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SEVERE ACUTE RESPIRATORY SYNDROME (SARS)

The multicountry epidemic of severe acute respiratory syndrome (SARS) in late 2002 and the first half of 2003 was the first emerging disease epidemic of the 21st century. SARS was transmitted rapidly around the globe, mainly through air travel. During the early stages of most outbreaks, the majority of infections occurred in health care settings and many health care workers were infected. This resulted in a crisis in health care systems in severely affected countries and areas. There was also a huge economic impact in many countries in the Region.

The SARS outbreaks in the Region highlighted the lack of preparedness for emerging diseases in most countries. Public health systems, and in particular surveillance and response systems, are still not fully able to detect and contain outbreaks at an early stage. Patterns of transmission during the SARS outbreaks showed that infection control practices in health care settings are not optimal in many countries. SARS also demonstrated the critical role of rapid and transparent information exchange between countries in containing disease outbreaks.

The chain of transmission has been interrupted by rigorous control measures taken by affected countries. However, it is possible that SARS will re-emerge. Member States need to maintain vigilance by maintaining enhanced surveillance, infection control practices and other preparedness activities.

This report is presented for the information of the Regional Committee and for discussion at its fifty-fourth session. Further details will be provided at the session.

1. OVERVIEW

Severe acute respiratory syndrome (SARS) is a previously unknown disease that is caused by the recently identified SARS coronavirus. SARS is the first emerging disease of the 21st century. It spread to many countries in a very short period of time, mainly through air travel. There were three main characteristics of the multicountry SARS epidemic. First, the virus showed explosive power to cause sudden outbreaks in a number of countries. In countries that suffered from large-scale outbreaks, schools and offices were closed, international travel was dramatically reduced and tourism almost disappeared. Normal life was seriously disrupted. SARS outbreaks also resulted in huge economic losses throughout the Region. It is estimated that at least US\$ 12.3 billion was lost in Asian countries because of the outbreaks.

Second, the impact on health care workers was particularly severe. In some of the most affected countries and areas, health systems were brought almost to the point of collapse by the SARS epidemic.

Third, although SARS was a public health problem that affected large groups of people, the response involved reaching individual contacts and suspected cases. Countries could not afford to miss a single person. Thus, although SARS was 21st century disease, the measures required to control the outbreaks recalled those used to isolate and quarantine contacts during the epidemics of the 19th century.

More information about the SARS epidemic can be found in *The Work of WHO in the Western Pacific Region: 1 July 2002—30 June 2003* (pp. 66-67).

1.1 Initial response

It is believed that the multicountry SARS epidemic in 2002 and 2003 started in November 2002 in Guangdong province, China. By the end of July 2003, more than 8000 cases and over 800 deaths had been reported from nearly 30 countries. More than 95% of cases occurred in the Western Pacific Region, which was the most severely affected of the WHO regions.

WHO's response to SARS began in early February, when anecdotal information about an outbreak of severe pneumonia in Guangdong was received from several sources. Immediately after receiving this information, WHO asked the Ministry of Health of China to verify the reports. Throughout the next few months, WHO provided technical support to the Ministry of Health. The

outbreak was confirmed by the Government on 11 February, but few details were available. On 24 February, the Regional Director officially proposed to the Chinese Government, first, that a WHO team should visit Beijing to work with the Ministry of Health and the China Center for Disease Control and Prevention, and, second, that WHO expert teams, in collaboration with technical staff from China, should conduct a joint investigation in the provinces of Fujian and Guangdong. Following Government approval, WHO teams started their work in Beijing on 3 March and in Guangdong on 3 April.

On 28 February, the WHO office in Viet Nam informed the Regional Office of a case of atypical pneumonia in Ha Noi (the index case). By 5 March, there had been an outbreak of respiratory illness among health care workers in the hospital where the patient was hospitalized. On 10 March, staff from the Regional Office arrived in Ha Noi to lend support to the Government.

