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24 September 2014

Dear Medical Superintendent,

### **Updated Scientific Information about Ebola Virus Disease**

We would like to draw your attention to a newly published article which contains updated information on Ebola Virus Disease (EVD) - “Ebola Virus Disease in West Africa — The First 9 Months of the Epidemic and Forward Projections<sup>1</sup>”, published in the *New England Journal of Medicine* (NEJM) by the World Health Organization (WHO) on September 23, 2014.

According to the NEJM article, a total of 4,507 confirmed and probable EVD cases were reported to WHO within a 37-week period between December 30, 2013 and September 14, 2014, as compared to a total of 718 confirmed and probable cases and 289 deaths reported in a one-week period from September 8 to 14, 2014. The WHO Ebola Response Team analyzed data on 3,343 confirmed and 667 probable EVD cases collected in Guinea, Liberia, Nigeria, and Sierra Leone (as of September 14). The results showed that the median age of persons with EVD was 32 years (interquartile range: 21 to 44), and the majority (60.8%) were between 15 and 44 years of age. The mean incubation period was 11.4 days. Approximately 95% of the case patients had symptom onset within 21 days after exposure, which is the recommended period for follow-up of contacts.

The most common symptoms reported included fever (87.1%), fatigue (76.4%), loss of appetite (64.5%), vomiting (67.6%), diarrhea (65.6%), headache (53.4%), and abdominal pain (44.3%). Specific haemorrhagic symptoms were rarely reported (in <1% to 5.7% of patients). “Unexplained bleeding,” however, was reported in 18.0% of cases. The case fatality rate was 70.8% among persons with known clinical outcome of infection. Significant



<sup>1</sup> Full text is available from: <http://www.nejm.org/doi/pdf/10.1056/NEJMoa1411100>

risk factors for death include an age of 45 years or older and a number of general symptoms (diarrhea, conjunctivitis, difficulty breathing or swallowing, confusion or disorientation, and coma) and haemorrhagic symptoms (unexplained bleeding, bleeding gums, bloody nose, bleeding at the injection site, and bleeding from the vagina).

The WHO Team noted that EVD has taken a heavy toll among health care workers (HCW) in Guinea, Liberia, and Sierra Leone. By September 14, 2014, a total of 318 cases, including 151 deaths, had been reported among HCW.

The WHO Team estimated that the current reproduction numbers<sup>2</sup> ( $R$ ) were 1.81 for Guinea, 1.51 for Liberia, and 1.38 for Sierra Leone; the corresponding doubling times were 15.7 days for Guinea, 23.6 days for Liberia, and 30.2 days for Sierra Leone. This means that transmission has to be a little more than halved to achieve control of the epidemic and eventually to eliminate the virus from the human population. The Team estimated that at the current rate of increase, assuming no changes in control efforts, the cumulative number of confirmed and probable cases by November 2 will be exceeding 20,000 cases in total.

The WHO stated that experimental therapeutics and vaccines are unlikely to be available in the quantities needed to make a substantial difference in control efforts even if they are proved to be safe and effective, intensive disease prevention and control measures are therefore important to combat EVD.

Members of the public are advised to avoid unnecessary travel to the affected areas<sup>3</sup>. The updated list of affected countries/areas and the latest figures are available in the following website: [http://chp.gov.hk/files/pdf/evd\\_affected\\_area.pdf](http://chp.gov.hk/files/pdf/evd_affected_area.pdf).

So far, no EVD cases have been detected in Hong Kong. Nevertheless, the CHP is keeping a close watch over the latest situation and will inform you of any new development and updates. Medical practitioners are reminded to notify the Central Notification Office (CENO) of CHP any suspected cases of EVD fulfilling the reporting criteria (available at <https://ceno.chp.gov.hk/casedef/casedef.pdf>) via fax (2477 2770), phone (2477

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<sup>2</sup>  $R$  is the average number of secondary cases that result from an infectious case in a particular population. When  $R$  is  $< 1$ , the number of cases decreases with every generation. When  $R$  equals 1, there will be an endemic equilibrium in which, on average, one case results in one secondary infection. When  $R$  is  $> 1$ , the number of cases increases from one generation to the next, potentially resulting in an epidemic.

<sup>3</sup> As of today, affected countries/areas included Guinea, Liberia, Nigeria and Sierra Leone in West Africa, and the Equateur Province of the Democratic Republic of the Congo.

2772) or CENO On-line (<http://ceno.chp.gov.hk/>). All suspected cases should be isolated immediately. Please also call our Medical Control Officer at 7116 3300 a/c 9179 for prompt investigation and arrangement of transfer of the patient to the Hospital Authority Infectious Disease Centre in Princess Margaret Hospital for isolation, testing and treatment.

For further information about EVD, please visit the CHP website at [http://www.chp.gov.hk/en/view\\_content/34199.html](http://www.chp.gov.hk/en/view_content/34199.html).

Thank you for your ongoing support in combating communicable diseases.

Yours faithfully,

A handwritten signature in black ink, appearing to be 'Yonnie Lam', with a horizontal line extending to the right.

(Dr. Yonnie Lam)

for Controller, Centre for Health Protection  
Department of Health