2014-15 EBOLA VIRUS DISEASE (EVD) OUTBREAK

MONTHLY SUMMARY FOR BC HEALTH PROFESSIONALS

For February 19 to March 18, 2015

OVERVIEW

There has been an ongoing epidemic of Ebola Virus Disease (EVD) in West Africa since March 2014 which originated in Guinea and spread to Liberia and Sierra Leone. Although transmission has remained widespread in both Guinea and Sierra Leone since the beginning of 2015, there has been less geographical distribution of new cases since the week of March 2 to 8. Unknown chains of transmission still pose challenges to the control of EVD in Guinea and Sierra Leone. EVD-related deaths in the community and unsafe burials continue being reported in both countries; however, Sierra Leone has reported decreases in both obstacles since early March 2015. There have been no new cases reported in Liberia since the week of February 16 to 22 for the first time since May 2014. The UK has been declared EVD-free as of March 10.

EVD CASES (as of March 15, 2015)[1]

Overall: 24 701 cases, 10 194 deaths

COUNTRIES WITH WIDESPREAD AND INTENSE TRANSMISSION (West Africa)*

Country	Cases**				
	Total[1]	week to 22 February[2]	week to 1 March[3]	week to 8 March[4]	week to 15 March[1]
Liberia	9 526	1	0	0***	0
Sierra Leone	11 751	63	81	58	55
Guinea	3 389	35	51	58	95

* For more details, including most recent epidemic curves, please see the WHO Situation Report – 18 March at: http://apps.who.int/ebola/en/current-situation/ebola-situation-report; numbers are subject to change as data become available.
**Total includes confirmed, probable and suspected cases; weekly counts include confirmed cases only.
*** Confirmed cases in the four days to 5 March

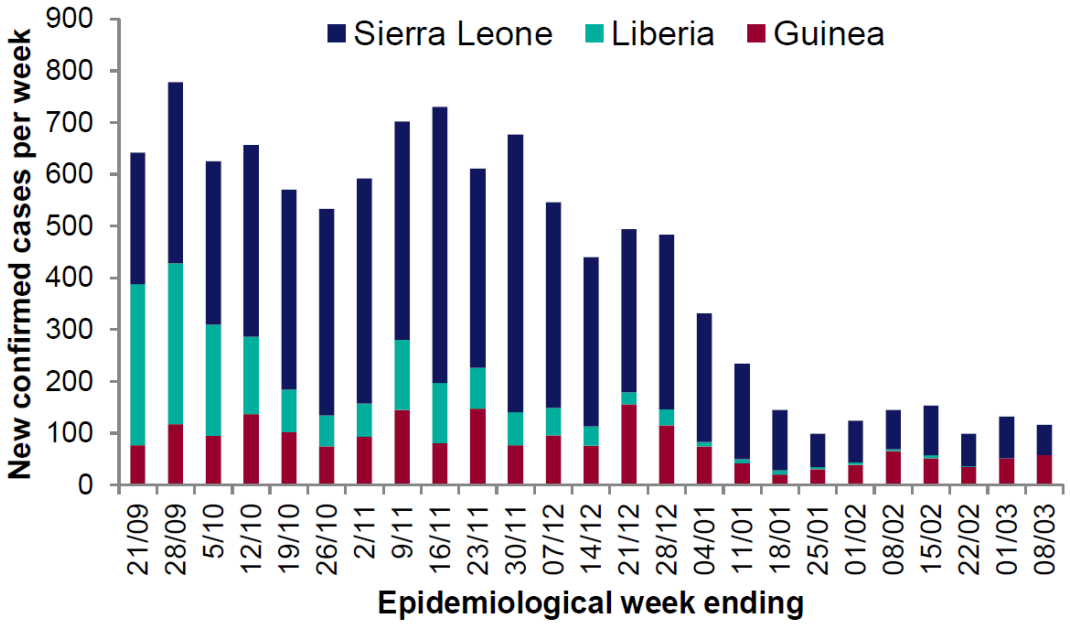

Figure 1. Number of new confirmed cases reported per week (21 September 2014 to 8 March 2015) in countries reporting persistent transmission[5]

