Ebola Virus Disease

Directive #1 – Revised October 30, 2014

THIS DIRECTIVE REPLACES DIRECTIVE #1 ISSUED ON OCTOBER 17, 2014. DIRECTIVE #1 ISSUED ON OCTOBER 17, 2014 IS REVOKED AND THE FOLLOWING SUBSTITUTED:

Issued under Section 77.7 of the Health Protection and Promotion Act, R.S.O. 1990, c. H.7 ("HPPA")

WHEREAS under section 77.7(1) of the HPPA, if the Chief Medical Officer of Health ("CMOH") is of the opinion that there exists or there may exist an immediate risk to the health of persons anywhere in Ontario, he or she may issue a directive to any health care provider or health care entity respecting precautions and procedures to be followed to protect the health of persons anywhere in Ontario;

AND WHEREAS, under section 77.7(2) of the HPPA, for the purposes of section 77.7(1), the CMOH must consider the precautionary principle where in the opinion of the CMOH there exists or there may exist an outbreak of an infectious or communicable disease and the proposed directive relates to worker health and safety in the use of any protective clothing, equipment or device.

AND HAVING REGARD TO Ebola Virus Disease (EVD), associated with a high fatality rate, and is currently spreading in three countries in West Africa and is at risk of spreading to Canada and to Ontario - health care workers in acute care institutions being particularly at risk.

I AM THEREFORE OF THE OPINION that there exists or may exist an immediate risk to the health of persons anywhere in Ontario from EVD;

AND DIRECT pursuant to the provisions of section 77.7 of the HPPA that:

Precautions and Procedures for Acute Care Settings

Date of Issuance: October 30, 2014

Effective Date of Implementation: October 30, 2014

Issued To*:

- ❑ Public Health Units
- ❑ Emergency Medical Services (pre-hospital care), CritiCall
- ❑ Laboratories

All facilities/personnel providing care in:

- X Acute Care Institutions
- ❑ Long-Term Care and Complex Continuing Care Settings
- ❑ Mental Health Institutions
- ❑ Community Settings (offices, clinics, pharmacies, home settings, community-based mental health and addiction programs, Community Health Centres, Community Care Access Centres)

❑ Specific sector(s): _____

* Please ensure that a copy of this directive is provided to the Co-chairs of the Joint Health & Safety Committee within your organization

Affected Local Health Integration Networks:

X All

❑ Erie St. Clair	❑ Central
❑ South West	❑ Central East
❑ Waterloo Wellington	❑ South East
❑ Hamilton Niagara Haldimand Brant	❑ Champlain
❑ Central West	❑ North Simcoe Muskoka
❑ Mississauga Halton	❑ North East
❑ Toronto Central	❑ North West

Summary

Ebola virus disease (EVD) is associated with a high fatality rate, and is currently spreading in West Africa. Although the risk in Canada is very low, Ontario's health care system must be prepared for persons with the disease, or incubating the disease, entering the province.

In Ontario, those most at risk are health care workers (HCW) and individuals recently returned from affected countries/areas in West Africa. As of October 30, 2014, the affected countries/areas are Guinea, Liberia, Sierra Leone and Democratic Republic of Congo[1].

The Ministry of Health and Long-Term Care has designated 11 hospitals to treat confirmed cases of EVD.[2] These 11 designated hospitals must be prepared to manage suspect[3] and confirmed cases of EVD. Other hospitals in Ontario must be prepared to manage suspect cases of EVD – as a suspect case could present at any hospital in Ontario.

This Directive provides instructions to acute care settings, and their management and employees, concerning precautions and procedures necessary to protect the health of workers and significantly reduce the risk of spreading the disease.

This Directive covers precautions and procedures specifically related to EVD in acute care settings. Further directives and guidance for other settings, including emergency medical services, primary health care settings and laboratories, will follow. The CMOH will also issue directives concerning training, waste disposal and other matters.

