

**Date:** Oct. 11, 2024

**From:** Kansas Department of Health and Environment – Division of Public Health

**To:** Health Care Providers and Local Health Departments

**RE:** First Marburg Virus Disease Outbreak in the Republic of Rwanda and Enhanced Screening and Monitoring of Returning Travelers

## Summary

- The Centers for Disease Control and Prevention (CDC) issued [Health Advisory No. 517](#) on Oct. 3, 2024 to inform clinicians and public health departments about the Republic of Rwanda's first confirmed outbreak of Marburg virus disease (MVD).
- On Oct. 7, CDC issued a [Level 3 Travel Health Notice](#) for the Republic of Rwanda, which includes recommendations for people traveling to the Republic of Rwanda to Reconsider Nonessential Travel.
- As of Oct. 8, 2024, 56 cases and 12 deaths have been reported, including at least 19 cases in health care workers. These are the first known cases of Marburg in the Republic of Rwanda.
- This health advisory summarizes CDC's recommendations for public health departments and clinicians in the U.S. on case identification, testing and clinical laboratory biosafety considerations.
- Starting in mid-October, CDC and the Department of Homeland Security (DHS) will begin implementing public health entry screening at certain U.S. airports for people coming from the Republic of Rwanda. Airports will likely include Chicago (ORD), New York (JFK) and Washington D.C. (IAD).
- CDC will use an automated system to send general Marburg health text messages to international air travelers arriving from the Republic of Rwanda. The text messages will include information about symptoms and advise travelers on what to do if they feel sick. Travelers considered to have high-risk exposure are actively monitored for signs and symptoms of MVD by state and local public health for the entirety of their incubation period.

## Background

MVD is a rare but highly fatal viral hemorrhagic fever (VHF) caused by infection with one of two zoonotic viruses, Marburg virus or Ravn virus. Both Marburg virus and Ravn virus are within the virus family *Filoviridae*, which also includes Ebola viruses. A person infected with the Marburg virus is not contagious before symptoms appear. Symptoms may include fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms or unexplained bleeding. Marburg virus is spread through **direct contact** with broken skin or mucous membranes with the body fluids of someone who is sick with MVD or who recently died from their infection. These body fluids include

blood, urine, saliva, sweat, feces, vomit, breast milk, amniotic fluid or semen. People can also contract MVD if they have contact with infected animals, or with needles, or with other objects or surfaces contaminated with the virus. Marburg virus **is not** spread through airborne transmission.

There is currently no Food and Drug Administration (FDA)-approved vaccine or treatment for MVD. In the absence of early diagnosis and appropriate supportive care, MVD has a high mortality rate of 23%–90%, depending on the virus strain and the level of case management. With early intensive supportive care and fluid replacement, mortality rates might be lower.

On Sept. 27, 2024, the Ministry of Health of the Republic of Rwanda reported cases of MVD in health facilities in the country. These are the first known cases of MVD in the Republic of Rwanda. As of Oct., 8, 2024, the Republic of Rwanda has recorded 56 cases, including 12 deaths (21% case fatality rate) from MVD. At least 19 cases are in health care workers, the majority of whom work in intensive care units. For up-to-date information on outbreak numbers and districts affected, please see CDC's [Marburg in Rwanda Situation Summary](#).

There are also several cases unlinked to known transmission chains, suggesting additional cases may have been undetected or unreported. Approximately 300 contacts to cases are being monitored in the Republic of Rwanda. Investigations are ongoing to determine timeline, transmission chains and potential source of the outbreak.

On Oct. 3, CDC issued a [Health Alert](#) to clinicians and issued [interim recommendations](#) for public health management of U.S.-based health care personnel who were present in a health care facility in the Republic of Rwanda in the previous 21 days. CDC then issued a [Level 3 Travel Health Notice](#) for the Republic of Rwanda on Oct. 7, which includes recommendations for people traveling to the Republic of Rwanda to Reconsider Nonessential Travel.

In response to this outbreak, and out of an abundance of caution, starting in mid-October, the Centers for Disease Control and Prevention and the Department of Homeland Security will begin implementing public health entry screening at certain U.S. airports for people coming from the Republic of Rwanda. Airports will likely include Chicago (ORD), New York (JFK), and Washington D.C. (IAD). Public health entry screening is part of a layered approach that, when used with other public health measures already in place to detect illness in arriving travelers, can slow and reduce the spread of disease into the U.S. The risk of Marburg virus in Kansas and the U.S. remains low.

Additionally, CDC is using an automated system to send general Marburg health text messages to international air travelers arriving from the Republic of Rwanda. Text messaging allows CDC to provide relevant and timely public health information and

instructions directly to travelers and further facilitates future communication between travelers and public health officials. Travelers will receive text messages after arriving in the U.S. from the Republic of Rwanda. The text messages will include information about symptoms and advise travelers on what to do if they feel sick. Travelers should watch for symptoms for 21 days after they left the outbreak area.

