Sudden cardiopulmonary phase: cough, dyspnea, pulmonary edema, shock	**Five phases**: febrile, hypotensive, oliguric, diuretic, convalescent; bleeding, AKI	Milder than HTNV; often asymptomatic or undiagnosed	Blurred vision (~54%,), mild bleeding (33% in some cohorts), AKI (usually self-limited)
Lab Findings	Thrombocytopenia, leukocytosis, >10% immunoblasts, elevated Hct/Hgb	Thrombocytopenia, leukocytosis, immunoblasts, elevated Hct/Hgb	Thrombocytopenia, proteinuria, hematuria, elevated Cr/BUN, bleeding tendency	Milder abnormalities than HTNV	Thrombocytopenia, proteinuria, hematuria, elevated Cr/BUN, transient myopia
Diagnosis	IgM/IgG EIA, RT-qPCR (detectable 2 weeks before symptoms)	IgM/IgG EIA, RT-qPCR (S segment, higher in buffy coat)	IgM/IgG EIA, RT-qPCR (S segment), immunochromatographic tests	IgM/IgG EIA, RT-qPCR (S segment)	IgM/IgG EIA, RT-qPCR (S segment), immunochromatographic tests
Treatment	Supportive care; ECMO; convalescent plasma showed benefit	Supportive care; ECMO for severe cases; ribavirin ineffective in trials	Supportive care: ribavirin showed benefit in China trials; dialysis in severe cases	Supportive care	Supportive care; mostly self-limited renal failure, rarely need dialysis <2%,
Prognosis/ Mortality	20-45% CFR; many die within 24h of admission	~35% CFR; many die within 24h of admission	CFR: 1-10% varies by region and speed of use modern intensive supportive care:	1% CFR; often mild/asymptomatic	1% CFR (0.1% in Finland, 0.4% in Sweden)
Risk Factors for Severe Disease	Early thrombocytopenia, progression to cardiopulmonary phase	Early thrombocytopenia, progression to cardiopulmonary phase	Severe thrombocytopenia, HLA type, older age	Generally mild disease	Severe thrombocytopenia, longer hospital stay
Public Health Considerations (in addition to reporting requirement)	Contact tracing required, consider quarantine if exposed but asymptomatic and isolate if symptomatic	Four Corners region endemic, rodent control	Rodent control essential	Urban transmission via rats; laboratory/pet rat exposure	Only 15% of infections diagnosed/reported; seasonal outbreaks

Table 3

Experimental immunotherapy for hantavirus cardiopulmonary syndrome (HCPS).

Treatment	Mechanism of Action	Current Data	Potential value for Andes HCPS
Icatibant (Subcutaneous injection)	• Immunomodulator • Bradykinin B2 receptor antagonist	• Antagonizes vascular leakage • Two clinical PUUV cases showed improved outcome • Helped several patients with severe HFRS; use is based on understanding of vascular leak mechanisms	• Under consideration for severe cases
Dasatinib (Oral)	• Src kinase inhibitor	• Blocks Src kinase activation that drives hantavirus-induced VE-cadherin dissociation • Landmark 2011 study showing dasatinib dramatically inhibited Andes virus-induced endothelial cell permeability with an IC_{50} of just 1 nanomolar • >90% blockade of VE-cadherin dissociation from adherens junctions in ANDV-infected endothelial cells • **One of the most mechanistically promising therapeutic candidates for HCPS**	• Significant promise for HCPS treatment, but no clinical trials or animal studies have specifically evaluated dasatinib in HCPS • Early administration needed to block irreversible endothelial data • Future investigation for pre-exposure prophylaxis
Vandetanib (Oral)	• Vascular endothelial growth factor 2 (VEGFR2) inhibitor	• Reduction of the ANDV-induced increased endovascular permeability • Increased survival in ANDV hamster model (if given 5 days before infection) • Does not provide protection after viremia onset	• Preclinical state • Very limited promise for HCPS • Animal studies with disappointing results • Significant safety concerns in critically ill HCPS patients.
Pazopanib (Oral)	• Multi-tyrosine kinase inhibitor (including VEGFR inhibitor)	• Multi-tyrosine kinase inhibitor specifically targeting VEGFR-1, -2, and -3, PDGFR-α and -β, FGFR-1 and -3, Kit, Itk, Lck, and c-Fms • Provides comprehensive coverage of angiogenic pathways relevant to hantavirus pathophysiology • Superior efficacy in blocking hantavirus-induced permeability in vitro • Specifically designed to impair angiogenesis by abrogating VEGFR-2 function	• Hypothetical value, more potent and focused VEGFR2 inhibition • Optimized pharmacokinetic profile • Achieves therapeutic concentrations that exceed the IC_{50} needed for endothelial protection • 31-hour half-life and once-daily dosing would be particularly advantageous in HCPS where consistent VEGFR2 blockade is critical for preventing