INTERNATIONAL CONTROL ACTIVITIES AND FINDINGS

- Liberia has not reported any new cases of EVD since the end of February 2015. The last EVD case in Liberia tested negative for a second time on March 3; all contacts associated with the last known chain of transmission have completed 21-day monitoring.[1] The Rapid Isolation and Treatment of Ebola (RITE) strategy implemented in Liberia was considered successful and is currently being replicated in Sierra Leone and Guinea.[6,7]
- The United Kingdom was declared EVD free by the WHO on March 10 after a returning healthcare worker diagnosed with EVD in December 2014 tested negative for a second time on January 23, 2015.
- The U.S. Centers for Disease Control and Prevention (CDC) has published a training toolkit for Preparing Healthcare Workers to Work in Ebola Treatment Units in Africa which allows organizations to replicate the CDC's training course for preparing healthcare workers to work in Africa. In addition, Interim Guidance on Implementing Home Monitoring of People Being Evaluated for EVD has been posted which advises on how to assess and manage people who have had a low (but not zero) risk exposure for Ebola and do not meet criteria for required medical evaluation, have a diagnosis consistent with alternative diagnoses or who not require hospitalization while being monitored. Information for Families and Loved Ones of Responders outlines what is to be expected before, during, and after deployment.[8]
- On February 27, the National Institute of Allergy and Infectious Diseases (NIAID) announced the launch of a clinical trial to evaluate the safety and efficacy of ZMapp as a treatment option for EVD in Liberia and the United States. In addition, the Phase III trial of the VSV-EBOV vaccine, developed by the Public Health Agency of Canada, was launched on March 7 in Guinea and will implement a "ring vaccination" strategy. On March 11, Britain's Wellcome Trust announced the launch of a phase II clinical trial in Sierra Leone of the TKM-Ebola-Guinea treatment, a small interfering RNA (siRNA) therapeutic designed specifically to target the strain of the Ebola virus responsible for the the current outbreak in West Africa.

Publications of interest

- **Comparison of routes for achieving parenteral access with a focus on the management of patients with Ebola virus disease**: A meta-analysis was conducted to compare the reliability, ease of use and speed of insertion of different parenteral access methods. The authors concluded that there was sufficient evidence to support the preferential use of peripheral intravenous if easily achievable; however, the intraosseous and subcutaneous routes are viable alternatives.[9]
- **Clinical predictor of mortality in patients with Ebola virus disease:** An observational cohort study including 89 Ebola patients analyzed the predictor factors of death. The crude mortality rate was 43.8%. Myalgia (OR; 4.04; P=0.02), hemorrhage (OR=3.52; P=0.02), and difficulty breathing (OR= 5.75; P=0.01) were independently associated with death.[10]
- **Reduced vaccination and the risk of measles and other childhood infections post-Ebola**: The Ebola epidemic in West Africa has disrupted health care services, including childhood vaccinations, creating a second public health crisis. Projections suggest that after 6 to 18 months of disruptions, a large connected cluster of children unvaccinated for measles will accumulate across Guinea, Liberia, and Sierra Leone. This pool of susceptibility increases the expected size of a regional measles outbreak from 127,000 to 227,000 cases after 18 months, resulting in 2000 to 16,000 additional deaths (comparable to the numbers of Ebola deaths reported thus far).The authors of this study recommend an aggressive regional vaccination campaign aimed at age groups left unprotected because of health care disruptions.[11]

BRITISH COLUMBIA AND CANADIAN RESPONSE

- The Provincial Ebola Preparedness Task Force and working groups continue to address clinical and public health issues, as well as manage communications. Guidelines are developed in-line with provincial and national recommendations to inform emergency preparedness activities. The following policies and guidelines have been approved and are currently available on the Provincial Health Officer's Ebola Web-Site for B.C. Health Care Providers:
    - B.C. Ebola Virus Disease Transportation Policy
    - B.C. Ebola Virus Disease Guidelines for the Management of Human Remains
- The Task Force is planning a Provincial Ebola Interim Review of planning activities to date, to be held on March 31, 2015.
- BC is conducting surveillance of EVD cases and contacts, including returning travellers. There have been no EVD cases in BC. On March 18, 2015, there were three EVD contacts under public health monitoring. Overall, between August 1, 2014 and March 18, 2015, there have been 39 EVD contacts reported in BC. Three of these developed symptoms; all tested negative for Ebola.