**Mandated Reporters, including clinicians, are required by Kansas Administrative Regulation (K.A.R. 28-1-2) to report all confirmed and suspected cases of viral hemorrhagic fever, including MVD, within four (4) hours of suspicion or diagnosis to the 24/7 KDHE Epidemiology Hotline (877-427-7317, Option 5). If a diagnosis of MVD is considered, KDHE Epidemiology will work with CDC and the clinical team to coordinate testing, care for the patient and ensure appropriate infection control precautions are taken to help prevent potential spread.**

### Recommendations for Clinicians

- Contact the KDHE Epidemiology Hotline (877-427-7317, Option 5) immediately if [MVD is suspected](#). KDHE will organize consultation with CDC's Viral Special Pathogens Branch to coordinate testing and patient management and ensure appropriate infection control precautions are taken to help prevent potential spread.
- Systematically assess patients with exposure risk and compatible symptoms for the possibility of viral hemorrhagic fevers including MVD through a [triage and evaluation process](#) including a travel history. Early identification of MVD or other viral hemorrhagic fevers is important for providing appropriate and prompt patient care and preventing the spread of infection.
- Include MVD in the differential diagnosis for an ill person who has been to an area with an active [MVD outbreak](#) in the past 21 days, **AND** who has compatible symptoms (e.g., fever, headache, muscle and joint pain, fatigue, loss of appetite, gastrointestinal symptoms, or unexplained bleeding), **AND** has reported any epidemiologically compatible risk factors within the 21 days before symptom onset:
  - Had direct contact with a symptomatic person with suspected or confirmed MVD, or with any objects contaminated by their body fluids.
  - Experienced a breach in infection prevention and control precautions that resulted in the potential for contact with body fluids of a patient with suspected or confirmed MVD.
  - Participated in any of the following activities while in an area with an active MVD outbreak:
    - Contact with someone who was sick or died or with any objects contaminated by their body fluids.
    - Attended or participated in funeral rituals, including preparing bodies for funeral or burial.
    - Visited or worked in a health care facility or laboratory.
    - Contact with cave-dwelling bats or non-human primates.

- Worked or spent time in a mine or cave.
- Consider more common diagnoses such as [malaria](#), [dengue](#), [typhoid fever](#), COVID-19, influenza or common causes of gastrointestinal and febrile illnesses in an ill patient with recent international travel and evaluate and manage appropriately.
- Know that patients with a Marburg virus infection may present with concurrent infections (e.g., co-infection with malaria), and the possibility of a concurrent infection should be considered if a patient has a clinical and epidemiologic history compatible with MVD. Travel to or from the Republic of Rwanda in the past 21 days **should not be a reason to defer [routine laboratory testing](#) or other measures necessary for standard patient care.**
- **Isolate and manage patients with exposure risks and symptoms compatible with MVD in a health care facility until receiving a negative Marburg virus test result on a sample collected  $\geq 72$  hours after symptom onset.** If a sample collected is  $<72$  hours after symptom onset and is negative, the patient should remain in the health care facility and another test should be performed on a new sample taken  $\geq 72$  hours after initial symptom onset. Routine laboratory testing to monitor the patient's clinical status and diagnostic testing for other potential causes of the patient's illness should be pursued while Marburg virus testing is underway. Marburg virus diagnostic testing should not be delayed while awaiting results of other diagnostic testing.
  - Patients should be held in isolation precaution at their presenting medical facility and cared for by personnel wearing appropriate PPE, pending test results.
  - If a patient tests positive, they would be transferred to a [Regional Emerging Special Pathogens Treatment Center](#) or a state-designated special pathogens treatment center, depending on the jurisdiction.
- Counsel patients with planned travel to an [MVD outbreak-affected area](#) on ways to [prevent exposure](#) during their travel. Prevention methods include:
  - Avoiding contact with blood and body fluids (or with materials possibly contaminated with blood and body fluids) of people who are sick.
  - Not participating in funeral or burial practices that involve touching the body of someone who died from suspected or confirmed MVD.
  - Avoiding contact with cave-dwelling fruit bats and non-human primates.
  - Refraining from entering areas known to be inhabited by cave-dwelling fruit bats, such as mines or caves.
- For this outbreak, travelers are additionally advised to avoid visiting health care facilities in the outbreak area for nonurgent medical care or for nonmedical reasons, and to avoid visiting traditional healers.
- Counsel health care workers traveling to the Republic of Rwanda for work in clinical settings of their potential increased risk of exposure to Marburg virus, the importance of following recommended infection prevention and control precautions, and the symptom monitoring and work-restriction they may need to follow after their return to the U.S.

