



**MHG**

**Integrated Outbreak**

**Protocol**

**(Ebola Focus)**

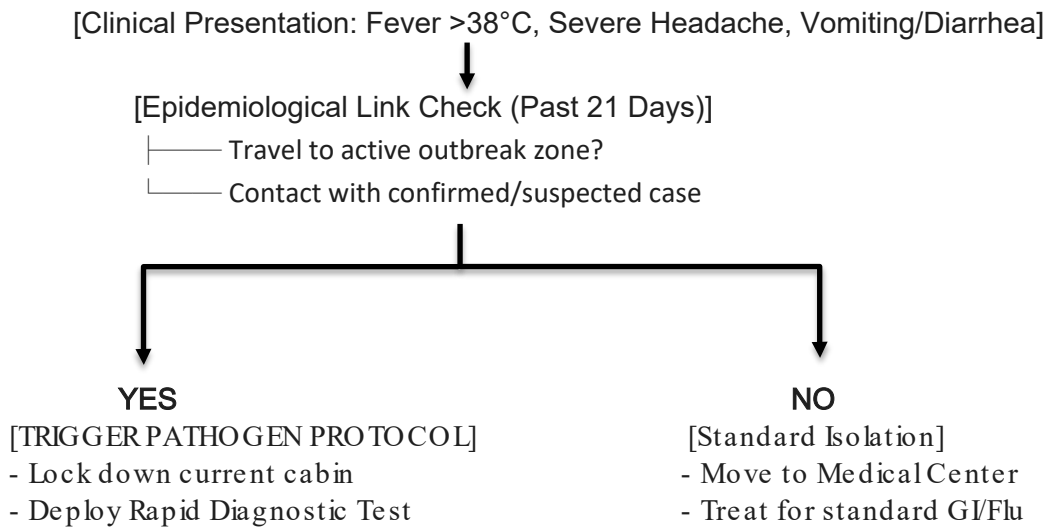
# 1. Pre-Embarkation & Passive Surveillance

To mitigate the risk of fraudulent health declarations, the ship relies on a multi-layered surveillance architecture.

- **Pre-Boarding Screening:** Direct all passengers through the Health Questionnaire checklist. Any "Yes" flags trigger immediate bypass to isolated secondary triage.
- **Passive Terminal Screening:** Deploy localized thermal imaging cameras at the terminal gangway to flag passengers with a body temperature exceeding 38 °C (100.4 °F), bypassing standard boarding lanes.
- **Shipboard Stateroom Surveillance:** Train stateroom attendants to discreetly monitor cabins for signs of severe illness (e.g., unusual volumes of bio-waste, requests for excessive replacement linens, or uncharacteristic room-service-only requests consisting entirely of fluids).
- **The "Fit to Travel" Trigger:** Mandates an automated medical welfare check if any guest or crew member misses two consecutive assigned dining periods or fails to tap their keycard anywhere on the ship for 24 hours.

# 2. Diagnostics, Triggers, & Immediate Isolation

Because early symptoms of Ebola mimic common maritime illnesses (Norovirus, Malaria, Influenza), the protocol utilizes a strict clinical matrix before executing full ship lockdown.



- **Zero -Movement Isolation:** The moment a suspected case meets both the clinical and epidemiological criteria; **the patient must not be moved to the medical center.** They are locked down in their current cabin to prevent contaminating public corridors.
- **HVAC Isolation:** Remotely isolate the cabin's return airline via the ship's HVAC systems to eliminate any accidental draft -induced droplet transmission.
- **Shipboard Lab Biosafety:** If Rapid Diagnostic Test (RDT) kits or PCR equipment are available on board, the laboratory technician must handle all blood draws using a closed vacuum system. No open-tube centrifuging is permitted to prevent aerosol generation.

### 3. The Two-Room Isolation & Safe Doffing Layout

Most healthcare transmissions occur during the removal (doffing) of Personal Protective Equipment (PPE). The protocol mandates a strict architectural layout for the isolation zone.

- **Clean Zone (Donning):** Located outside the antechamber. Crew members put on full fluid-impermeable suits, double nitrile gloves, N95/PAPR respirators, and full-face shields here.
- **Dirty Zone (Doffing):** Located just inside the antechamber door but separate from the patient.
  - Must feature a full -length mirror so crew members can visually inspect themselves for fluid tears.
  - Must feature a step -by-step visual poster detailing the exact chemical decontamination sequence.
  - Contains the Category A biohazard disposal bins or designated biohazard colored trash bag.