On 12 March, the Hong Kong Government officially notified WHO of an outbreak of respiratory illness among health care workers. A global alert was issued by WHO on the same day. By 14 March, it was confirmed that the disease had spread to Singapore and Toronto, Canada.

1.2 Actions taken by Member States and WHO

The commitment of Member States to respond to the emergence of this previously unknown threat to public health was demonstrated in seven main ways:

- (1) infection control procedures were significantly strengthened in health care settings;
- (2) enhanced surveillance was conducted to detect any possible cases;
- (3) potential cases were rapidly isolated in proper isolation facilities;
- (4) aggressive contact tracing was carried out and close contacts were quarantined;
- (5) communities were mobilized to implement control measures;
- (6) awareness campaigns were conducted among the general population; and
- (7) information was shared with other Member States and with WHO.

In addition, public health legislation in several Member States in the Region was revived or rapidly amended.

WHO responded by:

- (1) establishing a regional response and preparedness team at the Regional Office;
- (2) sending many experts to countries to support response and preparedness activities;
- (3) sending emergency supplies to both affected and unaffected countries;
- (4) developing practical infection control and preparedness guidelines and training materials;
- (5) coordinating with other international agencies and donors; and
- (6) collecting information on SARS and successful control strategies and disseminating it to Member States and the international community.

1.3 Results

Following intensive work by both WHO and Member States, the SARS outbreaks in several countries in the Region were progressively brought under control. The last WHO travel advisory (to Beijing) was lifted on 24 June and the last area to be listed by WHO as having recent local transmission (Taiwan, China) was removed from the list on 5 July.

The SARS outbreaks in various parts of the Region were contained thanks to: (1) strong government commitment (evident in the allocation of significant resources to fight SARS and in the implementation of strict control measures); (2) unprecedented collaboration among scientists and laboratories, epidemiologists, clinicians and public health experts; and (3) the hard work, dedication and courage of the clinical and public health staff in the most affected parts of the Region, some of whom gave their lives in the battle against SARS.

2. ISSUES

- (1) SARS affected many countries in different parts of the world. Global concern about the emergence of SARS was expressed by the Fifty-sixth World Health Assembly (Annex 1). The global nature of the SARS epidemic vividly demonstrated the critical importance of a rapid exchange of information on public health events of international concern.

- (2) In the early phase of the SARS epidemic information exchange between countries and WHO was less than optimal. The delay in sharing information with WHO hindered work to understand the nature of the disease and its causative agent and to formulate a response to SARS.
- (3) Infection control practices in most countries in the Region are still not of a high standard. There are not enough health care facilities with the capacity to isolate patients with highly contagious diseases like SARS. Nor are there enough properly trained infection control specialists. Infection control practices in most hospitals were not stringent enough to prevent the spread of the disease and, as a result, many health care workers were infected through close contact with infected patients.
- (4) The multicountry SARS epidemic stretched the response capacity of the Regional Office and WHO's country offices in the affected countries to the limit.
- (5) Current surveillance systems in most countries in the Region are often not adequate to detect outbreaks and other public health events efficiently or rapidly. By the time surveillance systems detect unusual events, it is often too late to implement effective control measures. The laboratory support systems that are an essential component of surveillance are usually inadequate.
- (6) The capacity to analyse surveillance data and conduct outbreak investigations at national and local levels is often lacking. Most countries need to strengthen their epidemiological capacity.
- (7) In many countries there is insufficient public health infrastructure to respond to outbreaks of unexpected emerging diseases such as SARS.
- (8) The SARS outbreaks resulted in huge economic losses in the Region.
- (9) SARS raised serious questions about Member States' readiness to combat future outbreaks of SARS or other global health threats.

3. ACTIONS PROPOSED

The following actions are proposed for consideration by Member States.

