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**OUTBREAK RESPONSE, INCLUDING SEVERE ACUTE
RESPIRATORY SYNDROME (SARS), INFLUENZA AND
REVISION OF THE INTERNATIONAL HEALTH REGULATIONS**

In recent years the Region has experienced significant outbreaks of emerging infectious diseases, including severe acute respiratory syndrome (SARS), avian influenza A/H5N1 and encephalitis caused by the Nipah virus. Outbreaks of known diseases such as dengue, cholera, typhoid fever and leptospirosis also continue to occur. Early detection and reporting of such events is crucial if their social and economic impact is to be minimized, but surveillance systems in many countries and areas are not fully established and do not always function well as early warning systems. As a result, the detection of outbreak-prone diseases, particularly emerging diseases, remains suboptimal. The lesson from SARS in particular was that communicable diseases can spread very quickly from one country to another and international collaboration, including prompt and transparent information exchange, is critical to control their spread.

Improving preparedness for such events is a concern both for both individual countries and for the international community. The International Health Regulations (IHR) are being revised and will require each Member State to ensure it has a minimum core capacity to detect, report and respond to public health emergencies of international concern. The universal adoption of such measures would result in a considerable strengthening of national and regional capacities to detect and respond to potential threats to public health.

This paper is presented for information of the Regional Committee and for discussion at its fifty-fifth session.

1. CURRENT SITUATION

A detailed analysis of communicable disease surveillance and response in the Region is contained in *The Work of WHO in the Western Pacific Region: 1 July 2003–30 June 2004* (pp. 57–68).

1.1. Severe acute respiratory syndrome

By July 2003, all human chains of SARS transmission had been interrupted and WHO declared that the global outbreak of severe acute respiratory syndrome (SARS) had been successfully contained. However, since then there have been a number of further cases in the Region: (1) a laboratory-acquired case in Singapore in August 2003; (2) a laboratory-acquired case in Taiwan (China) in December 2003; (3) a cluster of four reported cases in Guangdong Province (China) in December 2003–January 2004 (only three of which fulfilled the WHO laboratory case definition); and (4) four laboratory-acquired cases and seven secondary cases including one death, in Beijing and Anhui Province (China). In all these cases, health authorities rapidly implemented control measures and large outbreaks were prevented, but the cases also raised serious concerns about the possible future re-emergence of SARS. Three of the incidents since July 2003 were associated with laboratory accidents, all of which could have been avoided if all laboratory safety practices had been followed. It appears possible that the cases in Guangdong were infected through contact with wild animals in markets or restaurants.

1.2. Influenza, including avian influenza A/H5N1

Although influenza is one of most common communicable diseases to affect human beings, and in temperate climates causes large winter outbreaks associated with high levels of morbidity and mortality, its impact in tropical countries is not fully understood. However, the available data suggest that it imposes a significant disease burden with associated economic costs in these countries as well. Influenza viruses are not stable and new subtypes of influenza A have emerged in human populations every 20–40 years. It is believed that these new strains are more likely to emerge when human influenza viruses come into contact with avian influenza viruses. When these new subtypes emerge, the vast majority of people have no protective immunity and a pandemic may result, with the potential for huge numbers of people infected and high mortality. There has been no pandemic since 1968 and many scientists believe that one is overdue.

In early 2004, avian influenza A/H5N1 outbreaks in poultry were reported in at least eight countries in Asia. These outbreaks were historically unprecedented and resulted in more than 100 million chickens and ducks dying or being culled in affected countries. Countries implemented aggressive control measures, such as culling of all chickens and ducks in affected areas, and it appears that the outbreaks were largely controlled. However, since then many affected countries have confirmed further outbreaks. In addition, recent available research findings have indicated that this virus is widespread among poultry (particularly domestic ducks) and wild birds in Asia, and that it may therefore be more difficult to contain completely than was initially thought.