Symptoms of Ebola Virus Disease

The symptoms of EVD include:

- fever (38^{o}C or greater)
- severe headache
- muscle pain
- diarrhea
- vomiting
- sore throat
- abdominal pain
- unexplained bleeding

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[1] The countries/areas currently affected by EVD are maintained on the Ministry of Health and Long-Term Care's EVD Website at www.ontario.ca/ebola.

[2] As of October 30, 2014, the ministry has designated two paediatric and nine adult hospitals. These hospitals are the Children's Hospital of Eastern Ontario, Hospital for Sick Children, Hamilton Health Sciences, Health Sciences North, Thunder Bay Regional Health Sciences Centre, Kingston General Hospital, London Health Sciences Centre, The Ottawa Hospital, St. Michael's Hospital, Sunnybrook Hospital and University Health Network's Toronto Western Hospital.

[3] A suspect case is also known as a person under investigation. The term suspect case is used in this Directive.

Precautions and Procedures

Risk Assessments

Transmission of EVD can occur:

- directly through contact with blood and/or other body fluids or droplets
- indirectly through contact with patient care equipment, materials or surfaces contaminated with blood and/or other body fluids
- possibly through generation of aerosols created during aerosol-generating procedures

Employers must conduct a risk assessment to identify HCWs that may be at risk of exposure to a patient with suspect or confirmed EVD and/or that patient's environment or waste. Employers should work in collaboration with the Joint Health & Safety Committee and Health & Safety Representative (if any) to determine the appropriate measures required to control the risk of infection with EVD.

HCWs must conduct a point of care risk assessment before each interaction with a patient and/or the patient's environment or waste to evaluate the likelihood of exposure to an infectious agent/infected source and to choose the appropriate safe work practices. Employers should ensure that HCWs are incorporating the latest EVD-related occupational health and safety (OHS) and infection prevention and control (IPAC) directions from the Chief Medical Officer of Health into their point of care risk assessments, including any enhancements to personal protective equipment (PPE) controls.

Restricting Access

Hospitals should use the risk assessment process to determine administrative controls to restrict access points and control flow through hospital. Hospitals should direct patients seeking care at the emergency department (ED) through a single entrance to facilitate screening/triage on entry to the ED.

Patients Presenting at Outpatient Clinics

Patients presenting at outpatient clinics in acute care settings should be asked about travel in the past 21 days to a country/area affected by EVD and symptoms compatible with EVD. If there is a concern, the patient must be transferred to the ED.

Reception staff in outpatient clinics should continue to follow usual routine practices and additional precautions to inform the selection of appropriate PPE. Specific PPE for these HCWs is not recommended in this Directive.

Routine Practices

In some cases, patients with EVD may not be recognized immediately. The consistent and appropriate use of routine practices remains the best defense against the transmission of EVD and other infections. Routine practices include the use of hand hygiene, cleaning and decontamination of all shared equipment, regular environmental cleaning using an approved hospital grade disinfectant, meticulous attention to safety around the use of needles and sharps, and a complete and careful point of care risk assessment performed prior to every patient encounter.

In general, the precautionary principle should be applied.

Screening/Triage

Patients presenting at the ED must be screened for EVD.

Hospitals should post signs at all entrances asking patients about travel in the previous 21 days to affected countries/areas and symptoms compatible with EVD.[4] Patients meeting both criteria should be instructed to use alcohol-based hand rub, put on a surgical mask and proceed immediately to the screening/triage area.

At the screening/triage area in the ED, a HCW must ask patients about travel in the past 21 days to a country/area affected by EVD and symptoms compatible with EVD. Hospitals should have a suitable structural barrier in place to protect HCWs conducting screening/triage.

When **protected by a suitable structural barrier**[5], HCWs conducting screening/triage must have ready access to the following PPE[6]:

- a fit-tested N95 respirator
- full face shield
- gloves with extended cuffs
- fluid-resistant gown

HCWs must don this PPE immediately upon the identification of a suspect case.

HCWs conducting screening/triage **not protected by a suitable structural barrier** must wear the PPE described above at all times.

Any patient identified as a suspect case must be instructed to wear a surgical mask.