- (1) Strengthen communicable disease surveillance so that outbreaks of emerging diseases, including SARS, can be detected in a timely and efficient manner.
- (2) Participate actively in regional surveillance so that timely and accurate information can be shared by other Member States.
- (3) Establish a system capable of verifying all information on public health events of potential international concern and of responding to requests from WHO.
- (4) In the case of a potential international public health event, Member States should immediately report the details of the event to WHO. In accordance with operative paragraph 4 of resolution WHA56.28 (Annex 2), if an event is recognized as being of international concern, Member States are urged to facilitate a WHO mission to the affected part of the country and to collaborate with the mission in its investigation.
- (5) Enhance national capacities and contribute towards the regional capacity to respond to emerging diseases such as SARS.
- (6) Strengthen laboratory capacity and participate actively in a regional laboratory network to exchange reagents and information among laboratories and to support countries with limited laboratory capacities.
- (7) Strengthen epidemiological capacities at national and local levels by establishing appropriate national training programmes.
- (8) Enhance infection control practices by establishing training programmes and improving isolation facilities.
- (9) Establish and maintain regional and national stockpiles of emergency supplies, including personal protective equipment.
- (10) Review existing public health legislation.

FIFTY-SIXTH WORLD HEALTH ASSEMBLY

WHA56.29

Agenda item 14.16

28 May 2003

Severe acute respiratory syndrome (SARS)

The Fifty-sixth World Health Assembly,

Having considered the report on the emergence of severe acute respiratory syndrome (SARS) and the international response;¹

Recalling resolutions WHA48.13 on new, emerging and re-emerging infectious diseases, WHA54.14 on global health security – epidemic alert and responses, EB111.R13 on revision of the International Health Regulations, and EB111.R6 on the prevention and control of influenza pandemics and annual epidemics;

Deeply concerned that SARS, as the first severe infectious disease to emerge in the twenty-first century, poses a serious threat to global health security, the livelihood of populations, the functioning of health systems, and the stability and growth of economies;

Deeply appreciative of the dedication in responding to SARS of health care workers in all countries, including WHO staff member, Dr Carlo Urbani, who in late February 2003 first brought SARS to the attention of the international community, and died of SARS on 29 March 2003;

Recognizing the need for Member States to take individual and collective actions to implement effective measures to contain the spread of SARS;

Acknowledging that the control of SARS requires intensive regional and global collaboration, effective strategies and additional resources at local, national, regional and international levels;

Appreciating the crucial role of WHO in a worldwide campaign to control and contain the spread of SARS;

Acknowledging the great effort made by affected countries, including those with limited resources, and other Member States in containing SARS;

Acknowledging the willingness of the scientific community, facilitated by WHO, to collaborate urgently, which led to the exceptionally rapid progress in the understanding of a new disease;

¹ Document A56/48.

Annex 1

Noting, however, that much about the causative agent and the clinical and epidemiological features of SARS remains to be elucidated, and that the future course of the outbreak cannot as yet be predicted;

Noting that national and international experiences with SARS contribute lessons that can improve preparedness for responding to, and mitigating the public health, economic, and social consequences of the next emerging infectious disease, the next influenza pandemic, and the possible use of a biological agent to cause harm;

Seeking to apply the spirit of several regional and international efforts in fighting the SARS epidemic, including the ASEAN +3¹ Ministers of Health Special Meeting on Severe Acute Respiratory Syndrome (SARS) (Kuala Lumpur, 26 April 2003), the Special ASEAN-China Leaders Meeting on the Severe Acute Respiratory Syndrome (SARS) (Bangkok, 29 April 2003), Emergency Meeting of SAARC Health Ministers on the SARS Epidemic (Malé, 29 April 2003), ASEAN +3 Aviation Forum on the Prevention and Containment of SARS (Manila, 15-16 May 2003), and the Extraordinary Council of European Union Health Ministers Meeting (Brussels, 6 May 2003),