			progressive vascular leak
Vilobelimab (Intravenous)	• Anti-Complement factor C5a antibody	• Pathophysiology of HCPS involves complement activation and C5a-mediated inflammation • Directly relevant to Vilobelimab's mechanism of action (blocks C5a), countering a powerful chemoattractant for neutrophils • Reduced mortality rates in other severe, viral-induced acute respiratory distress syndrome (ARDS)	• Hypothetical value • No clinical trials on HCPS • Ideally given within the first 24-48 hours of cardiopulmonary phase, before irreversible organ damage
Tocilizumab (Intravenous or subcutaneous injection)	• Anti-IL-6 receptor antibody	• Mixed theoretical support • Potentially blocks life-threatening cytokine storm driven by IL-6 • Mixed data on IL-6 levels in ANDV patients • Robust Th1-type immune response and cytokine storm in HCPS may require broader immunomodulation	• Hypothetical value • Needed early in disease course during prodromal phase or early cardiopulmonary phase before irreversible endothelial damage
FX-06 (Intravenous)	• Natural peptide (Bβ15-42) targeting VE-cadherin • Reseals endothelial barrier	• Potentially antagonizes vascular leakage • Potentially reseals the endothelial barrier to directly halt vascular leak and pulmonary edema • Andes virus nucleocapsid protein specifically binds to rho GDI (Rho GDP dissociation inhibitor), releasing and activating RhoA, which leads to stress fiber formation and increased permeability • Endothelial barrier resealing mechanism could directly counteract the primary pathophysiologic mechanism	• Hypothetical value • No clinical trials on HCPS, but efficacy in Dengue shock syndrome, LPS-induced edema, COVID-19 cytokine storm, and systemic capillary leak syndrome
Methyl-prednisolone (Intravenous)	• Immunomodulator	• **High dose methylprednisolone tested in a clinical trial with high dose for HPCS hantavirus severe infections in Chile had no effect**	• No evidence for low-dose administration

Figure 1. Timeline of Cases Aboard the MV *Hondius*

A chronological timeline of events from 1 April to 26 May 2026.