Following the identification of a suspect case, the screening/triage area must be closed off, cleaned and decontaminated (see section on Cleaning and Decontamination).

Patient Testing and Placement

Suspect case

Patients who have travel history and symptoms compatible with EVD must be immediately escorted from the screening/triage to a single patient room with a dedicated washroom[7],

[4] Sample signage will be available on the Ministry of Health and Long-Term Care's EVD Website at www.ontario.ca/ebola.

[5] A suitable structural barrier must meet the following criteria: impermeable, transparent, easily cleaned and decontaminated, allows for two-way communication, and is of sufficient height and breadth to prevent physical contact and passage of droplets/splash/spray. Examples of a suitable structural barrier include a (Plexi)glass/transparent panel or a closed booth with capacity for verbal communication between the HCW and patient. Hospitals should use the risk assessment process to determine appropriate controls for the screening/triage area, including assessing the suitability of any existing structural barriers.

[6] An algorithm to support decision-making on the selection of PPE for HCWs conducting screening/triage will be available on the Ministry of Health and Long-Term Care's EVD Website at www.ontario.ca/ebola.

[7] If a single patient room with a dedicated washroom is not possible, hospitals can use a single patient room with a dedicated commode.

separate from other patients. If available, an Airborne Infection Isolation Room (AIIR) with negative pressure, an anteroom and a dedicated washroom is preferred.

An infectious disease specialist or other physician must conduct an assessment to determine whether the patient is a suspect case and if EVD testing indicated. This assessment should include a review of the patient's epidemiologic risk factors (e.g., travel history and activities in the affected country/area) and clinical presentation. The local public health unit and Public Health Ontario are available for consultation. The level of suspicion of EVD (based on epidemiologic risk factors and clinical presentation) should determine whether to transfer the suspect case to a designated hospital while laboratory testing results are pending, or to keep the suspect case at the current facility until results are available. Further guidance on the transfer of patients to designated hospitals may be provided by the Ministry of Health and Long-Term Care or the Local Health Integration Network.

HCWs must report suspect and confirmed cases to the local public health unit (see section on Reporting).

Hospitals should minimize the movement of a suspect case within the facility. In determining placement, consideration should be given to ensuring that the suspect case is placed in a room that can accommodate changes in clinical condition.

Confirmed case

For designated hospitals providing care to a confirmed case, the patient must be placed in an AIIR with negative pressure, an anteroom and a dedicated washroom.

Analysis of blood specimens performed on the patient should be done as much as possible at the point of care.

Care of Suspect and Confirmed Cases

Hospitals should limit the number of HCWs that come into contact with suspect and confirmed cases, and non-essential personnel and visitors must be excluded from entry to the patient's room[8].

The patient care area must be monitored at all times. At a minimum, hospitals must log the movement of all HCWs in and out of the patient's room.

Care to suspect and confirmed cases must be provided by at least two registered nurses at all times. The two nurses do not need to be in the room at the same time and all the time – this depends on the patient care activities and the organization's procedures. In some cases, the second nurse may be better placed outside the patient room in order to provide supplies. These nurses must have no other duties while caring for suspect or confirmed cases.

Only HCWs fully trained and tested on precautions and procedures for EVD, including procedures for donning and doffing of PPE, should provide care.

For each HCW that enters the patient's room, a trained observer[9] must closely watch the donning and doffing of PPE to ensure that inadvertent contamination of eyes, mucous

[8] For paediatric cases, a parent/caregiver may be admitted to the patient's room following informed consent and training on the use of PPE and other precautions.

membranes, skin or clothing does not occur. As possible, the observer should watch HCW activities in the patient room (e.g., through a glass-walled critical care unit or video link).

Hospitals must ensure that space and layout allow for clear separation between clean and potentially contaminated areas. Physical barriers must be used where necessary, along with visible signage, to separate distinct areas and ensure a one-way flow of care moving from clean areas (e.g., area where PPE is donned and unused equipment is stored) to the patient room and to the PPE removal area (area where PPE is removed and discarded).

