Interim U.S. Guidance for Monitoring and Movement of Persons with Potential Ebola Virus Exposure

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The world is facing the biggest and most complex Ebola outbreak in history. On August 8, 2014, the Ebola outbreak in West Africa was declared by the World Health Organization (WHO) to be a Public Health Emergency of International Concern (PHEIC) because it was determined to be an 'extraordinary event' with public health risks to other countries. The possible consequences of further international spread are particularly serious considering the following factors:

1. the virulence (ability to cause serious disease or death) of the virus,
2. the widespread transmission in communities and healthcare facilities in the currently affected countries, and
3. the strained health systems in the currently affected and most at-risk countries.

Coordinated public health actions are essential to stop and reverse the spread of Ebola. Healthcare workers who take care of patients with Ebola are not only helping the nations facing the Ebola outbreak but also protecting people in the United States by helping to fight the outbreak at its source. The risk in this country will only be fully addressed when the current outbreak in Africa is over, and the participation of US and other healthcare workers from outside of the countries with widespread transmission is essential to control the disease.

With the complex nature and seriousness of the outbreak, CDC has created interim guidance for monitoring people potentially exposed to Ebola and for evaluating their intended travel, including the application of movement restrictions when indicated. This interim guidance has been updated by establishing a "low (but not zero) risk" category; adding a "no identifiable risk" category; modifying the recommended public health actions in the high, some, and low (but not zero) risk categories; and adding recommendations for specific groups and settings.

Definitions used in this document

For exposure level definitions, see: Epidemiologic Risk Factors to Consider when Evaluating a Person for Exposure to Ebola Virus

Active and direct active monitoring

Active monitoring means that the state or local public health authority assumes responsibility for establishing regular communication with potentially exposed individuals, including checking daily to assess for the presence of symptoms and fever, rather than relying solely on individuals to self-monitor and report symptoms if they develop. Direct active monitoring means the public health authority conducts active monitoring through direct observation. The purpose of active (or direct active) monitoring is to ensure that, if individuals with epidemiologic risk factors become ill, they are identified as soon as possible after symptom onset so they can be rapidly isolated and evaluated. Active (or direct active) monitoring could be either conducted on a voluntary basis or compelled by legal order. Active (or direct active) monitoring and prompt follow-up should continue and be uninterrupted if the person travels out of the jurisdiction.

Active monitoring should consist of, at a minimum, daily reporting of measured temperatures and symptoms consistent with Ebola (including severe headache, fatigue, muscle pain, fatigue or weakness, diarrhea, vomiting, abdominal pain, or unexplained hemorrhage) by the individual to the public health authority. Temperature should be measured using an FDA-approved thermometer (e.g. oral, tympanic or noncontact). People being actively monitored should measure their temperature twice daily, monitor themselves for symptoms, report as directed to the public health authority, and immediately notify the public health authority if they develop fever or other symptoms. Initial symptoms can be as nonspecific as fatigue. Clinical criteria for required medical evaluation according to exposure level have been defined (see Table), and should result in immediate isolation and evaluation. Medical evaluation may be recommended for lower temperatures or nonspecific symptoms based on exposure level and clinical presentation.

For direct active monitoring, a public health authority directly observes the individual at least once daily to review symptom status and monitor temperature; a second follow-up per day may be conducted by telephone in lieu of a second direct observation. Direct active monitoring should include discussion of plans to work, travel, take public conveyances, or be present in congregate locations. Depending on the nature and duration of these activities, they may be permitted if the individual has been consistent with direct active monitoring (including recording and reporting of a second temperature reading each day), has a normal temperature and no symptoms whatsoever, and can ensure uninterrupted direct active monitoring by a public health authority.

For healthcare workers under direct active monitoring, public health authorities can delegate the responsibility for direct active monitoring to the healthcare facility's occupational health program or the hospital epidemiologist. Facilities may conduct direct active monitoring by performing fever checks on entry or exit from the Ebola treatment unit and facilitate reporting during days when potentially exposed healthcare workers are not working. The occupational health program or hospital epidemiologist would report daily to the public health authority.

