



WORLD HEALTH ORGANIZATION

EXECUTIVE BOARD
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Global health security – epidemic alert and response

Report by the Secretariat

INTRODUCTION

1. The globalization of infectious diseases is not a new phenomenon. However, increased population movements, whether through tourism or migration or as a result of disasters; growth in international trade in food and biological products; social and environmental changes linked with urbanization, deforestation and alterations in climate; and changes in methods of food processing, distribution and consumer habits have reaffirmed that infectious disease events in one country are potentially a concern for the entire world.
2. Another concern is the increasingly possible intentional use of infectious agents. In addition to epidemics that occur naturally, outbreaks might result from intentional or accidental release of biological agents. Natural epidemics and those due to the release of biological agents both present in the same manner.
3. Epidemics become urgent events of international public health importance as the result of a combination of factors, such as: absence of correct information, misinformation and inconsistency in the information available to national governments, which can result in overreaction to media coverage and subsequent internal pressure on governments to respond; insufficient capacity at country level to recognize disease events in a timely manner, and to contain them; fear of costly repercussions if disease events are notified; and lack of appropriate overarching international response mechanisms, both legal and technical.
4. Consequently the need for international cooperation on epidemic alert and response is even more crucial now than when the idea was mooted at the first International Sanitary Conference in 1851. Such cooperation has been continued by WHO since its creation in 1948, notably using the International Health Regulations as a framework.
5. This report outlines the current status of global epidemic alert and response, and suggests additional measures required to meet current and future challenges.

A MANAGEMENT SYSTEM FOR GLOBAL EPIDEMIC EVENTS

6. WHO's activities in the area of epidemic alert and response aim to contain the global public health threat of emerging infectious diseases, epidemics and drug-resistant infectious agents. In close partnership with the international public health community, WHO actively gathers information, coordinates international strategy, establishes global standards and supports countries in infectious disease surveillance, epidemic preparedness and epidemic response.

7. Reports of infectious disease events around the world are regularly received by WHO through formal laboratory and epidemiological channels and from sources such as nongovernmental organizations, the media or electronic discussion groups. In 1997, WHO established a mechanism to seek, collect and verify information on reported epidemics, working closely with its collaborating centres, governments and governmental agencies, as well as relevant nongovernmental organizations and other partners in the global outbreak alert and response network. Reports of current epidemic outbreaks received through this mechanism and thought to have potential international importance are included in a weekly e-mail service (Outbreak verification list) distributed only to public health professionals and global surveillance partners worldwide. Information on confirmed outbreaks is made available to the public on the WHO Web site¹ and in the *Weekly Epidemiological Record* (available in printed and electronic² forms).

8. The proposed next steps in the work on revision of the International Health Regulations are:

(1) to expand the scope of diseases reported on to cover all urgent events of international public health importance, especially epidemics. Member States would be required to notify WHO of all such events that occur in their territory. A specific algorithm is being developed to help countries in assessing the potential importance and urgency of such an event; and

(2) to use information from other reliable sources (besides official ones) as a basis for requesting a country to verify the status of a disease event. If and when such information is received, further action would be taken in direct consultation with the Member State concerned.

9. At global level, international surveillance networks of laboratories and epidemiologists focusing on major threats including influenza, viral haemorrhagic fevers (e.g. Ebola), antimicrobial drug resistance and foodborne epidemics such as the new variant of Creutzfeldt-Jakob disease associated with bovine spongiform encephalopathy have been established. Taking advantage of new information technology, particularly the Internet, WHO has been strengthening its disease-specific global networks, such as the WHO antimicrobial resistance information bank, FluNet and Global Salm-Surv, which link national reference centres and collaborating centres throughout the world for exchange of information on drug resistance, influenza and salmonellosis, respectively.

10. Several new initiatives are under way in order to build national laboratory capacity. One example is the establishment of the WHO project office in Lyons, France, for global surveillance and response to communicable diseases, through national capacity building, with particular attention to the enhancement of laboratory skills and training in intervention epidemiology in countries at greatest risk.

¹ Disease outbreak news. <http://www.who.int/disease-outbreak-news/>

² <http://www.who.int/wer/>

11. In order to maximize the use of existing capacity, all possible partners must be engaged. For example, owing to their organization and defined infrastructure, military medical departments in many countries are uniquely positioned to contribute to a network for standardized, systematic surveillance and control of infectious diseases. Military health care systems, which cover populations with well-defined demographic and health characteristics, facilitate the collection of accurate epidemiological information for particular groups, such as sentinel populations for influenza surveillance. WHO has conducted a survey in order to identify military laboratories willing to participate in global surveillance activities and to obtain information about their infectious disease-reporting systems, and will identify and catalogue military resources that could enhance established WHO global surveillance of emerging infections and facilitate responses.

