

**MEETING OF THE STATES PARTIES TO THE
CONVENTION ON THE PROHIBITION OF THE
DEVELOPMENT, PRODUCTION AND
STOCKPILING OF BACTERIOLOGICAL
(BIOLOGICAL) AND TOXIN WEAPONS AND ON
THEIR DESTRUCTION**

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Consideration of strengthening and broadening national and international institutional efforts and existing mechanisms for the surveillance, detection, diagnosis and combating of infectious diseases affecting humans, animals, and plants

Mechanisms being implemented for Disease Surveillance by Intergovernmental Organizations (World Health Organization (WHO), Food and Agricultural Organization (FAO), World Organization for Animal Health / Office International des Epizooties (OIE)) and Significant Mechanisms being Implemented for Disease Surveillance by Non-Governmental Organizations

Background paper prepared by the Secretariat

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SECTION A: INTRODUCTION

1. This background paper broadly explores the principles of disease surveillance and response followed by descriptions of mechanisms being implemented for disease surveillance by intergovernmental organizations (World Health Organization (WHO), Food and Agriculture Organization (FAO) and the World Organization for Animal Health / Office International Epizooties (OIE).

SECTION B: GENERAL DISEASE SURVEILLANCE PRINCIPLES

SURVEILLANCE

2. Surveillance can be referred to as the routine and continuous collection of passive and active data of a given population (human, animal, plant) followed by analysis, interpretation and dissemination of information to detect the occurrence of disease for control purposes or for public health actions. Sources of surveillance can be formal or informal and originate from the media, laboratory scientists, clinicians, hospitals, veterinarians, farmers, abattoirs, morgues, wildlife rangers, pharmacies, and the public.

3. Passive surveillance is the secondary use of routinely collected data generated for other use. Passive surveillance systems rely on voluntary reports from laboratories, hospitals and hospital staff, livestock/food markets, medical records, death records, farms, abattoirs and private industry. Active surveillance is the proactive solicitation of information on disease in a host of environments.

4. In veterinary medicine, surveillance is not only used to gather information on disease status in a population, but also on animal production and welfare.

STORAGE

5. Routine and continuous data collection assists in the creation of background reference data which can be used to perform risk analyses and to create a baseline of human, animal or plant health in a given geographical and temporal space against which disease outbreaks can be detected. This information can be stored in databases at various governmental and regional levels.

6. Additionally, tissue and pathogen samples can be stored at the local or national level for use in reference laboratories. These samples can facilitate the identification of the aetiology of disease strains, known or unknown.

7. The use of Good Laboratory Practices (GLP), Good Microbiological Technique (GMT), and appropriate biosafety and containment procedures will help to prevent the unintentional release of potentially pathogenic micro-organisms and toxins into the environment, or into

laboratories where they could cause secondary infections in the research environment. Additionally, laboratory biosecurity practices or the use of administrative and engineering controls and physical security to manage risk specific to protecting pathogenic microorganisms and toxins and their deliberate unauthorized acquisition, misuse, and/or release, should be considered a part of scientific best practices of laboratory management.

INITIAL ANALYSIS

8. Epidemiological information or disease intelligence is the qualitative and quantitative analysis of disease incidence (new cases) and prevalence (distribution) within a population which is used to assist in prioritizing decisions with respect to human, animal and plant disease prevention and control methods. The use of baseline epidemiological data is necessary to develop appropriate risk assessment and risk management procedures for emergency preparedness and response as well as to identify research needs.

9. Diagnostic confirmation of the presence or absence of disease is necessary to develop control procedures that result in therapeutic interventions, prophylaxis and/or vaccination, isolation, quarantine and/or routine slaughter in the case of animals.

REPORTING

10. Reporting the presence or absence of disease outbreaks is a multi-phase process whereby:

- Initial reports of suspected disease outbreaks are relayed to local or national public health, veterinary or agricultural authorities;
- Following laboratory diagnosis of disease presence or absence, confirmation is reported back to local and/or national public health, animal or agricultural authorities. Depending on the immediate or potential danger and/or trade related disruption to the country of origin and neighbouring countries, the outbreak has to be reported to relevant IGOs for the distribution of risk communication messages;
- Following the absence of disease and certification of freedom from disease over a period of time, a local and/or national authority will provide national and international proof of freedom from disease.