PPE must be removed and disposed of in the anteroom according to the hospital's procedures. If an anteroom is not available, PPE should be removed at the doorway upon exiting the room and discarded in the patient room.

A manager or supervisor must be available on site at all times. This individual must liaise with the OHS team.

Employers have an obligation to ensure HCWs are trained in the use of PPE. Employers must adopt and make available at the point of care procedures for donning and doffing of PPE, and provide training for HCWs on these procedures[10].

Only essential equipment should be taken into the patient room. Medical devices and equipment should be disposable whenever possible. Non-disposable equipment should be dedicated to the patient until the diagnosis of EVD is excluded, the patient is discharged, or the precautions are discontinued. All re-usable, noncritical equipment must be cleaned and decontaminated using an approved hospital-grade disinfectant and according to the manufacturer's instructions prior to re-use on a subsequent patient. Semi-critical and critical equipment should be cleaned and decontaminated to a high-level or sterilized using standard procedures.

Use of needles and sharps should be kept to a minimum and for medically essential procedures only. The requirements of the Needle Safety Regulation (O. Reg. 474/07) under the *Occupational Health and Safety Act* must be met. Extreme care should be used when handling sharps. A puncture-resistant sharps container must be available at point of use.

The risk of transmission of EVD through percutaneous injury is high; therefore, the most experienced HCWs in drawing bloods or starting lines (e.g. IV, arterial) should perform these tasks.

Personal Protective Equipment

HCWs caring for a suspect or confirmed case of EVD and/or entering the case's environment and/or touching anything that may be contaminated with the case's blood or other body fluids must wear:

- fit tested, seal-checked N95 respirator
- full face shield[11]

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[9] The trained observer is in addition to the two nurses providing care. The trained observer is a dedicated HCW with the sole responsibility of ensuring adherence to donning and doffing procedures for PPE.

[10] Resources on appropriate donning and doffing procedures for PPE will be posted at the Ministry of Health and Long-Term Care's EVD Website at www.ontario.ca/ebola.

- double gloves (one under and one over cuff)
- full body barrier protection – the aim should be no exposure of skin, which for example can be achieved by the use of the following components:
  - single use (disposable) impermeable gown that extends to at least mid-calf, single-use (disposable) impermeable boot covers that extend to at least mid-calf, and single-use (disposable) surgical hood

  OR

  - single use (disposable) impermeable coveralls - with an integrated or separate hood and integrated or separate impermeable boot covers
- single-use (disposable) impermeable apron may be selected by the HCW based on the risk of exposure to blood or other body fluids

Aerosol-Generating Procedures[12]

Aerosol-generating procedures on suspect and confirmed cases must be performed in an AIIR with negative pressure, and only if medically necessary.

HCWs must limit the number of staff to the minimum required to perform the procedure safely. Visitors must not be present. Whenever possible, the procedure should be performed by the most highly experienced staff member available.

During an aerosol-generating procedure, all HCWs entering the AIIR must wear:

- powered air-purifying respirator (PAPR) with a hood or a fit-tested, seal-checked N95 respirator[13]with a full face shield[14]
- double gloves (one under and one over cuff)
- full body barrier protection – the aim should be no exposure of skin, which for example can be achieved by the use of the following components:
  - single use (disposable) impermeable gown that extends to at least mid-calf, single-use (disposable) impermeable boot covers that extend to at least mid-calf, and single-use (disposable) surgical hood

  OR

  - single use (disposable) impermeable coveralls - with an integrated or separate hood and integrated or separate impermeable boot covers

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[11] Goggles may be added to the full face shield if preferred by the HCW.

[12] See the Ebola Clinical Care Guidelines (developed by the Canadian Critical Care Society, Canadian Association of Emergency Physicians, and Association of Medical Microbiology & Infectious Disease Canada) for more information on conducting aerosol-generating procures on suspect and confirmed cases.

[13] The decision by the HCW to use a PAPR or a fit-tested, seal-checked N95 respirator should be informed by the assessment of balance of risk among comfort, familiarity with the equipment and risk of contamination during doffing.