The H5N1 virus has the potential to jump from avian species to humans. The outbreak in poultry in Hong Kong (China) in 1997, for example, led to 18 human cases with 6 deaths, and in the recent outbreak in Asia, there were confirmed human cases in Viet Nam (22 cases with 15 deaths) and Thailand (12 cases with 8 deaths). Most of these human cases are believed to have occurred following direct contact with sick or dead poultry. The establishment of a clear link between human and animal illness means there is an urgent need for strengthened collaboration between the human health and agricultural sectors at local, national and international levels. The possibility of the virus acquiring the ability to transmit from human to human efficiently and to retain its capacity to cause high levels of fatality is also cause for considerable concern. If this were to happen, a pandemic would be virtually inevitable. For this reason, regional and global efforts to prevent such a pandemic and to enhance pandemic preparedness have assumed a new level of urgency.

The zoonotic nature of avian influenza A/H5N1 and other emerging diseases makes close collaboration between WHO, the Food and Agriculture Organization of the United Nations (FAO) and the World Organization for Animal Health (OIE) essential. At the national level it is also critical that health ministries work closely with those responsible for agriculture, food and trade to strengthen risk-based regulatory frameworks and ensure they are enforced.

1.3 International Health Regulations

WHO is in the process of revising the International Health Regulations (IHR). The current regulations were established in 1967 and their scope is limited to three diseases (plague, yellow fever and cholera). They have proved unable to address to newly emerging diseases such as SARS

A draft of the revised IHR had been distributed to all Member States by the end of January 2004. A regional consultation meeting on the revision of the IHR was held at the Regional Office in April 2004. The meeting approved of the draft in principle and consensus was reached on the basic concepts of the revised IHR:

- (1) the revised IHR would contribute to early, effective detection and notification of international threats to health;
- (2) adoption of the revised IHR would result in a significantly enhanced ability to respond to and manage these threats;
- (3) an effective framework for working with other agencies to contain the international spread would be in place;
- (4) universal adoption of the revised IHR would need to be accompanied by significant strengthening of national communicable disease surveillance and response capacities.

2. ISSUES

2.1 Severe acute respiratory syndrome

- (1) There is a risk that SARS may re-emerge.
- (2) The SARS coronavirus in wild animals and the risk of animal-to-human transmission are not fully understood.
- (3) Many emerging diseases are zoonoses, but most countries lack comprehensive programmes to prevent animal-to-human transmission of zoonotic diseases.
- (4) Safety practices are not strictly followed in many laboratories in the Region.
- (5) Many countries do not have national biosafety programmes that include regulations, an inventory of laboratories, national laboratory safety guidelines or manuals, and audit mechanisms.

2.2 Influenza, including avian influenza A/H5N1

- (1) The public health and economic impacts of influenza are poorly understood in tropical and subtropical countries.
- (2) Many countries do not have national influenza programmes covering surveillance, control strategies and pandemic preparedness.

- (3) Many countries do not have national pandemic preparedness plans. Such plans will be essential if the impact of the next pandemic is to be minimized.
- (4) Collaboration between health and agriculture sectors on the prevention and control of avian influenza is still not optimal at either national or international levels. Regulatory control of animal husbandry and of the marketing of live birds and animals for food needs to be strengthened.

2.3 International Health Regulations

- (1) Many countries in the Region do not have a minimum core capacity to implement the revised IHR.
- (2) WHO currently has insufficient capacity at regional and country level to support countries to implement the revised IHR.
- (3) Biregional collaboration between the Western Pacific and South-East Asia Regions of WHO needs to be strengthened, both to implement the revised IHR and to ensure a well coordinated response to future disease outbreaks.

3. ACTIONS PROPOSED

The following actions by Member States are proposed for consideration by the Regional Committee:

- (1) coordinate with research institutes and other relevant authorities to promote research on the SARS coronavirus and the avian influenza A/H5N1 virus, including the risk they pose to humans;
- (2) establish national biosafety programmes and monitor biosafety practices regularly;
- (3) establish and/or strengthen national influenza programmes;
- (4) develop national pandemic preparedness plans;
- (5) strengthen collaboration between animal and health sectors on the surveillance and control of avian influenza and other zoonotic diseases;

- (6) conduct comprehensive risk assessments on human public health risks of avian influenza A/H5N1 and share information with the international community;
- (7) share influenza virus isolates, including avian influenza A/H5N1, with international reference laboratories in a timely fashion;
- (8) collaborate with WHO to revise the IHR and undertake to implement them when they have been adopted by the World Health Assembly;
- (9) develop plans to strengthen capacity on surveillance and response to meet a minimum core capacity, as outlined in the proposed revision of the IHR.