NATIONAL CAPACITY BUILDING

12. A core of technical competence is needed for epidemic alert and response at country level, and thus for strengthening global surveillance and alert mechanisms. A multidisease approach will improve the efficiency of the national surveillance system, particularly in resource-poor countries, and hence all individual disease-specific surveillance activities, the cost-effectiveness of the system, and its sustainability. Such an approach should build on existing systems, develop cross-cutting activities and capitalize on successful programmes; it should be dynamic and adaptable to changing national and regional priorities; and it should link common resources to avoid duplication, and exploit synergies where possible in order to use better a country's limited laboratory resources and epidemiological skills.

13. At national level, with a particular focus on resource-poor countries, WHO closely supports capacity building for surveillance through laboratory diagnosis, intervention epidemiology, and mapping based on geographical information systems, using a multidisease approach that builds on existing, successful surveillance and control programmes. A special programme focuses on the control of infectious diseases in complex emergencies, in partnership with international and nongovernmental organizations.

14. Staff trained in intervention epidemiology and able to deal with several diseases are needed to strengthen regional and national epidemic alert and responses. In order to achieve this, there are national training programmes in intervention epidemiology worldwide, and the Training in Epidemiology and Public Health Interventions Network (TEPHINET), a global alliance of epidemiology training programmes, continues to expand.

15. Partnerships are the key to effective cooperation around the world in order to detect and contain outbreaks promptly. In April 2000, WHO took the lead in drawing together the 67 partners (institutions and networks) that contribute to the global outbreak alert and response network, in order to tighten its links. This network, which complements and strengthens existing networks, aims to ensure that the best expertise is harnessed wherever and whenever it is needed, as cost-effectively as possible. To maintain global public health security it provides coordinated mechanisms for epidemic alert and response. A steering committee ensures long-term preparedness for outbreaks, so that acute responses may lead to longer-term technical assistance. International efforts to contain epidemic outbreaks are under permanent evaluation.

16. Another example of partnership is the international coordinating group on vaccine provision for the control of epidemic meningitis, which brings together many parties such as United Nations agencies, nongovernmental organizations, pharmaceutical manufacturers, development agencies,

WHO collaborating centres and other institutions. The group was set up in 1997 in response to a crisis in global availability of meningococcal vaccine.

17. In 1994, an Ad Hoc Group of the States Parties to the Biological and Toxin Weapons Convention of 1972 was established to negotiate a legally-binding Protocol (Scientific and Technological Exchange for Peaceful Purposes and Technical Cooperation) to strengthen the Convention, which does not have verification mechanisms. This Protocol is now expected to be adopted in 2001. Article VII of the draft Protocol aims to enhance international cooperation for the peaceful use of biological materials, equipment, information and technology (e.g. biotechnology). Measures will include assistance to States Parties in improving their national capabilities for the surveillance of and response to infectious diseases, including related research and development. This Article offers an opportunity to strengthen global health security by mobilizing new resources and partnerships such as a possible project being formulated by a consortium of intergovernmental and nongovernmental organizations, which brings together in an open-ended group technical partners, including WHO, with complementary capabilities.

ACTION BY THE EXECUTIVE BOARD

18. The Board is invited to consider the adoption of the following draft resolution:

The Executive Board,

Having considered the report on global health security – epidemic alert and response,¹

RECOMMENDS to the Fifty-fourth World Assembly the adoption of the following resolution:

The Fifty-fourth World Health Assembly,

Recalling resolutions WHA48.7 on the International Health Regulations, WHA48.13 on new, emerging and re-emerging infectious diseases, and WHA51.17 on antimicrobial resistance;

Mindful of the tremendous increase in the number of people, animals and goods transported globally, as well as the speed of such travel;

Recognizing that, consequently, infectious disease events in a given country are potentially a concern for the entire world,

1. EXPRESSES its support for:

(1) continuing work on revision of the International Health Regulations, including the work on the definition of an urgent event of international public health importance;

(2) formulation of a global strategy for containment of antimicrobial drug resistance;

(3) collaboration between WHO and all potential technical partners in the area of epidemic alert and response, including relevant public sectors, nongovernmental organizations and the private sector;

¹ Document EB107/5.

2. URGES Member States to participate actively in the verification and validation of data concerning urgent events of international public health importance, together with WHO and competent technical partners;
3. REQUESTS the Director-General:
 - (1) to devise relevant international tools, and to provide technical support to Member States for developing or strengthening preparedness and response activities against risks posed by biological agents, as an integral part of their emergency management programmes;
 - (2) to provide support for building up national capacity for epidemic alert and response, especially development of laboratory diagnostic competence and training in intervention epidemiology in the most exposed countries;
 - (3) to explore appropriate mechanisms for strengthening global alert and response, so as to avoid duplication of efforts when gathering information on infectious diseases, whatever their origin.

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