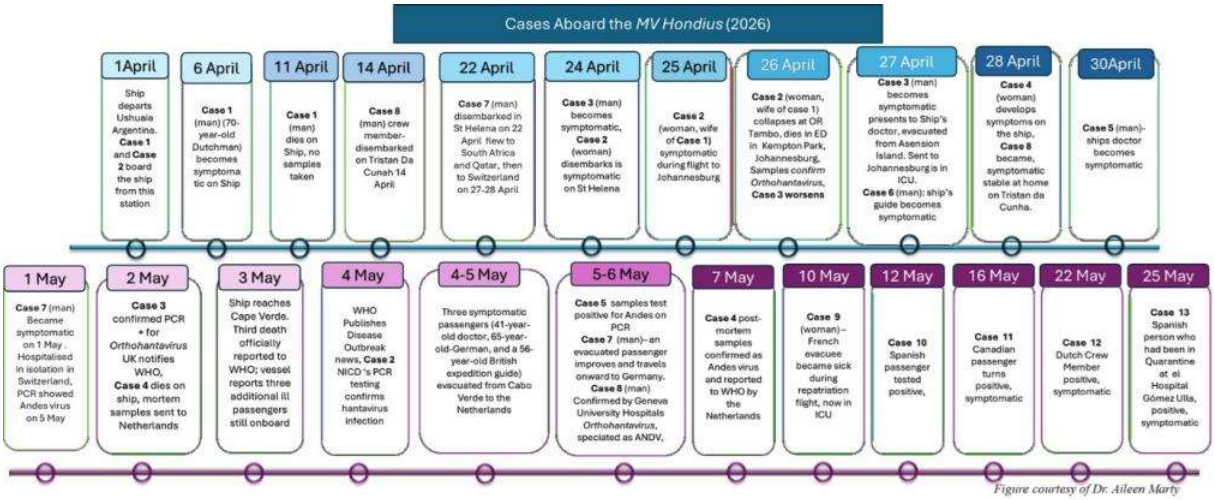

Figure courtesy of Dr. Aileen Marty

Figure 2. Timeline of Clinical Phases of ANDV

A description of the clinical phases of ANDV with selected symptoms and laboratory values.

