

North Carolina Department of Health and Human Services Division of Public Health

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To: North Carolina Local Health Directors

From: Megan Davies, M.D., State Epidemiologist, Division of Public Health, NCDHHS Subject: Interim Guidance on Cleanup and Decontamination in the Non-medical Setting

Introduction:

Centers for Disease Control and Prevention (CDC) released its Interim Guidance for the US Residence Decontamination for Ebola Virus Disease (Ebola) and Removal of Contaminated Waste on November 4, 2014 (http://www.cdc.gov/vhf/ebola/hcp/residental-decontamination.html). The guidelines outlined below are adapted from that guidance.

Pre-event:

Before a case is identified, local health departments, in coordination with other agencies, should identify and verify willing transporters for relocation of members of the residence, and should identify and verify relocation sites for these members of the residence.

For a Person Under Investigation or confirmed case with Fever Only:

If the person **only had a fever** with no gastrointestinal (e.g., diarrhea, vomiting) or hemorrhagic (bleeding) symptoms while he or she was in the residence, it is unlikely that he or she would have contaminated the environment. The remaining members of the residence can clean and launder as normal using detergent and/or disinfectant.

For a Person Under Investigation or confirmed case with Fever AND diarrhea, vomiting, and/or unexplained bleeding: If the person had a fever AND diarrhea, vomiting, and/or unexplained bleeding while he or she was in the residence, the Local Health Department will coordinate for a contract company to assess the residence and determine the proper decontamination and disposal procedures. Note: The North Carolina Division of Public Health recommends that household residents be temporarily relocated until the assessment and decontamination is complete or until Ebola virus disease has been ruled out in the person under investigation. This differs from CDC guidance, which provides for household residents to remain in the residence and avoid contaminated areas.

A contact tracing investigation will identify residents of the household. The local health department should assist in coordinating the relocation if needed. Ensure pets are considered in relocation.

The investigation will also identify potentially contaminated locations. The Local Health Director shall exercise quarantine authority over the residence where the Ebola patient resided.² The need for action at other locations frequented by the patient will be evaluated on a case by case basis.

The Local Health Department shall immediately request that the residence where the patient resided be secured by local law enforcement to keep unauthorized persons from entering. No one shall enter the residence without permission from the Local Health Department.

The Local Health Department shall maintain a log of persons entering the residence, including the time, date, duration, reason, contact information, and activities of anyone entering the home.

The residence shall remain under quarantine until:

- 1. All materials that cannot be decontaminated have been removed
- 2. All materials and structures that can be decontaminated have been decontaminated





3. The risk of infection has been eliminated

The local health department shall arrange for a private company to assess and clean the contaminated residence. Local law enforcement shall be notified as to which private cleaning company will be conducting the cleaning and when. The sanitary sewer operation authority shall be notified.

The contract company shall provide a site-specific plan to the Local Health Department. The contractors shall ensure workers who will conduct the cleaning have been trained in the use of Personal Protective Equipment (PPE), blood borne pathogen procedures, hazard communication, and Hazardous Waste Operations for Emergency Response (HAZWOPER). Cleaning workers shall wear appropriate PPE while cleaning.

The cleaning contractor shall use Occupational Safety and Health Administration (OSHA) guidelines for cleaning and decontamination (https://www.osha.gov/Publications/OSHA FS-3756.pdf). The cleaning and decontamination contractor shall arrange transport of these wastes in accordance with US DOT Shipping requirements (http://phmsa.dot.gov/hazmat/phmsa-provides-guidance-for-transporting-ebola-contaminated-items) and follow North Carolina Department of Environment and Natural Resources (NC DENR) medical waste regulations (http://portal.ncdenr.org/c/document_library/get_file?uuid=a480601a-32fc-4bba-ad58-cf49503bd227&groupId=38361).

Under 10A NCAC 41A.0201, the Division of Public Health considers that all potentially contaminated materials should be treated in the same manner as regulated medical waste.

A governmental agency shall oversee the cleaning and decontamination process. OSHA guidelines for PPE shall be followed when entering the residence to oversee the work.

Post Event:

Once the Local Health Department has determined that the case's residence is appropriate to reoccupy, the quarantine order may be lifted. The Local Health Department shall inform local law enforcement when this has occurred.

Conclusion:

If additional resources are required, please request through Local Emergency Management or contact North Carolina Emergency Management at 800-858-0368.