1. URGES Members States:

- (1) to commit fully to controlling SARS and other emerging and re-emerging infectious diseases, through political leadership, the provision of adequate resources, including through international cooperation, intensified multisectoral collaboration and public information;
- (2) to apply WHO recommended guidelines on surveillance, including case definitions, case management and international travel;²
- (3) to report cases promptly and transparently and to provide requested information to WHO;
- (4) to enhance collaboration with WHO and other international and regional organizations in order to support epidemiological and laboratory surveillance systems, and to foster effective and rapid responses to contain the disease;
- (5) to strengthen, to the extent possible, capacity for SARS surveillance and control by developing or enhancing existing national programmes for communicable disease control;
- (6) to ensure that those with operational responsibilities can be contacted by telephone or through electronic communications at all times;
- (7) to continue to collaborate with and, when appropriate, provide assistance to WHO's Global Outbreak Alert and Response Network as the operational arm of the global response;
- (8) to request the support of WHO when appropriate, and particularly when control measures employed are ineffective in halting the spread of disease;

¹ China, Japan, and the Republic of Korea.

² Travel to and from areas affected by SARS, in-flight management of suspected SARS cases who develop symptoms while on board, including aircraft disinfection techniques.

Annex 1

- (9) to use their experience with SARS preparedness and response to strengthen epidemiological and laboratory capacity as part of preparedness plans for responding to the next emerging infection, the next influenza pandemic, and the possible deliberate use of a biological agent to cause harm;
- (10) to exchange information and experience on epidemics and the prevention and control of emerging and re-emerging infectious diseases in a timely manner, including among countries sharing land borders;¹
- (11) to mitigate the adverse impact of the SARS epidemic on the health of the population, health systems and socioeconomic development;

2. REQUESTS the Director-General:

- (1) to further mobilize and sustain global efforts to control the SARS epidemic;
- (2) to update and standardize guidelines on international travel, in particular those related to aviation, through enhanced collaboration with other international and regional organizations;
- (3) to update guidelines on surveillance, including case definitions, clinical and laboratory diagnosis, and management, and on effective preventive measures;
- (4) to review and update, on the basis of epidemiological data and information provided by Member States, the classification of “areas with recent local transmission”, through close interactive consultation with the Member States concerned, and in a manner that safeguards the health of populations while minimizing public misunderstanding and negative socioeconomic impact;
- (5) to mobilize global scientific research to improve understanding of the disease and to develop control tools such as diagnostic tests, drugs and vaccines that are accessible to and affordable by Member States, especially developing countries and countries with economies in transition;
- (6) to collaborate with Member States in their efforts to mobilize financial and human resources and technical support in order to develop or enhance national, regional and global systems for epidemiological surveillance and to ensure effective responses to emerging and re-emerging diseases, including SARS;
- (7) to respond appropriately to all requests for WHO’s support for surveillance, prevention, and control of SARS in conformity with the WHO Constitution;
- (8) to strengthen the functions of WHO’s Global Outbreak Alert and Response Network;
- (9) to strengthen the global network of WHO collaborating centres in order to carry out research and training on the management of emerging and re-emerging diseases, including SARS;

¹ WHO regards any country with an international airport, or sharing a border with an area having recent local transmission of SARS, as being at risk of imported cases.

Annex 1

(10) to take into account evidence, experiences, knowledge and lessons acquired during the SARS response when revising the International Health Regulations;

(11) to report to the Fifty-seventh World Health Assembly through the Executive Board at its 113th session on progress made in the implementation of this resolution.

Tenth plenary meeting, 28 May 2003
A56/VR/10

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FIFTY-SIXTH WORLD HEALTH ASSEMBLY

WHA56.28

Agenda item 14.16

28 May 2003

Revision of the International Health Regulations

The Fifty-sixth World Health Assembly,

Recalling resolutions WHA48.7, WHA48.13, WHA54.14, and WHA55.16, which respond to the need to ensure global health security at a time when the threat of infectious diseases is resurging;

Taking into account also the existence of new risks and threats to health arising from the potential deliberate use of agents for terrorism purposes;

Recognizing the part played by animals in the transmission and pathogenesis of some diseases which occur in humans;

