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MERS-CoV Update: further expansion of case count in South Korea

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Dear Colleagues,

SUMMARY

- Since our last bulletin a few days ago, there has been a doubling of the number of laboratory-confirmed cases of MERS-CoV (n=25) associated with the recent nosocomial cluster in South Korea.
- Risk for Canadians overall is unchanged and remains low.
- Foremost relevance of this cluster is in underscoring the continued potential for local nosocomial amplification following MERS-CoV importations from affected areas, reminiscent of SARS-CoV in 2003.
- Heightened clinician awareness remains critical, including the following key measures in emerging respiratory virus response:
 1. Elicit travel history for possible links to affected areas in the 14 days prior to illness onset among patients presenting with severe acute respiratory illness (SARI).
 2. Promptly implement respiratory precautions for suspect cases, including respiratory isolation with contact and droplet precautions; airborne precautions are warranted in the event of aerosol-generating procedures or conditions. Be mindful of the protection of patients and visitors in addition to healthcare workers.
 3. Report all suspect cases to the local Medical Health Officer immediately for guidance and further public health follow-up.
 4. Consult with a virologist or microbiologist at the BC Public Health Microbiology and Reference Laboratory (PHMRL) to arrange advance notification and direct shipping of diagnostic specimens.

Details are provided below.

A. Update

There has been a doubling of the number of laboratory-confirmed MERS-CoV cases associated with the nosocomial cluster in South Korea, increasing to 25 cases (including two deaths thus far) from the 12 cases reported in our last bulletin to you a few days ago (May 29). This tally includes 15 males and 10 females, all adults with median age of 50 years, consistent with prior MERS-CoV profiles. It includes one exported case from South Korea to Guangdong China (via Hong Kong), previously reported to you, and the first two tertiary (i.e. third-generation) cases of MERS-CoV illness.

The index case in this cluster was an elderly man who was hospitalized in South Korea after returning from travel to several countries in the Middle East. However, the remaining cases all have links to

healthcare settings and include healthcare workers but also other patients hospitalized on the same ward as the index, as well as visitors of sick family members on that ward.

B. Risk Assessment

This healthcare-associated cluster of MERS-CoV in South Korea does not alter the overall risk for Canadians, which remains low. There remains no evidence of easy or sustained person-to-person, community-based spread. Although MERS-CoV has caused severe human infections resulting in high mortality and has previously demonstrated the ability to transmit between humans, so far that transmission has occurred either in a household, work environment or health care setting.

This event is foremost relevant in underscoring the potential for local nosocomial amplification following MERS-CoV importations from affected areas, reminiscent of SARS-CoV in 2003 and other more recent hospital-based outbreaks of MERS-CoV in Saudi Arabia. At this stage we cannot ascribe unique virologic, host, behavioural or environmental features to explain the nosocomial amplification in South Korea.

The WHO does not advise special screening at points of entry nor does it currently recommend the application of any special travel or trade restrictions related to MERS-CoV. Travel health precautions recommended by the Public Health Agency of Canada (PHAC) related to MERS-CoV, can be found here: <http://www.phac-aspc.gc.ca/tmp-pmv/notices-avis/notices-avis-eng.php?id=108>

C. Action and Advice for Clinicians

Action and advice for clinicians is unchanged. Heightened clinician awareness and the following measures remain key in mitigating the risk of local amplification:

- 1. Elicit travel history for possible links to affected areas in the 14 days prior to illness onset among patients presenting with severe acute respiratory illness (SARI).**
 - a. For a list of MERS-CoV cases by country from March 2012 to May 30, 2015 see the latest ECDC epidemiological update, available here: http://ecdc.europa.eu/en/press/news/_layouts/forms/News_DispForm.aspx?ID=1228&List=8db7286c-fe2d-476c-9133-18ff4cb1b568&Source=http://ecdc.europa.eu/en/Pages/home.aspx
 - b. This indicates an official total of 1172 cases and 479 deaths (per case fatality: 41%) globally of which 1010 (86%) cases and 442 deaths have accrued in Saudi Arabia alone.
 - c. In probing for links to affected areas, clinicians are asked to consider direct travel history but also contact with someone with such history abroad. Recall that the index patient associated with the large SARS-CoV outbreak in Toronto in 2003 did not have direct travel links to the affected area. He was a second generation case locally infected in Canada by his mother (patient zero) who had traveled abroad but who became ill and died at home. When the index case (son) presented to hospital, his indirect link to the affected area was not recognized by the healthcare system. For this SARS-related reminder and lesson, see: http://wwwnc.cdc.gov/eid/article/12/1/05-0327_article
- 2. Promptly implement respiratory precautions for suspect cases including respiratory isolation with contact and droplet precautions; airborne precautions are warranted in the event of aerosol-generating procedures or conditions.**
 - a. Until more is understood about MERS-CoV, airborne precautions may also be warranted where the index of suspicion is raised (e.g. because of contact with a confirmed case/cluster or comorbidity or other clinical features that may influence likelihood of MERS-CoV transmission).

- b. People with diabetes, renal failure, chronic lung disease and immunocompromised persons are considered to be at high risk of severe disease from MERS-CoV infection; this may also influence viral load and/or shedding.
 - c. Recall that the only instance of indigenous transmission of SARS-CoV in British Columbia in 2003 was in a healthcare worker who had not used eye protection during the care of a confirmed case. Healthcare workers are reminded of the importance of eye protection. For this SARS-related reminder and lesson see: http://wwwnc.cdc.gov/eid/article/12/1/05-0327_article
 - d. Facilities should be mindful of the protection of other patients and visitors, in addition to healthcare workers, to minimize nosocomial transmission and risk.
- 3. Report all suspect cases to the local Medical Health Officer immediately for guidance and further public health follow-up.**
- 4. Consult with a virologist or microbiologist at the BC Public Health Microbiology and Reference Laboratory (PHMRL) to arrange advance notification and direct shipping of diagnostic specimens.**
- a. Limited evidence suggests that upper airway (nasopharyngeal or throat) swabs may not be as sensitive for diagnosis as lower respiratory specimens. Lower respiratory specimens such as sputum, endotracheal aspirate or bronchoalveolar lavage should be considered where relevant and clinically indicated, in consultation with the PHMRL and local MHO.
 - b. Adhere to rigorous infection prevention and control measures when collecting respiratory specimens.
- 5. Consult helpful links to stay up to date between bulletins:**
- a. World Health Organization (WHO) Updates/Disease Outbreak News: <http://www.who.int/csr/don/en/>
 - b. Public Health Agency of Canada (PHAC) guidance for the public and health professionals: <http://www.phac-aspc.gc.ca/eri-ire/coronavirus/index-eng.php>
 - c. ECDC updates: <http://ecdc.europa.eu/en/healthtopics/coronavirus-infections/Pages/index.aspx> and http://ecdc.europa.eu/en/healthtopics/coronavirus-infections/Pages/news_and_epidemiological_updates.aspx
 - d. US CDC MERS-CoV information: <http://www.cdc.gov/coronavirus/mers/>
 - e. Prior bulletins of the BCCDC: <http://www.bccdc.ca/dis-cond/DiseaseStatsReports/EmergingRespiratoryVirusUpdates.htm>

Best wishes,
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