This guidance will be updated as needed. For further information, contact the North Carolina Division of Public Health at 1-844-836-8714.

¹Residence Assessment Checklist, attached.

²Site Quarantine Order, attached.

³ N.C. DHHS has worked with N.C. Emergency Management to identify contractors with training, knowledge, skills, and abilities for biological decontamination and willing to work with Ebola.

Residence Assessment Checklist

This checklist is intended to provide additional detail to support the Local Heath Department (LHD) and their authorized representatives in the clean-up and decontamination of residences. The decision to quarantine people and secure the property is based on Communicable Disease Branch guidance. However, the decision to proceed with the clean-up and decontamination of the home is based on the presence of **a Person Under Investigation or confirmed Ebola case** in the home. If the person with Ebola had a fever AND diarrhea, vomiting, or bleeding; the residence should be decontaminated by a contract company.

Pre-work

- It is important that property owners and occupants are consulted by the Local Health Department to assist in the identification of areas frequented by the patient and materials that may be contaminated. This information is important in the development of the site specific safety plan and to prevent destruction of property that poses no risk for transmission of infection.
- The Local Health Department should confirm the type (centralized/septic) of wastewater treatment system.
 - o If a centralized system, the sewer system authority should be notified
 - o If a septic system, the system configuration and function should be assessed
 - o A malfunctioning system (surface pooling, etc.) may necessitate additional contact tracing.
- Site specific plan is prepared by the contractor and reviewed by the local health department. The plan must include:
 - o Information gained based on case history and household activity patterns by the Local Health Department
 - O Assessment of areas where the case had possible contact (e.g., bedroom, bath, kitchen, living room) while potentially infectious. Identification of areas and materials that are contaminated with feces, vomit, or blood
 - o Description of clean-up and specific disinfection methods including any secondary disinfection processes.
 - Ventilation system issues (heating, cooling) or need for supplemental ventilation are considered. The methods of disinfection may impact the existing systems
- Training documentation provided for site personnel (e.g., blood borne pathogens, HAZWOPER, Personal Protective Equipment, etc.).
- Contractor Insurance (worker comp, vehicle, liability, bond, etc.) documentation provided to the Local health Department.
- Waste transporter (if different from remediation contractor) identified, and insurance documents provided to the Local Health Department.
- Disposal site is identified, approved, and has agreed to accept waste. The disposal site should have developed processes to manage the handling of the waste materials. Documentation is provided to the Local Health Department.

Site setup

- A designated person is assigned by the contractor to manage the cleanup, decontamination, and disinfection of the site. Primary and alternate contacts are provided to the Local Health Department.
- The contractor has assigned a designated safety officer with the knowledge and skills to recognize potential hazards and the authority to correct hazards encountered.
- Decontamination and waste load out areas properly set up.
- Access, egress, and load-out issues adequately planned for existing conditions (e.g., multi-story building).
- Access to work areas restricted to personnel working on the cleanup process.
- Warning signs posted at work entry points.
- Site safety hazards identified and mitigated.
- Daily site sign-in/sign-out system is in place for personnel entering the restricted areas.

Clean-up and Decontamination Activities

- Appropriate personal protective equipment (PPE) is used (gloves, goggles and/or face shields, fluid resistant or impermeable clothing, respirators, and appropriate foot protection).
- Centers for Disease Control (CDC) recommended donning and doffing procedures for personal protective equipment are followed. The donning/doffing procedures are supervised to ensure conformance with proper sequence.
- Hands are washed with soap and water after PPE doffing sequence is complete.
- Bulk spill matter is disinfected prior to cleaning.
- Bulk spill matter is removed using techniques that minimize aersolization of the material.
- Clean and disinfect all high contact non-porous surfaces (e.g., walls, floors, sinks, counters).
- Porous surfaces and materials:
 - o Obvious soiled materials (linens, towels, clothing, carpets) are discarded as contaminated waste.
 - Other porous materials (mattress, carpeting, clothing, etc.) that were contaminated with potentially infectious fluids (vomit, feces, and/or blood) should be discarded as contaminated waste.
- All disinfection activities are performed using U.S. Environmental Protection Agency (EPA) registered disinfectant suitable for non-enveloped viruses (such as norovirus) following label instructions. The specific disinfectant used should be documented.
- PPE is appropriate for specific disinfectants selected and is appropriately used.
- Tools are used as much as possible during the cleaning process to prevent glove damage.