Affirming the additional threat posed by the substantial growth in international travel and trade, which provide greater opportunities for infectious diseases to evolve and spread;

Underscoring the continued importance of the International Health Regulations as an instrument for ensuring the maximum possible protection against the international spread of disease with minimum interference in international traffic;

Acknowledging the close links between the Regulations and WHO's outbreak alert and response activities, which have identified the principal challenges to be met in revising the Regulations;

Concerned that experiences following the emergence and rapid international spread of severe acute respiratory syndrome (SARS) have given concrete expression to the magnitude of these challenges, the inadequacy of the current Regulations, and the urgent need for WHO and its international partners to undertake specific actions not addressed by the Regulations,

1. EXPRESSES its satisfaction with the procedures and activities planned for finalizing the draft revised Regulations for adoption by the Fifty-eighth World Health Assembly in 2005;

2. DECIDES:

(1) in accordance with Rule 42 of its Rules of Procedure, to establish an intergovernmental working group open to all Member States to review and recommend a draft revision of the International Health Regulations for consideration by the Health Assembly under Article 21 of the WHO Constitution;

Annex 2

(2) that regional economic integration organizations constituted by sovereign States, Members of WHO, to which their Member States have transferred competence over matters governed by this resolution, including the competence to enter into international legally binding regulations, may participate, in accordance with Rule 55 of the Rules of Procedure of the World Health Assembly, in the work of the intergovernmental working group referred to under paragraph (1);

3. URGES Member States:

(1) to give high priority to the work on the revision of the International Health Regulations and to provide resources and cooperation necessary to facilitate the progress of such work;

(2) to establish immediately a national standing task force or equivalent group and, within it, to designate an official or officials having operational responsibilities and accessible at all times by telephone or electronic communication, to ensure the speed, particularly during emergencies, of both reporting to WHO and consultation with national authorities when urgent decisions must be made;

(3) to ensure collaboration, when appropriate, with veterinary, agricultural and other relevant agencies involved in animal care in research on, and planning and implementation of, preventive and control measures;

4. REQUESTS the Director-General:

(1) to take into account reports from sources other than official notifications, to validate these reports according to established epidemiological principles;

(2) to alert, when necessary and after informing the government concerned, the international community to the presence of a public health threat that may constitute a serious threat to neighbouring countries or to international health on the basis of criteria and procedures jointly developed with Member States;

(3) to collaborate with national authorities in assessing the severity of the threat and the adequacy of control measures and, when necessary, in conducting on-the-spot studies by a WHO team, with the purpose of ensuring that appropriate control measures are being employed;

5. FURTHER REQUESTS the Director-General:

(1) to complete the technical work required to facilitate reaching agreement on the revised International Health Regulations, having included technical input from relevant disciplines and agencies, including those involved in veterinary work, animal care and relevant agricultural professions;

(2) to fully utilize technical consultations and electronic communications already in place to bring a text that has as much consensus as possible to the intergovernmental working group;

(3) to keep Member States informed about the technical work on the revision of the Regulations through the regional committees and other mechanisms;

- (4) to convene the intergovernmental working group on revision of the International Health Regulations at the appropriate time and on the agreement of the Executive Board at its 113th session in January 2004, having regard to the progress achieved on the technical work and the other commitments of the Organization;
- (5) to facilitate the participation of the least developed countries in the work of any intergovernmental working group and in intergovernmental technical consultations;
- (6) to invite, as observers at the sessions of the intergovernmental working group on the revision of the International Health Regulations in accordance with Rule 48 of the Rules of Procedure of the World Health Assembly, representatives of non-Member States, of liberation movements referred to in resolution WHA27.37, of organizations of the United Nations system, of intergovernmental organizations with which WHO has established effective relations, and of nongovernmental organizations in official relations with WHO, who will attend the sessions of that body in accordance with the relevant Rules of Procedure and resolutions of the Health Assembly.

Tenth plenary meeting, 28 May 2003
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