Controlled Movement

Controlled movement limits the movement of people. For individuals subject to controlled movement, travel by long-distance commercial conveyances (e.g., aircraft, ship, bus, train) should not be allowed; if travel is allowed, it should be by noncommercial conveyance such as private chartered flight or private vehicle, and occur with arrangements for uninterrupted active monitoring. Federal public health travel restrictions (Do Not Board) may be used to enforce controlled movement. For people subject to controlled movement, use of local public transportation (e.g., bus, subway) should be discussed with and only occur with pre-approval of the local public health authority.

Isolation

Isolation means the separation of an individual or group who is reasonably believed to be infected with a quarantinable communicable disease from those who are not infected to prevent spread of the quarantinable communicable disease. An individual could be reasonably believed to be infected if he or she displays the signs and symptoms of the quarantinable communicable disease of concern and there is some reason to believe that an exposure had occurred.

Quarantine

Quarantine in general means the separation of an individual or group reasonably believed to have been exposed to a quarantinable communicable disease, but who is not yet ill (not presenting signs or symptoms), from others who have not been so exposed, to prevent the possible spread of the quarantinable communicable disease.

Use of Public Health Orders

Equitable and ethical use of public health orders includes supporting and compensating persons who make sacrifices in their individual liberties and freedoms for public good. Specifically, considerations must be in place to provide shelter, food and lost wage compensation, and to protect the dignity and privacy of the individual. Persons under public health orders should be treated with respect and dignity. Considerable thoughtful planning is needed to implement public health orders properly.

Early Recognition and Reporting of Suspected Ebola Virus Exposures

Early recognition is critical to controlling the spread of Ebola virus. Healthcare providers should evaluate the patient's epidemiologic risk, including a history of travel to a country with widespread Ebola virus transmission or contact with a person with symptomatic Ebola within the previous 21 days. Click here for an evaluation algorithm to determine if testing for Ebola is indicated.

If a diagnosis of Ebola is being considered, the patient should be isolated in a single room (with a private bathroom), and healthcare personnel should follow standard, contact, and droplet precautions, including the use of appropriate personal protective equipment (PPE). Infection control personnel should be contacted immediately.

If Ebola is suspected, the local or state health department should be immediately contacted for consultation and to assess whether testing is indicated and the need for initiating identification of contacts. If there is a high index of suspicion, U.S. health departments should immediately report any persons under investigation to CDC's Emergency Operations Center at 770-488-7100.

Important Evaluation Factors

During investigation of a confirmed case of Ebola, the cohort of potentially exposed individuals is determined based on a risk assessment of the incident. For each potentially exposed individual, both clinical presentation and level of exposure should be taken into account when determining appropriate public health actions, including the need for medical evaluation or active (or direct active) monitoring and the application of movement restrictions when indicated.

Recommendations for Evaluating Ebola Exposure Risk to Determine Appropriate Public Health Actions

This guidance provides public health authorities and other partners with a framework for determining the appropriate public health actions based on risk factors and clinical presentation. It also includes criteria for monitoring exposed people and for when movement restrictions may be indicated.

Federal communicable disease regulations, including those applicable to isolation and other public health orders, apply principally to arriving international travelers and in the setting of interstate movement. State and local authorities have primary jurisdiction for isolation and other public health orders within their borders. Thus, CDC recognizes that state and local jurisdictions may make decisions about isolation, other public health orders, and active (or direct active) monitoring that impose a greater level of restriction than what is recommended by federal guidance, and that decisions and criteria to use such public health measures may differ by jurisdiction.

At this time, CDC recommends:

1. **Symptomatic individuals in the high, some, or low (but not zero) risk categories** who meet the symptom criteria for the category (see Table) should undergo required medical evaluation with appropriate infection control precautions in place. Isolation orders may be considered if necessary to ensure compliance. Federal public health travel restrictions will be issued for individuals in the high risk category, and may be issued for those in the some or low (but not zero) risk categories if there is reasonable belief that the person poses a public health threat during travel. If medical evaluation results in individuals' being discharged with a diagnosis other than Ebola, conditions as outlined for asymptomatic individuals in the relevant exposure category will apply until 21 days after the last potential exposure.
2. **Asymptomatic individuals in the high risk category** should have direct active monitoring for 21 days after the last potential exposure. The individual should be ensured, through public health orders as necessary, to undergo direct active monitoring, have restricted movement within the community, and no travel on any public conveyances. Non-congregate public activities while maintaining a 3-foot distance from others may be permitted. These individuals are subject to controlled movement which will be enforced by federal public health travel restrictions; travel, if allowed, should occur only by noncommercial conveyances, with coordination by origin and destination states to ensure a coordinated hand-off of public health orders, if issued, and uninterrupted direct active monitoring.
3. **Asymptomatic individuals in the some risk category** should have direct active monitoring until 21 days after the last potential exposure. Public health authorities may consider additional restrictions (see Table) based on a specific assessment of the individual's situation. Factors to consider include the following: intensity of exposure (e.g., daily direct patient care versus intermittent visits to an Ebola treatment unit); point of time in the incubation period (risk falls substantially after 2 weeks); complete absence of symptoms; compliance with direct active monitoring; the individual's ability to immediately recognize and report symptom onset, self-isolate, and seek medical care; and the probability that the proposed activity would result in exposure to others prior to effective isolation.
4. **Asymptomatic individuals in the low (but not zero) risk category** should be actively monitored until 21 days after the last potential exposure. Direct active monitoring is recommended for some individuals in this category (see Table). Individuals in this category do not require separation from others or restriction of movement within the community. For these individuals, CDC recommends that travel, including by commercial conveyances, be permitted provided that they remain asymptomatic and active (or direct active) monitoring continues uninterrupted.
5. **Individuals in the no identifiable risk category** do not need monitoring or restrictions unless these are indicated due to a diagnosis other than Ebola.

Active (or direct active) monitoring is justified for individuals in the some and low (but not zero) risk categories based on a reasonable belief that exposure may have occurred, though the exact circumstances of such exposure may not be fully recognized at any given time. Under such conditions, active (or direct active) monitoring provides a substantial public health benefit. Given the extent and nature of the epidemic, travelers from countries with widespread transmission may be unaware of their exposure to individuals with symptomatic Ebola infection, such as in community settings. Healthcare workers taking care of Ebola patients may have unrecognized exposure even while wearing appropriate PPE.

Additional restrictions, such as use of public health orders, may be warranted if an individual in the some or low (but not zero) risk categories fails to adhere to the terms of active (or direct active) monitoring. Such noncompliance could include refusal by an individual with documented travel from a country with widespread transmission, or other potential contact with a symptomatic Ebola patient, to participate in a public health assessment. Without such information, public health authorities may be unable to complete a risk assessment to determine if an individual has been exposed to, or has signs or symptoms consistent with, Ebola. For travelers from a country with widespread transmission who refuse to cooperate with a public health assessment and appear ill, medical evaluation will be required and isolation orders issued.

Recommendations for specific groups and settings:

Healthcare workers

For the purposes of risk of exposure to Ebola, regardless of country, direct patient contact includes doctors, nurses, physician assistants and other healthcare staff, as well as ambulance personnel, burial team members, and morticians. In addition, others who enter into the treatment areas where Ebola patients are being cared for (such as observers) would be considered to potentially have patient contact and be at risk. Healthcare workers who have no direct patient contact and no entry into active patient management areas, including epidemiologists, contact tracers, airport screeners, as well as laboratory workers who use appropriate PPE, are not considered to have an elevated risk of exposure to Ebola, i.e., are considered to be in the low (but non-zero) risk category.

The high toll of Ebola virus infections among healthcare workers providing direct care to Ebola patients in countries with widespread transmission suggests that there are multiple potential sources of exposure to Ebola virus in these countries, including unrecognized breaches in PPE, inadequate decontamination procedures, and exposure in patient triage areas. Due to this higher risk, these healthcare workers are classified in the some risk category, for which additional precautions are recommended upon their arrival in the United States (see Table).

Healthcare workers who provide care to Ebola patients in U.S. facilities while wearing appropriate PPE and with no known breaches in infection control are considered to have low (but not zero) risk of exposure

because of the possibility of unrecognized breaches in infection control and should have direct active monitoring. As long as these healthcare workers have direct active monitoring and are asymptomatic, there is no reason for them not to continue to work, including in hospitals and other patient care settings, nor is there a reason for them to have restrictions on travel or other activities. Review and approval of work, travel, use of public conveyances, and attendance at congregate events are not indicated or recommended for such healthcare workers.