- Work practices that minimize the generation of aerosols are used.
- All contaminated waste is double bagged, properly labeled, and placed in leak proof containers. The bags must meet ASTM D1922 (tear resistance) and ASTM D1709 (impact resistance) per DOT regulations.
- Large items that are contaminated (e.g., furniture, mattresses) are disinfected and double wrapped in polyethylene. The open ends of the sheets should be twisted closed and seams sealed with 2 wraps of duct tape. If the article is too large to package in a salvage drum, it should be sealed in a third layer of 6 mil polyethylene (see DOT-SP 16279 dated Oct 16, 2014).
- Decontamination areas, waste load out, and waste storage areas must be secured to prevent unauthorized entries.
- If any skin contact with contaminated material occurs, the skin should be immediately washed with soap and water. Mucus membranes should be flushed with water for several minutes.
- Public Health officials should be notified immediately of any exposure incident (e.g., needle stick, exposed skin) in order to assess the need for quarantine or other measures. Incident reports and corrective actions are completed for any exposure incidents. The reports should be completed and shared with the local health department as soon as possible.

Site Release

- Verification of cleaning and disinfection must be performed by Local Health Department representative before removal of decontamination units.
- The Local Health Department determines if the site can be released based on adherence to protocols, observations, and the
 documentation provided by the contractor. The disassembly of decon units and load-out areas cannot proceed without prior
 approval by the Local Health Director.

Waste Storage, Transport, and Treatment

- Waste must be stored in a manner that maintains the integrity of the packaging.
- Access to storage areas is limited to authorized personnel.
- Waste packaging must be labelled in accordance with DENR Medical Waste Guidelines for Non-medical settings.
- No rental vehicles used to transport waste without written consent of the vehicle's owner.
- Proper personal protective equipment worn during the loading and unloading process.
- Transport vehicles must be tracked and secured at all times during the transportation process.
- A contingency plan was prepared and maintained on transport vehicles (15A NCAC 13B.1205).
- Waste shipment records (amount, date, transporter, acceptance date and signature of disposal site) must be provided to the Local Health Department.
- Appropriate permits obtained (N.C. Department of Transportation, N.C. Department of Environment and Natural Resources, etc).
- Regulated waste must be delivered to the treatment facility within seven days of shipment.
- Vehicles must be cleaned and disinfected (EPA registered disinfectant) after transportation of the waste.
- The regulated waste treatment facility meets DENR requirements for treatment of regulated medical waste. The appropriate treatment documentation is submitted to the local health department.
- The disposal (landfill) site meets DENR requirements. Documentation (permits, trip tickets, etc.) is provided to the Local Health Department.

Other Considerations

- Patient vehicles may be contaminated.
- Multi-story buildings and implications for adjoining apartments. For example, the use of stair wells or elevators by contractor may create life safety issues if the exits are no longer available to residents.
- Common areas in apartment complexes (such as hall corridor, building entrance door, etc.) with possible case contact.

EBOLA QUARANTINE ORDER: CONTAMINATED SITE

The site identified in detail	below may be contaminated with the Ebola virus. Ebola virus	causes a severe disease characterized by
fever, severe headache, mus	scle pain, weakness, diarrhea, vomiting, and stomach pain. Sym	nptoms may appear anywhere from 2 to 21
days after exposure to Ebol	a virus, although 8-10 days is most common. Ebola is transmit	tted by direct contact with the blood or body
fluids (like urine, feces, sali	iva, vomit, sweat, and semen) of an infected person or by expos	sure to objects that have been contaminated
by these fluids. If Ebola spr	reads in the community, it would have severe public health cons	sequences.
I,	, Health Director of	County pursuant to
	General Statute (G.S.) 130A-145, issue this QUARANTINE OR	
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REQUIREMENTS OF THIS ORDER

- You must comply with this order until the risk of infection at the site has been eliminated and completion of the decontamination process has been accepted by the local health department.
- During this time, no person other than a person authorized by the local health director shall enter the quarantined site.

Any person that fails to comply with this QUARANTINE ORDER is subject to prosecution pursuant to NC law (G.S. 130A-25). Failure to comply is punishable by up to two (2) years imprisonment.