

## Issues paper

### **Day 1: Monday, 3 November 2003**

#### **Theme: Public health as a global responsibility**

During the discussion of this theme, participants are invited to address the following topic:

#### **Global health security**

- International Health Regulations: global alert and response
- Biological and chemical threats

#### **Background information**

Public health emergencies throw into sharp relief the strengths and weaknesses of infrastructures designed to protect the public on a daily basis. The international response to severe acute respiratory syndrome (SARS) was an extreme test of mechanisms for outbreak detection and containment under development at WHO since 1997. These mechanisms were themselves the response to an earlier crisis: the 1995 outbreak of Ebola haemorrhagic fever in Kikwit, Democratic Republic of the Congo. That outbreak, which escalated undetected for three months, caught the international community by surprise, highlighting the urgent need to improve capacity in several specific ways.

WHO's success in containing the latest crisis so quickly was in large measure thanks to detection and response mechanisms already in place. In order to expedite outbreak detection, the Global Public Health Intelligence Network was set up and is responsible for the real-time systematic gathering of disease intelligence; to broaden international capacity, the Global Outbreak Alert and Response Network, currently uniting 120 partners, was established as a "strike force", a pool of specialized staff and technical expertise on standby for emergency investigations and on-the-spot assistance. In addition, a system of electronic communications was extended to all 141 WHO country offices; the network of collaborating centres, including biosafety level 3 and 4 laboratories, was expanded in number and geographical reach; virtual networks of laboratory researchers were established for enhanced surveillance; and new procedures for outbreak verification together with standardized protocols for all phases of outbreak response were developed, bringing order to the potentially chaotic conditions at outbreak sites. A sweeping revision of the International Health Regulations was also set in motion.

SARS tested the ability of these mechanisms to work together under emergency conditions. Each component played a decisive role – from immediate dispatch of Global Outbreak Alert and Response Network teams, through real-time sharing of data at all outbreak sites, to the virtual laboratory network that identified the SARS coronavirus within a month. The global containment of SARS, achieved less than four months after its recognition as an international threat, provides some reassurance that the world is now better prepared for such problems. However, the SARS outbreak also exposed major weaknesses at both country and global levels.

SARS gave a vivid demonstration of the damage, well outside the field of health and well beyond affected countries, that a new disease can cause in a highly mobile, closely interconnected and interdependent world. Several major investigations of the outbreak, commissioned by government authorities, have

concluded that the impact of SARS and the speed of its containment have raised the political profile of public health to unprecedented heights. Just as the Ebola haemorrhagic fever crisis of 1995 stimulated major improvements in response capacity, the SARS global emergency of 2003 now represents an opportunity to identify and correct weaknesses, enabling public health to take a major leap forward. These improvements will stand the world in good stead when the next new disease emerges; the next inevitable influenza pandemic begins; or a biological agent is deliberately used in a terrorist attack.

The following shortcomings in global health security were pointed up by the SARS outbreak:

- *Inadequate detection and reporting.* SARS smouldered unreported and internationally undetected from mid-November 2002 until the end of February 2003. As a result, the first international cases caught health systems by surprise and led to explosive outbreaks.
- *Inadequate response capacity.* The extreme measures needed to treat SARS patients and prevent further spread threatened to overwhelm even the most advanced health systems; surge capacity was a major worry. These problems would also arise during an influenza pandemic or following a bioterrorist attack.
- *Poor preparedness.* Lapses in infection control amplified spread in hospital settings. Systems for rapid data collection and electronic sharing were inadequate and sometimes outmoded. Systems for contact tracing and follow-up – of vital importance should the smallpox virus be deliberately released – were likewise absent or rudimentary. In some cases, legislation needed urgent amending.
- *Inadequate laboratory biosafety.* The September SARS case in Singapore, linked to a laboratory accident, highlighted the need to upgrade safety standards and introduce systematic staff training.

Nevertheless, SARS also provoked positive outcomes which include heightened global awareness, swift completion of preparedness plans, exceptionally strong international collaboration, rapid evolution and sharing of knowledge, and good electronic communications with governments, staff at outbreak sites, and the media. The urgent need to contain SARS also led to the rapid introduction of many fundamental and permanent advances in health infrastructures. Improvements were made in the following: surveillance and reporting systems, data management methods, hospital policies, procedures for infection control, and channels for informing and educating the public.

### **Points for discussion**

- How can the SARS legacy be used to strengthen country and global preparedness for the next emergency caused by an infectious disease?
- What is a realistic way forward for strengthening capacity in developing countries?
- What role can the corporate sector play?
- How can the base of partners be increased as a cost-effective way of improving global response capacity?

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