Healthcare workers taking care of Ebola patients in a U.S. facility where another healthcare worker has been diagnosed with confirmed Ebola without an identified breach in infection control are considered to have a higher level of potential exposure (exposure level: high risk). A similar determination would be made if an infection control breach is identified retrospectively during investigation of a confirmed case of Ebola in a healthcare worker. These individuals would be subject to restrictions, including controlled movement and the potential use of public health orders, until 21 days after the last potential unprotected exposure.

In U.S. healthcare facilities where an unidentified breach in infection control has occurred, assessment of infection control practices in the facility, remediation of any identified deficiencies, and training of healthcare workers in appropriate infection control practices should be conducted. Following remediation and training, asymptomatic potentially exposed healthcare workers may be allowed to continue to take care of Ebola patients, but care of other patients should be restricted. For these healthcare workers, the last potential unprotected exposure is considered to be the last contact with the Ebola patient prior to remediation and training; at 21 days after the last unprotected exposure, they would return to the low (but not zero) risk category under direct active monitoring. Healthcare workers whose first Ebola patient care activities occur after remediation and training are considered to be in the low (but not zero) risk category.

Crew on public conveyances

Crew members on public conveyances, such as commercial aircraft or ships, who are not subject to controlled movement are also not subject to occupational restriction and may continue to work on the public conveyance while under active monitoring.

People with confirmed Ebola virus disease

For people with confirmed Ebola, isolation and movement restrictions are removed upon determination by public health authorities that the person is no longer considered to be infectious.

Table: Summary of CDC Interim Guidance for Monitoring and Movement of People Exposed to Ebola Virus

Exposure Category	Clinical Criteria	Public Health Actions

High risk includes any of the following:
• Percutaneous (e.g., needle stick) or mucous membrane exposure to blood or body fluids of a person with Ebola while the person was symptomatic
• Exposure to the blood or body fluids (including but not limited to feces, saliva, sweat, urine, vomit, and semen) of a person with Ebola while the person was symptomatic without appropriate personal protective equipment (PPE)
• Processing blood or body fluids of a person with Ebola while the person was symptomatic without appropriate PPE or standard biosafety precautions
• Direct contact with a dead body without appropriate PPE in a country with widespread Ebola virus transmission
• Having lived in the immediate household and provided direct care to a person with Ebola while the person was symptomatic
	Fever (subjective fever or measured temperature ≥100.4°F/38°C) OR any of the following:*
	• severe headache
	• muscle pain
	• vomiting
	• diarrhea
	• stomach pain
	• unexplained bruising or bleeding
		• Implement rapid isolation with immediate contact of public health authorities to arrange for safe transport to an appropriate healthcare facility for Ebola evaluation
		• Medical evaluation is required.
		  ○ Isolation orders may be used to ensure compliance
		  ○ Air travel is permitted only by air medical transport
		• If medically evaluated and discharged with a diagnosis other than Ebola, conditions as outlined for asymptomatic individuals in this exposure category will apply

	Asymptomatic (no fever or other symptoms consistent with Ebola)	• Direct active monitoring
		• Public health authority will ensure, through orders as necessary, the following minimum restrictions:
		  ○ Controlled movement: exclusion from all long-distance and local public conveyances (aircraft, ship, train, bus, and subway)
		  ○ Exclusion from public places (e.g., shopping centers, movie theaters), and congregate gatherings
		  ○ Exclusion from workplaces for the duration of the public health order, unless approved by the state or local health department (telework is permitted)
		• Non-congregate public activities while maintaining a 3-foot distance from others may be permitted (e.g., jogging in a park)
		• Federal public health travel restrictions (Do Not Board) will be implemented to enforce controlled movement
		• If travel is allowed, individuals are subject to controlled movement
		  ○ Travel by noncommercial conveyances only
		  ○ Coordinated with public health authorities at both origin and destination
		  ○ Uninterrupted direct active monitoring