[14] Goggles may be added to the full face shield if preferred by the HCW.

- single-use (disposable) impermeable apron may be selected by the HCW based on the risk of exposure to blood or other body fluids

Following the procedure, the environment must be cleaned and decontaminated (see next section on Cleaning and Decontamination).

Cleaning and Decontamination

Blood and all other body fluids from EVD patients are highly infectious. Cleaning of the patient room is important to reduce environmental contamination, which in turn decreases the risk of transmission to HCWs. Safe handling of potentially infectious materials and the cleaning and decontamination of the patient's environment are paramount.

Experienced environmental services staff trained in OHS and IPAC practices and use of PPE should be assigned to perform these tasks. Environmental services staff have the same PPE requirements as other HCWs.

Approved hospital-grade disinfectants used in accordance with the manufacturer's recommendations are sufficient for cleaning the room.

All used cleaning wipes/cloths should be disposed of in leak-proof colour-coded bags/containers, doubled bagged and the outer container wiped with disinfectant before removal from the room.

The frequency of cleaning should be based on the level of contamination with blood and/or other body fluids, and at least daily. Housekeeping equipment should be disposable or remain in the room for the duration of the patient's admission.

Upon discharge of the patient or discontinuation of precautions, discharge/terminal cleaning of the room should follow the recommended practice for discharge/terminal cleaning of a room on Contact/Droplet Precautions. In addition to routine cleaning:

- all dirty/used items (e.g., suction containers, disposable items) should be removed/discarded
- curtains (privacy, window, shower) should be disposed of before starting to clean the room
- everything in the room that cannot be cleaned should be discarded
- fresh cloths, mop, supplies and solutions should be used to clean the room
- several cloths should be used to clean the room
- each cloth should be used one time only
- cloths should not be dipped back into disinfectant solution after use
- all surfaces should be cleaned and disinfected allowing for the appropriate contact time with the disinfectant as per manufacturer's recommendations
- all housekeeping equipment should be cleaned and decontaminated before putting it back into general use

Internal Transportation of Suspect or Confirmed Patients

Suspect and confirmed cases should not leave their room or be transferred internally except for essential medical procedures that cannot be performed in the patient room. Transport staff must be aware of the patient's status and the required PPE. Patients must wear a mask to

contain respiratory droplets during transport. During initial transport from the ED, or during subsequent transport, staff, other patients and visitors should be excluded from the transport pathway wherever possible.

If an internal transfer cannot be avoided, HCWs must ensure that the new room is ready before transfer to minimize time outside of the patient room. HCWs transporting the patient must wear full PPE, discard PPE as they leave the initial room, and put on new PPE before heading into the hallway. Prior to transporting the patient for diagnostic testing, the receiving unit must be fully aware of the patient's impending arrival and must be prepared to perform testing immediately. Patients should be transported using the most direct route to their destination. Following the procedure, the room, equipment and transport device must be cleaned and decontaminated (see section on Cleaning and Decontamination).

Duration of Precautions

For suspect cases, precautions must remain in place until EVD is no longer being considered either based on review of epidemiologic risk and symptoms or appropriately timed negative test results.

For patients recovering from confirmed EVD, precautions must remain in place until all symptoms have resolved and appropriate testing comes back negative. Patients should be assessed on a case-by-case basis in consultation with an infectious disease specialist.

Management of Potentially-Exposed Health Care Workers

Hospitals must develop policies for managing potentially-exposed HCWs. Follow-up of HCWs who are potentially exposed is the role of the hospital's OHS team.

