Notification of infectious diseases between the Mainland and Hong Kong

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Declaration

This document represents the opinions of the author and does not reflect the views of the Department of Microbiology, The University of Hong Kong, or other institutions.

1 Background

1.1 Historically southern China has been the epicentre for a number of emerging infectious diseases. Given the close geographical and demographical associations between Hong Kong and mainland China, it is hardly surprising that many of these emerging or re-emerging infections eventually become manifested in Hong Kong. As the public health infrastructure and research facilities are generally more sophisticated in Hong Kong, the microbial agents causing these infections were often discovered in Hong Kong even though the disease might have originated in mainland China. Plague (in 1894) and the severe acute respiratory syndrome (SARS, in 2003) are two notable examples.

1.2 Notification of infectious diseases between mainland China and Hong Kong is only a small part in the overall prevention and control of emerging and re-emerging infectious diseases.

2 The broader picture

2.1 To prevent cross-boundary spread of infectious diseases, two approaches are required: a vertical and a horizontal regimen.

2.2 Vertical regimen refers to the surveillance and response capacities of individual countries when faced with an infectious disease problem within their own countries.

2.3 Horizontal regimen refers to the prevention and control of spread of infectious diseases between states from global traffic. Cross-border infectious disease notification may be considered under this category.

2.4 Effective control of emerging and re-emerging infectious diseases requires the ability of individual countries and the global community to address both the horizontal and vertical challenges.

3 Vertical challenges

3.1 There have been substantial improvements in the public health infrastructure in mainland China over the past decades. Nevertheless, in the more remote and rural areas of the country, there may still be foci that are not well covered by the existing public health surveillance system.

4 Horizontal challenges

4.1 The spread of infectious disease through cross-border traffic can occur through humans (in cases of diseases that are primarily transmitted from person-to-person) or animals (in cases of zoonotic infections, i.e., diseases transmitted from vertebrate animals to humans).

4.2 Screening of travellers for infectious diseases is difficult. Although the use of techniques such as temperature monitoring has been used at times of actual or imminent infectious disease outbreaks, the value of such entry screening measures is questionable. A comprehensive programme to travellers with respect to health education and information for medical assistance could be useful in these situations.

4.3 Domestic and wild animals represent the most important source of new infectious agents to humans. Among the 1407 pathogen species that cause disease in humans, 58% are known to be zoonotic. Moreover, among the 177 emerging or re-emerging pathogens, 73% are known to be zoonotic. The threats from SARS, avian influenza, and *Streptococcus suis* infection are some recent examples.

4.4 One of the most important public health measures against infectious diseasaes, therefore, is to screen for known or potential pathogens in these animal reservoirs. A targeted surveillance of animals that (a) are known to harbour potential pathogens, or (b) have close associations with humans through occupational or recreational exposures could provide early signals for the emergence of new infections. Similar surveillance and monitoring may likewise be extended to other relevant chemical hazards such as toxins and chemicals, especially in animals intended for human consumption.

5 Notification of infectious diseases

5.1 The list of notifiable diseases in Hong Kong, Macau, and mainland China has previously been submitted to the Legislative Council Panel on Health Services for information (Paper No. CB(2)354/04-05(01)). *Streptococcus suis* infection has been added to the list of notifiable diseases in Hong Kong since then.

5.2 With few exceptions, the notifiable diseases in Hong Kong, Macau, and mainland China are mainly pathogen-specific diagnoses. In other words, they are notified when a specific infection and its causative agent has been diagnosed and confirmed. While this is the usual practice in the notification of infectious diseases, a syndromic approach may be necessary for surveillance purposes.

5.3 Syndromic surveillance refers to 'an investigational approach where health department staff, assisted by automated data acquisition and generation of statistical alerts, monitor disease indicators in real-time or near real-time to detect outbreaks of disease earlier than would otherwise be possible with traditional public health methods' (Centers for Disease Control and Prevention, USA). In other words, a constellation of symptoms, i.e., syndromes, are being monitored for their frequency of occurrence. It tries to identify clusters of illness early, before the causative agents are confirmed and reported to public health authorities, so that responses can be mobilized before major outbreaks have occurred.

5.4 The public health authorities may therefore need to develop means to obtain syndromic surveillance data for real-time detection of outbreaks and to reduce the time lag between the onset of a potential epidemic and the causative agent being confirmed by laboratory means.

5.5 Whether or not the syndromic approach will be adopted in the future in addition to the current list of notifiable diseases, the success of such policies and mechanisms depends on whether all parties are willing to share information in good faith and in a timely manner.

5.6 Despite the overwhelming focus and importance of infectious disease links with mainland China, similar communications should also be maintained with other countries of the world.

5.7 Collaborations between local, mainland China, and foreign institutions on research of emerging and re-emerging infectious diseases should be fostered.