Exposure Category	Clinical Criteria	Public Health Actions

Some risk includes any of the following:
• In countries with widespread Ebola virus transmission: direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
• Close contact in households, healthcare facilities, or community settings with a person with Ebola while the person was symptomatic
  ○ Close contact is defined as being for a prolonged period of time while not wearing appropriate PPE within approximately 3 feet (1 meter) of a person with Ebola while the person was symptomatic
	Fever (subjective fever or measured temperature ≥100.4°F/38°C) OR any of the following:*
	• severe headache
	• muscle pain
	• vomiting
	• diarrhea
	• stomach pain
	• unexplained bruising or bleeding
		• Implement rapid isolation with immediate contact of public health authorities to arrange for safe transport to an appropriate healthcare facility for Ebola evaluation
		• Medical evaluation is required
		  ○ Isolation orders may be used to ensure compliance
		  ○ Air travel is permitted only by air medical transport
		• If medically evaluated and discharged with a diagnosis other than Ebola, conditions as outlined for asymptomatic individuals in this exposure category will apply

	Asymptomatic (no fever or other symptoms consistent with Ebola)	• Direct active monitoring
		• The public health authority, based on a specific assessment of the individual's situation, will determine whether additional restrictions are appropriate, including:
		  ○ Controlled movement: exclusion from long-distance commercial conveyances (aircraft, ship, train, bus) or local public conveyances (e.g., bus, subway)
		  ○ Exclusion from public places (e.g., shopping centers, movie theaters), and congregate gatherings
		  ○ Exclusion from workplaces for the duration of a public health order, unless approved by the state or local health department (telework is permitted)
		• Non-congregate public activities while maintaining a 3-foot distance from others may be permitted (e.g., jogging in a park)
		• Other activities should be assessed as needs and circumstances change to determine whether these activities may be undertaken
		• Any travel will be coordinated with public health authorities to ensure uninterrupted direct active monitoring
		• Federal public health travel restrictions (Do Not Board) may be implemented based on an assessment of the particular circumstance
		  ○ For travelers arriving in the United States, implementation of federal public health travel restrictions would occur after the traveler reaches the final destination of the itinerary

Exposure Category	Clinical Criteria	Public Health Actions

Low (but not zero) risk includes any of the following:
• Having been in a country with widespread Ebola virus transmission within the past 21 days and having had no known exposures
• Having brief direct contact (e.g., shaking hands), while not wearing appropriate PPE, with a person with Ebola while the person was in the early stage of disease
• Brief proximity, such as being in the same room for a brief period of time, with a person with Ebola while the person was symptomatic
• In countries without widespread virus Ebola transmission: direct contact while using appropriate PPE with a person with Ebola while the person was symptomatic
• Traveled on an aircraft with a person with Ebola while the person was symptomatic
	Fever (subjective fever or measured temperature ≥100.4°F/38°C) OR any of the following:*
	• vomiting
	• diarrhea
	• unexplained bruising or bleeding
		• Implement rapid isolation with immediate contact of public health authorities to arrange for safe transport to an appropriate healthcare facility for Ebola evaluation
		• Medical evaluation is required.
		  ○ Isolation orders may be used to ensure compliance
		  ○ Air travel is permitted only by air medical transport
		• If medically evaluated and discharged with a diagnosis other than Ebola, conditions as outlined for asymptomatic individuals in this exposure category will apply

	Asymptomatic (no fever, vomiting, diarrhea, or unexplained bruising or bleeding)	• No restrictions on travel, work, public conveyances, or congregate gatherings
		• Direct active monitoring for:
		  ○ U.S.-based healthcare workers caring for symptomatic Ebola patients while wearing appropriate PPE
		  ○ Travelers on an aircraft with, and sitting within 3 feet of, a person with Ebola
		• Active monitoring for all others in this category

No identifiable risk includes: • Contact with an asymptomatic person who had contact with person with Ebola • Contact with a person with Ebola before the person developed symptoms • Having been more than 21 days previously in a country with widespread Ebola virus transmission • Having been in a country without widespread Ebola virus transmission and not having any other exposures as defined above	Symptomatic (any)	• Routine medical evaluation and management of ill persons, as needed
	Asymptomatic	• No actions needed

*The temperature and symptoms thresholds provided are for the purpose of requiring medical evaluation. Isolation or medical evaluation may be recommended for lower temperatures or nonspecific symptoms (e.g., fatigue) based on exposure level and clinical presentation.