## Recommendations for Infection Prevention and Control Measures in Hospitals

- Employ a [combination of infection prevention and control measures](#) to prevent transmission of MVD in hospitals. These measures include, but are not limited to:
  - Isolating patients in a private room with a private bathroom or covered bedside toilet if MVD is suspected. Dedicated medical equipment (preferably disposable, when possible) should be used for the provision of patient care.
  - Following separate PPE guidance for managing [clinically stable](#) and [clinically unstable](#) patients.
  - Ensuring that health care workers caring for patients with VHF have received comprehensive training and demonstrated competency in performing VHF-related infection control practices and procedures.
  - Following the [infection prevention and control measures as recommended for VHF](#)s including using recommended PPE and limiting the number of personnel who enter the room for clinical evaluation and management.
  - Having an onsite manager supervise personnel providing care to these patients at all times. A trained observer must also supervise each step of every PPE donning/doffing procedure to ensure established PPE protocols are completed correctly.
  - Excluding individuals unable or unwilling to adhere to infection control and PPE use procedures from providing care for patients with VHF.
- Know that health care personnel can be exposed through contact with a patient's body fluids, contaminated medical supplies and equipment, or contaminated environmental surfaces. Splashes to unprotected mucous membranes (e.g., the eyes, nose, or mouth) are particularly hazardous.
- Minimize procedures that can increase environmental contamination with infectious material, involve handling of potentially contaminated needles or other sharps, or create aerosols.

## Recommendations for Local Health Departments (LHDs)

- Contact the KDHE Epidemiology Hotline (877-427-7317, Option 5) immediately if [MVD is suspected](#). KDHE will organize consultation with CDC's Viral Special Pathogens Branch to coordinate testing and patient management and ensure appropriate infection control precautions are taken to help prevent potential spread.
- Follow CDC [travel guidance](#) for the Republic of Rwanda and consider engaging travel health clinics or other clinical and public health partners to increase awareness on MVD. Consider sharing a copy of this Health Alert Network message with providers in your community.
- Review CDC's new [interim recommendations for public health management of U.S.-based health care personnel who were present in a health care facility in Rwanda during the previous 21 days](#). These interim recommendations include post-arrival monitoring by LHDs and exclusion from work duties in a U.S. health

care facility until 21 days after their last presence in a health care facility in the Republic of Rwanda.

### **Recommendations for Clinical Laboratory Biosafety**

- Be aware that early symptoms associated with MVD are similar to other illnesses associated with fever in recent international travelers.
- Follow [Standard Precautions for All Patient Care](#) and [Universal Precautions for Preventing Transmission of Bloodborne Infections](#) to [safely perform common diagnostic testing](#) for patients with suspected MVD.
- Have a written [Exposure Control Plan](#) in place to eliminate or minimize employees' risk of exposure to blood, body fluids or other potentially infectious materials per Occupational Safety and Health Administration's (OSHA) Bloodborne Pathogens Standard.
- Make [recommended PPE](#) available and train staff to properly put on and take off (don and doff) their PPE.
- If a facility does not have the appropriate risk mitigation capabilities, forward the specimen using [appropriate packing and shipping requirements](#) to another facility that does.

### **Recommendations for Health Care Workers Returning from Work in the Republic of Rwanda**

- On October 3, 2024, CDC issued new interim recommendations for monitoring and managing U.S. health care workers who have been present in any health care facility, including outpatient settings or traditional healers, in the Republic of Rwanda within the last 21 days and are returning to the U.S.
- Returning workers and sponsoring organizations should review CDC's [interim recommendations](#).
- These interim recommendations include post-arrival symptom monitoring by LHDs and exclusion from work duties in a U.S. health care facility until 21 days after their last presence in a health care facility in the Republic of Rwanda.

### **For More Information**

#### **General Marburg Information**

- [Marburg virus disease \(Marburg\) Situation Summary | Marburg | CDC](#)
- [About Marburg Disease | Marburg Virus Disease | CDC](#)
- [Marburg in Rwanda | Travel Notice | Traveler's Health | CDC](#)

## Clinician Resources

- [Clinical Guidance for Ebola Disease | CDC](#)
- [Viral Hemorrhagic Fevers | CDC Yellow Book 2024](#)
- [Marburg Virus Disease: Interim Recommendations for Public Health Management of U.S.-based Healthcare Personnel Returning from Rwanda](#)
- [Health Alert Network \(HAN\) - 00517 | First Marburg Virus Disease Outbreak in the Republic of Rwanda | CDC](#)
- [Public Health Management of People with Suspected or Confirmed VHF or High-Risk Exposures | Viral Hemorrhagic Fevers \(VHFs\) | CDC](#)
- [Recommendations for Organizations Sending U.S.-based Personnel to Areas with VHF Outbreaks | Viral Hemorrhagic Fevers \(VHFs\) | CDC](#)
- Traveling to the U.S. from the Republic of Rwanda:
  - [English Version](#)
  - [Kinyarwanda Version](#)

## U.S. Health Care Settings

- [Interim Guidance for Preparing Frontline Healthcare Facilities for Patients Suspected to Have Ebola Virus Disease \(EVD\) | CDC](#)
- [Interim Guidance for Preparing Ebola Assessment Hospitals | CDC](#)

## U.S. Public Health Departments

- [Health Alert Network \(HAN\) - 00517 | First Marburg Virus Disease Outbreak in the Republic of Rwanda | CDC](#)
- [Public Health Management of People with Suspected or Confirmed VHF or High-Risk Exposures | CDC](#)
- [Public Health Guidance for VHF Response Planning | CDC](#)
- [Public Health Management of People with Suspected or Confirmed VHF or High-Risk Exposures | Viral Hemorrhagic Fevers \(VHFs\) | CDC](#)
- Traveling to the U.S. from the Republic of Rwanda:
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