HCWs that had been exposed to a confirmed case, and subsequently develop fever, should:

- not report to work or immediately stop working
- notify their supervisor and OHS team
- seek prompt medical evaluation and testing as clinically indicated
- comply with work exclusion as per their OHS team and local public health unit until they are deemed no longer potentially infectious to others

HCWs with percutaneous, mucous membrane or skin exposures to blood, other body fluids, secretions or excretions from a suspect or confirmed case should:

- stop working and immediately wash any affected skin surfaces with soap and water; for mucous membrane splashes (e.g., conjunctiva) irrigate with copious amounts of water or eyewash solution
- immediately contact a supervisor and the OHS team for assessment and post-exposure management for blood-borne pathogens (e.g., hepatitis B virus, hepatitis C virus, and HIV) as per usual organizational policy

For asymptomatic HCWs who had an unprotected exposure (e.g., not wearing recommended PPE at the time of patient contact or through direct contact with blood or other body fluids) to a confirmed case and/or the confirmed case's environment or waste

- These HCWs should receive medical assessment and be advised to check their temperature twice daily and monitor for other symptoms compatible with EVD.

- These HCWs should be advised to report fever greater than 38^0C or other symptoms compatible with EVD immediately to their OHS team and local public health unit, and to self-isolate.
- The local public health unit should follow-up with HCWs for 21 days from their last exposure to discuss potential symptoms and document fever monitoring checks; the hospital may choose to do additional monitoring as well.
- The public health unit should advise on any restrictions regarding activities and travel for 21 days from the HCW's last exposure.
- These HCWs should not have patient contact for 21 days from their last exposure.

For asymptomatic HCWs who had protected exposure (e.g., wearing recommended PPE at all times) to a confirmed case of EVD and/or the case's environment or waste

- The hospital's OHS team, in partnership with the local public health unit, should monitor HCWs while they are providing care to the confirmed case and for 21 days from their last exposure.

Communications

Internal Communications

The hospital's OHS and IPAC teams must be notified about any suspect or confirmed cases immediately. Laboratory management and microbiologists must be contacted prior to the collection of any specimens. In addition, administrative leadership and public relations must be notified, as EVD can generate significant media interest. A strategy for internal communications within the organization to reach all staff is important. Easy access to updated policies, procedures, fact sheets and Questions and Answers geared to varied educational and language levels are examples of communications methods. Maintaining patient confidentiality in the face of media interest is a challenge. HCWs should be reminded of their legal responsibilities under the *Personal Health Information Protection Act*.

External Communications

Hospitals caring for suspect and confirmed cases should have a communications plan in place to deal with media interest while ensuring patient confidentiality.

The Ministry of Health and Long-Term Care will activate the Ministry Emergency Operations Centre (MEOC) to coordinate and direct the health system's response in the event of a confirmed case of EVD in Ontario. As part of this coordination, the MEOC supports health system partners to implement a coordinated communications strategy.

Reporting

Viral Hemorrhagic Fevers, including EVD, are designated as reportable diseases in Ontario. As per subsection 25(1) and subsection 27(1) of the *Health Protection and Promotion Act* (HPPA), physicians, health care practitioners and hospitals administrators are required to report to the medical officer of health of the public health unit in which professional services are being provided, any patient who has or may have a reportable disease such as EVD. Therefore, any patient being investigated for EVD must be reported to the appropriate medical officer of health.

Those reporting a patient who has or is under investigation for EVD are required to provide the medical officer of health with the patient's full name and address, date of birth, sex and date of onset of symptoms. In addition, physicians and HCWs described in HPPA subsection 25(2) are required to provide the information regarding the patient who has or is under investigation for EVD to the medical officer of health as specified in section 5, paragraph 4 of Ontario Regulation 569 (Reports) under the HPPA.

Following receipt of a report of a suspect case of EVD, the public health unit must notify Public Health Ontario immediately by phone.

Once notified, Public Health Ontario notifies the Public Health Agency of Canada and Ministry of Health and Long-Term Care.

The Public Health Agency of Canada contacts the international public health authorities under the International Health Regulations.

Questions

HCWs and health sector employers may contact the Ministry of Health and Long-Term Care's Health Care Provider Hotline by phone at 1-866-212-2272 or by email at emergencymanagement.moh@ontario.ca with questions or concerns about this Directive.

Health workers and health sector employers are also required to comply with applicable provisions of the *Occupational Health and Safety Act* and its Regulations.

David L. Mowat, MBChB, MPH, FRCPC

Interim Chief Medical Officer of Health