GUIDANCE AND OTHER RESOURCES

National guidance including case definitions, care report form, and public health, clinical care and infection control guidelines: http://www.phac-aspc.gc.ca/id-mi/vhf-fvh/ebola-professionals-professionnels-eng.php
Public Health Agency of Canada travel notices: http://www.phac-aspc.gc.ca/tmp-pmv/notices-avis/index-eng.php
BCCDC Ebola webpage: http://www.bccdc.ca/dis-cond/a-z/_e/Ebola/default.htm
BC Provincial Health Office: http://www.health.gov.bc.ca/pho/physician-resources-ebola.html

REFERENCES

1. World Health Organization. (2015, March18). Ebola Response Roadmap Situation Report Update. Retrieved from: http://apps.who.int/ebola/current-situation/ebola-situation-report-18-march-2015
2. World Health Organization. (2015, February 25). Ebola Response Roadmap Situation Report Update. Retrieved from: http://apps.who.int/ebola/en/ebola-situation-report/situation-reports/ebola-situation-report-25-february-2015
3. World Health Organization. (2015, March 4). Ebola Response Roadmap Situation Report Update. Retrieved from: http://apps.who.int/ebola/current-situation/ebola-situation-report-4-march-2015
4. World Health Organization. (2015, March11). Ebola Response Roadmap Situation Report Update. Retrieved from: http://apps.who.int/ebola/current-situation/ebola-situation-report-11-march-2015
5. Public Health England. (2015, March 13). Ebola Epidemiological Update No. 26: 13 March 2015. Retrieved from: https://www.gov.uk/government/publications/ebola-virus-disease-epidemiological-update
6. Centers for Disease Control and Prevention. (2015, February 20). Press Release: Ebola containment strategy succeeding in Liberia. Retrieved from: http://www.cdc.gov/media/releases/2015/p0220-ebola-containment-strategy.html
7 Kateh, F., Nagbe, T., Kieta, A., Barskey, A., Gasasira, A. N., Driscoll, A., … Nyenswah, T. (2015). Rapid response to ebola outbreaks in remote areas - Liberia, July-November 2014. *MMWR. Morbidity and Mortality Weekly Report, 64*(7), 188–92. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/25719682
8. Centers for Disease Control and Prevention. (2015, March 18). Ebola (Ebola Virus Disease). Retrieved from: http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/whats-new.html
9. Ker, K., Tansley, G., Beecher, D., Perner, A., Shakur, H., Harris, T., & Roberts, I. (2015). Comparison of routes for achieving parenteral access with a focus on the management of patients with Ebola virus disease. *The Cochrane Database of Systematic Reviews*, *2*, CD011386. doi:10.1002/14651858.CD011386.pub2
10. Barry, M., Touré, A., Traoré, F. A., Sako, F.-B., Sylla, D., Kpamy, D. O., … Vanhems, P. (2015). Clinical predictor of mortality in patients with Ebola virus disease. *Clinical Infectious Diseases : An Official Publication of the Infectious Diseases Society of America*. doi:10.1093/cid/civ202
11. Takahashi, S., Metcalf, C. J. E., Ferrari, M. J., Moss, W. J., Truelove, S. A., Tatem, A. J., … Lessler, J. (2015). Reduced vaccination and the risk of measles and other childhood infections post-Ebola. *Science, 347*(6227), 1240–1242. http://doi.org/10.1126/science.aaa3438