MIDDLESEX-LONDON HEALTH UNIT

REPORT NO. 074-13

TO: Chair and Members of the Board of Health

FROM: Christopher Mackie, Medical Officer of Health

DATE: 2013 May 16

H7N9 INFLUENZA AND NOVEL CORONAVIRUS – EMERGING INFECTIONS AND THE HEALTH UNIT'S ROLE

Recommendation

It is recommended that Report No. 074-13 re "H7N9 Influenza and Novel Coronavirus – Emerging Infections and the Health Unit's Role" be received for information.

Key Points

- H7N9 influenza is a new strain of influenza causing human infection in eastern China. From February 19, 2013, when the first identified case occurred, to May 2, 2013, 128 cases have been reported, of whom 26 have died.
- In a separate outbreak of a different virus, the novel coronavirus has resulted in infection in five countries since April 2012. This virus is from the same family of viruses that caused the SARS outbreak and has resulted in 30 cases as of May 6, 2013, of whom 18 have died.
- While no cases of either virus have been reported in Canada as of May 6, 2013, the Health Unit is involved in monitoring these international outbreaks, providing information to local health care providers, and preparing for a local response should this be required.

Overview

Infections and outbreaks that arise around the world are monitored closely by national, provincial and local public health officials. This report will provide a brief overview of the recent H7N9 influenza and the novel coronavirus outbreaks, and describe the Health Unit's responses.

H7N9 Influenza

H7N9 influenza is a new strain of influenza affecting humans. The first case developed symptoms on February 19, 2013 in eastern China and was first reported internationally on March 31, 2013 when three cases had been identified. As of May 2, 2013, 128 cases have been reported, of whom 26 have died.

The outbreak remains confined to eight adjacent provinces and two municipalities in eastern China. One person with the infection was identified in Taiwan but acquired their infection in eastern China. The virus appears to be causing severe illness as indicated by the fact that 20% of infected individuals have died, although some milder infections have also been reported.

It is suspected that the H7N9 virus is spreading to people from infected poultry, in part related to live bird markets; however this spread may be occurring indirectly as not all infected individuals have known contact with poultry or live bird markets. The virus does not appear to be resulting in sustained spread from one person to the other, although there have been reported clusters of cases in three families where limited transmission may have occurred. The conclusion that the virus is not easily spread from one person to another is based on the follow-up of almost 1700 people who have had close contact with those who are

infected; almost no H7N9 infections among these close contacts have been identified. As well, lack of efficient human-to-human spread is indicated by the fact that the virus has infected only a very small number of people relative to the population size in the affected areas. There is concern that the H7N9 virus will develop the ability to be efficiently spread from person-to-person. However, it is not possible to determine if, or when, this will occur.

Unlike past influenza infections from birds (e.g., H5N1 influenza), the H7N9 strain does not cause symptoms in birds. Testing of 68,060 birds from affected areas has identified only 46 infected birds (chicken, ducks and pigeons) as of April 26, 2013. Control measures in China have included closing live bird markets in numerous cities and culling birds from live bird markets where infected birds have been identified.

Based on recommendations from the Ministry of Health and Long-Term Care, travelers returning from China with respiratory symptoms compatible with influenza should be tested to determine if they may have the H7N9 virus. Information regarding the virus, diagnosis, treatment and reporting have been distributed to local health care providers by the Health Unit.

Additional information can be found on the following web pages:

- Ministry of Health and Long-Term Care
- Public Health Agency of Canada
- World Health Organization

Novel Coronavirus

The novel coronavirus is from the same family of viruses that caused the SARS outbreak in 2003. The novel coronavirus was first identified in September 2012 in two patients, one from Saudi Arabia who became ill in June and the other from Qatar who became ill in September. In looking back at a cluster of 11 ill individuals from Jordan in April 2012, two additional patients with the virus were identified. As of May 6, 2013, 30 confirmed cases of human infection have been reported, of whom 18 have died. These cases have been identified from five countries (United Arab Emirates, United Kingdom, Jordan, Qatar, Kingdom of Saudi Arabia). Thirteen of these cases have occurred since April 14 in the same eastern area of Saudi Arabia and have resulted in eight deaths.

The novel coronavirus causes severe respiratory and kidney problems. The virus is closely related to a virus found in bats, however, it is currently unclear how it is spreading to people. Although it does not appear that the virus can easily spread from person-to-person, a few family clusters have been identified including a family cluster in the United Kingdom. This finding indicates that the virus can spread among people with substantial close contact. The source of infection for the 13 recent cases appears to be related to transmission within a health care facility, although the exact mechanism of spread is still under investigation.

Additional information can be found on the following web pages:

- Ministry of Health and Long-Term Care Health
- Public Health Agency of Canada
- World Health Organization

The Health Unit's Response to these International Outbreaks

The Health Unit's response to these international outbreaks consists of the following:

- Monitoring the information as it becomes available, including the websites listed above. In addition, a listserve called ProMED provides regular email updates on evolving infectious diseases;

- Participate on Ministry of Health and Long-Term Care teleconferences designed to ensure all Ontario health units are adequately informed of the situation and are aware of the response that is expected in Ontario;
- Communicate information to local health care providers through two listserves that reach over 800 health care providers. Alerts and updates that are sent to health care providers are subsequently posted on the Health Unit's web site.
- Prepare for a local response should this be required.

Conclusion

International outbreaks, such as the recent H7N9 influenza and novel coronavirus outbreaks, are monitored closely to determine the local implications. Relevant information is communicated to local health care providers through two listserves and the Health Unit's website.

This report was written by Dr. Bryna Warshawsky, Associate Medical Officer of Health and Director, Oral Health, Communicable Disease & Sexual Health Services.

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This report addresses the following requirement(s) of the Ontario Public Health Standards: Infectious Disease Prevention and Control