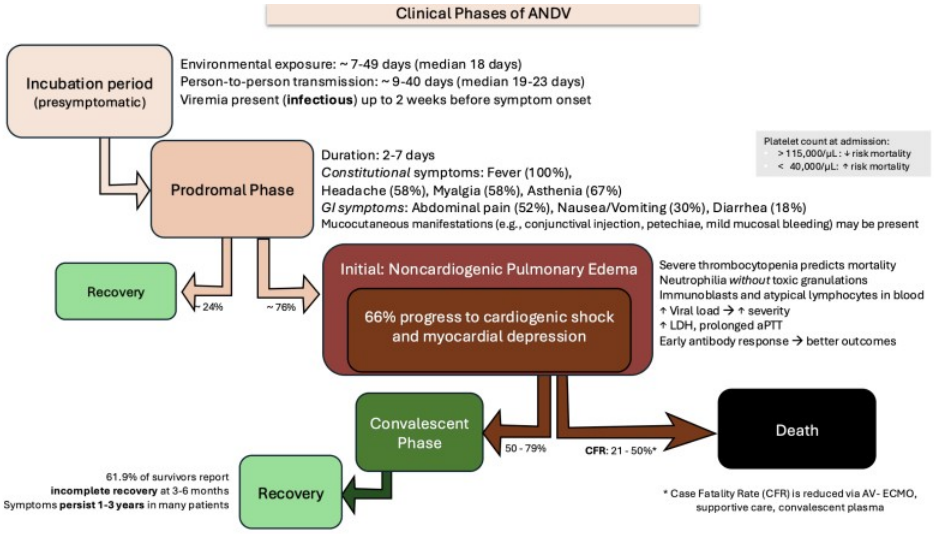

Figure courtesy of Dr. Aileen Marty

References

1. WHO Director-General's opening remarks at the medical briefing on outbreaks of Ebola and hantavirus – 22 May 2026. 22 May 2026. Accessed 22 May 2026. https://www.who.int/news-room/speeches/item/who-director-general-s-opening-remarks-at-the-media-briefing-on-outbreaks-of-ebola-and-hantavirus-22-may-2026
2. World Health Organization. Hantavirus cluster linked to cruise ship travel. 13 May 2026. Accessed 20 May 2026. https://www.who.int/emergencies/disease-outbreak-news/item/2026-DON601
3. World Health Organization. Hantavirus cluster linked to cruise ship travel, Multi-country. 8 May 2026. Accessed 20 May 2026. https://www.who.int/emergencies/disease-outbreak-news/item/2026-DON600
4. Franc, JM, O'Mathúna, D. Navigating Research Ethics for Prehospital and Disaster Medicine. Prehosp Disaster Med. 2025;40(3):125-128. doi:10.1017/S1049023X25101234.
5. Martínez, VP, Di Paola, N, Alonso, DO, et al. "Super-Spreaders" and Person-to-Person Transmission of Andes Virus in Argentina. N Engl J Med. 2020 Dec 3;383(23):2230-2241. doi: 10.1056/NEJMoa2009040. PMID: 33264545.
6. Ferrés, M, Martínez-Valdebenito, C, Henriquez C, et al. Viral Shedding and Viraemia of Andes Virus During Acute Hantavirus Infection: A Prospective Study. Lancet Infect Dis. 2024; Jul;24(7):775-782. doi: 10.1016/S1473-3099(24)00142-7. Epub 2024 Apr 3. Erratum in: Lancet Infect Dis. 2024 Jul;24(7):e419. doi: 10.1016/S1473-3099(24)00299-8. Erratum in: Lancet Infect Dis. 2026 Apr 1:S1473-3099(26)00181-7. doi: 10.1016/S1473-3099(26)00181-7.
7. WHO Emergency Medical Teams. World Health Organization. N.d. Accessed 20 May 2026. https://www.who.int/emergencies/partners/emergency-medical-teams
8. Koenig, KL, Beÿ, CK, Marty, AM. Monkeypox 2022: A Primer and Identify-Isolate-Inform (3I) Tool for Emergency Medical Services Professionals. Prehosp Disaster Med. 2022 Oct;37(5):687-692. doi: 10.1017/S1049023X22001121. Epub 2022 Aug 4.
9. Marty, AM, Beÿ, CK, Koenig, KL. 2024 Mpox outbreak: A rapidly evolving public health emergency of international concern: Introduction of an Updated Mpox Identify-Isolate-Inform (3I) Tool. One Health. 2024 Nov 7;19:100927. doi: 10.1016/j.onehlt.2024.100927. PMID: 39624159; PMCID: PMC11609508.
10. Ferrés, M, Martínez-Valdebenito, C, Angulo, J, et al. Mother-to-Child Transmission of Andes Virus through Breast Milk, Chile. Emerg Infect Dis. 2020;26(8):1885-1888. doi:10.3201/eid2608.200204
11. Züst, R, Ackermann-Gäumann, R, Liechti, N, et al. Presence and Persistence of Andes Virus RNA in Human Semen. Viruses. 2023;15(11):2266. Published 2023 Nov 17. doi:10.3390/v15112266

12. World Health Organization. Management of contacts of Andes virus (ANDV) cases from the MV Hondius cruise ship. 10 May 2026. Accessed 20 May 2026. https://www.who.int/publications/m/item/management-of-contacts-of-andes-virus-(andv)-cases-fromthe-mv-hondius-cruise-ship
13. Dietl, CA, Wernly, JA, Pett, SB, et al. Extracorporeal membrane oxygenation support improves survival of patients with severe Hantavirus cardiopulmonary syndrome. J Thorac Cardiovasc Surg. 2008;135(3):579-584. doi:10.1016/j.jtcvs.2007.11.020
14. López, R, Pérez-Araos, R, Salazar, Á, et al. Targeted high volume hemofiltration could avoid extracorporeal membrane oxygenation in some patients with severe Hantavirus cardiopulmonary syndrome. J Med Virol. 2021;93(8):4738-4747. doi:10.1002/jmv.26930
15. Garrido, JL, Prescott, J, Calvo, M, et al. Two recombinant human monoclonal antibodies that protect against lethal Andes hantavirus infection in vivo. Sci Transl Med. 2018;10(468):eaat6420. doi:10.1126/scitranslmed.aat6420
16. Mertz, GJ, Miedzinski, L, Goade, D, et al; Collaborative Antiviral Study Group. Placebo-controlled, double-blind trial of intravenous ribavirin for the treatment of hantavirus cardiopulmonary syndrome in North America. Clin Infect Dis. 2004 Nov 1;39(9):1307-13. doi: 10.1086/425007. Epub 2004 Oct 11. PMID: 15494907.
17. Koenig, KL, Beÿ, CK, McDonald, EC. 2019-nCoV: The Identify-Isolate-Inform (3I) Tool Applied to a Novel Emerging Coronavirus. West J Emerg Med. 2020;21(2):184-190. Published 2020 Jan 31. doi:10.5811/westjem.2020.1.46760