### 4. Biohazard Mitigation & Category A Waste

Ebola remains highly infectious in bodily fluids long after they leave the host. Traditional shipboard waste management is entirely suspended for the isolated cabin.

- **No-Contact Logistics:** Meals are delivered via a "no-contact drop." Plates, utensils, and cups must be 100% disposable.
- **Fluid Solidification:** Medical teams must deploy specialized chlorinated solidifying agents into the toilet and any emesis (vomit) bags before disposal to prevent splashing or aerosolization.
- **Biohazard Waste Containment:** All waste exiting the cabin (including disposable linens, PPE, and food trays) is classified as Biohazard Infectious Waste. It must be double bagged in leak-proof biohazard bags, stored in a designated biohazard locker, which is structural hold away from general waste, Incineration is permitted only when flag-state regulations allow the onboard incineration of biohazard waste. Otherwise, the preferred disposal is shore-side Disposal of biohazard waste.



## 5. Geopolitical, Legal, & Diversion Strategy

Under the *International Health Regulations (IHR 2005)*, ships have rights, but nations frequently close ports during high-consequence outbreaks.

- **Maritime Declaration of Health:** The Captain must immediately submit a Maritime Declaration of Health to the Next Port of Call and the Flag State Administration (e.g., Bahamas, Panama, Malta).
- **The "Free Pratique" Contingency:** If the upcoming port denies entry, the ship immediately triggers its **In-Transit Care Plan**. The vessel will chart a course toward the nearest pre-designated regional "Safe Haven" port capable of handling Level 4 Biosafety evacuations.
- **Contact Tracing Lockdown:** The ship's security team immediately pulls keycard logs, facial recognition data (if utilized), and shore excursion manifests to map out "Close Contacts." These individuals are quietly relocated to separate single-occupancy quarantine cabins for a mandatory 21-day observation period.

## 6. Crisis Communication & Crew Continuity

Panic can compromise a ship faster than a virus. Controlling the narrative is vital for safety.

- **Command Transparency:** The Captain will issue a calm, transparent announcement via the PA system. The word "Ebola" is avoided initially in favor of "High-Consequence Public Health Protocol," shifting to full disclosure once port medical teams are secured, preventing localized panic or mutinous behavior among crew.
- **Pre-Scripted Public Announcements:** *"Ladies and gentlemen, this is the Captain. In alignment with international maritime safety laws, we have activated an isolated public health protocol for a single medical case on board. The situation is fully contained within a restricted area, and our standard guest operations face minimal adjustments. We are working directly with shoreside health authorities to ensure a seamless transit."*
- **Minimum Safe Manning Levels:** Because the specialized medical team will be completely isolated with the patient, a "Clean Medical Crew" must be held in reserve. If crew members are quarantined as close contact, the bridge must instantly recalculate minimum safe manning layouts to ensure the vessel can still legally and safely navigate.



# Onboard Outbreak Preventive Protocol (Ebola Focus)

Because Ebola is transmitted through **direct contact with broken skin or mucous membranes** and **bodily fluids** (blood, vomit, feces, sweat, saliva), the protocol must strictly prioritize zero-contact isolation and fluid containment over standard respiratory measures.

## Phase 1: Pre-Detection & Preparedness

- **Medical Inventory:** Stock specialized Viral Hemorrhagic Fever (VHF) Personal Protective Equipment (PPE). This includes fluid-resistant impermeable gowns/suits, double-gloving (nitrile), full face shields, N95 or PAPR respirators, and fluid-impermeable boot covers.
- **Waste Management:** Equip the vessel with biohazard spill kits, biohazard garbage bag, specialized solidification agents for liquid waste, and certified autoclave or incinerator bags.
- **Crew Training:** Conduct mandatory, hands-on "donning and doffing" drills for medical staff. *Most Ebola transmissions to healthcare workers occur during the improper removal (doffing) of PPE.*

## Phase 2: Immediate Containment (Upon Suspected Case)

If a guest or crew member presents with a fever ( $>38^{\circ}\text{C}$  or  $100.4^{\circ}\text{F}$ ) **AND** an epidemiological link (e.g., travel to an active outbreak zone or contact with an infected individual within the last **21 days**):

- **Zero-Movement Isolation:** \* Immediately confine the patient to their current cabin. Do not move them to the ship's general medical center to avoid contaminating public corridors.
  - Turn off or isolate the cabin's HVAC return air line if possible (while Ebola is not strictly airborne, minimizing all airflow drafts protects against accidental aerosolization of droplets during vomiting/diarrhea).
- **Designated Care Team:** Assign a skeleton crew of medical professionals to this patient only. They must not treat any other guests on board.
- **Logistics & Meals:** Implement a strict "no-contact drop." Meals must be served on disposable trays left outside the door. The patient must wait 60 seconds after a knock before opening the door to pull the tray inside.



### Phase 3: Shipboard Mitigation & Biohazard Control

- **Decontamination Protocols:** \* Do not perform standard dry sweeping or vacuuming, which can aerosolize viral particles.
  - Use an EPA-registered hospital disinfectant approved for viral hemorrhagic fevers (e.g., specific accelerated hydrogen peroxide or bleach solutions).
- **Category A Waste Containment:** All materials exiting the cabin (disposable plates, linens, wipes) are classified as Category A infectious substances. They must be double-bagged, stored in a designated, locked, leak-proof containment area, and never mixed with standard shipboard waste or thrown into the ship's general incinerator without port authority approval.

### Phase 4: Port Authority Notification & Disembarkation

- **Maritime Declaration of Health:** Immediately notify the next port of call, the flag state, and national health agencies (such as the CDC or WHO).
- **Controlled Evacuation:** Keep the ship at anchor or in a designated isolated berth. Do not allow general disembarkation. Coordinate with local public health authorities for a specialized medical evacuation using a biocontainment unit.
- **Contact Tracing:** Instantly pull keycard access logs, dining reservations, and shore excursion rosters to map anyone who had direct contact with the patient. Isolate close contacts in separate single-occupancy cabins for a 21-day monitoring period.



# Pre-Embarkation Health Screening Checklist

This questionnaire must be completed by all guests and crew members at the terminal *prior* to boarding. Any "Yes" in Sections B or C triggers an immediate secondary medical triage bypass.

## Pre-Boarding Health Questionnaire

Passenger Name: \_\_\_\_\_

Cabin Number: \_\_\_\_\_

### Section A: General Demographics & Information

- I confirm that the information provided below is accurate to the best of my knowledge, and I understand that providing false health declarations may result in denied boarding or removal from the vessel.

### Section B: 21-Day Travel & Exposure History

*Within the last 21 days, have you:*

- **YES** /  **NO** — Traveled to, or transited through, a country or region currently flagged by the WHO/CDC for an active Ebola outbreak? (e.g., specific regions in Central/West Africa).
- **YES** /  **NO** — Had direct physical contact with, or cared for, anyone diagnosed with or suspected of having Ebola Virus Disease?
- **YES** /  **NO** — Attended a funeral or participated in traditional burial rituals involving a person who passed away from an unknown illness or fever?
- **YES** /  **NO** — Handled, consumed, or come into close contact with wild "bushmeat" (e.g., bats, rodents, monkeys) or entered caves heavily populated by bats?

### Section C: Current Symptom Checklist

*Are you currently experiencing, or have you experienced in the last 48 hours, any of the following symptoms?*

- **YES** /  **NO** — Unexplained high fever ( $\geq 38^{\circ}\text{C}$  /  $100.4^{\circ}\text{F}$ ) or severe chills
- **YES** /  **NO** — Severe, uncharacteristic headache or profound muscle/joint pain
- **YES** /  **NO** — Extreme weakness, fatigue, or unexplained lethargy
- **YES** /  **NO** — Frequent vomiting, severe nausea, or watery diarrhea
- **YES** /  **NO** — Unexplained abdominal (stomach) pain
- **YES** /  **NO** — Unexplained bruising, bleeding from the gums/nose, or blood in stool/vomit

\_\_\_\_\_  
Passenger's Name & Signature

\_\_\_\_\_  
Date



# For Shoreside Embarkation Staff Use Only (Triage Protocol)

**PASS:** If all items in Sections B & C are marked **NO**, the guest is cleared for general embarkation.

**FAIL / HOLD:** If any item in Section B or C is marked **YES**:

1. Issue the guest a surgical mask immediately.
2. Escort the guest and their travel party to the isolated secondary health screening room.
3. Shoreside medical staff perform medical screening and examination.
4. Perform a contactless forehead/tympanic temperature check.
5. Notify the Chief Medical Officer / Onboard Doctor to determine if boarding will be officially denied.