11. The growth of information technology and the emergence of infectious diseases have placed new demands on the frequency and speed with which some diseases are expected to be reported. Reporting can take place via telephone, facsimile machine, and computer. Post is often discouraged as a mechanism for reporting outbreaks due to the potential for time-lag that could hinder rapid response. Additionally, immediately/daily, weekly, monthly and annual reports of some disease incidence and prevalence (depending of the IGO regulations) can also be found at the local, national and global levels (in printed and electronic format). It should be noted that rumours of disease outbreaks could potentially cause as much socio-economic disruption as actual outbreaks if mechanisms are not in place to rapidly verify and disseminate accurate information from credible sources.

MONITORING

12. Once response procedures have begun and the disease outbreak is being contained and eliminated, on-going field and laboratory monitoring and surveillance of the affected area are necessary to confirm freedom from disease. Sometimes areas affected by a disease outbreak are required to obtain certification to demonstrate freedom from disease over a certain time frame so that essential services, trade and travel can resume to and from the affected area.

ADDITIONAL ANALYSIS

13. The performance of outcome data assessments are used to determine the efficacy of interventions and response methods, and the assessments can be employed to create case studies. These case studies can then be analysed to test standard operating procedures, training methods and interventions. Analysed data can then assist in identifying priority research and training areas within the public health, animal health and agricultural sectors, as well as in identifying training objectives for national emergency response officials in local and national government, the police, the media and possibly the military.

14. Geographical Information Systems (GIS) can provide scientists and human, animal and plant health officials with the tools necessary to predict outbreaks of disease, particularly those with insect vectors, for a given location, climate and season. GIS uses geographical data to create digital maps and models. GIS data collection comes from different sources, including: remote sensing (satellite and aerial photography), geographical positioning systems (GPS), tabular data from hospital records, census bureaus, farms, abattoirs, morgues, and port authorities.

15. GIS can provide a multi-layered approach to further understand a disease's epidemiology, including the distribution of that disease in relation to a number of variables such as species, age, sex, time, vector transmission and seasonal climatic changes. Predictive models can be simulated to assist in the development of contingency plans and identifying the possible need for surge capacity. GIS models could help in the identification of normal variations of the endemic nature of a disease against which deviations can be better detected.

PREVENTION

16. In so far as surveillance is an ongoing process, data analysis of surveillance activities, including response, can assist in the development of prevention and preparedness programmes. The benefits of prevention to human, animal and plant health exceed the financial costs of interference with trade and travel.

17. All of the above principles of surveillance rely on humans to detect and respond. Therefore, capacity building programmes that focus on training (e.g. laboratory diagnostics, field and clinical epidemiology, continuing education for farmers, citizens and clinical personnel to identify non-endemic or eradicated diseases and use of communications technology) and awareness are crucial to an overall surveillance and response strategy.

18. WHO, FAO and OIE rely on risk analyses to prioritise which pathogens, toxins or pests are immediately or potentially dangerous, requiring quarantine, isolation, decontamination, disinfection or disinfestations. Only OIE, however, maintains lists of notifiable diseases. Risk assessments are performed to identify hazards and other causes of disruptions to work, to identify resources that minimise disruptions and quantify potential losses. The information gathered in previous steps can be used to create a risk index. This is a fluid process that could aid in generating standardised emergency preparedness and response plans.

SECTION C: SURVEILLANCE BY IGOS

THE WORLD HEALTH ORGANIZATION (WHO)

19. The World Health Organization (WHO) is the United Nations specialized agency for health. Health is defined in WHO's Constitution as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

20. WHO is governed by 192 Member States through the World Health Assembly, whose main tasks are the approval of budgetary and major policy issues. Any change in WHO's mandate requires consensus from its Member State constituency during a World Health Assembly meeting.

21. WHO's Secretariat headquarters in Geneva is supported by six regional offices:

- Regional Office for Africa - located in Brazzaville, Republic of Congo;
- Regional Office for Europe - located in Copenhagen, Denmark;
- Regional Office for South-East Asia - located in New Delhi, India;
- Regional Office for the Americas/Pan-American Health Organization -located in Washington D.C., USA;
- Regional Office for the Eastern Mediterranean - located in Cairo, Egypt; and a
- Regional Office for the Western Pacific - located in Manila, Philippines.

22. WHO also designates Collaborating Centres. Such Centres are national institutions designated by the Director-General of the World Health Organization to form part of an international collaborative network carrying out activities in support of WHO's mandate for international health work and its programme priorities. These Centres contain expertise in communicable and zoonotic disease diagnosis and epidemiology. An entire institution, or a department or laboratory within an institution, or a group of facilities for reference, research or training belonging to different institutions, may be designated as a "WHO Collaborating Centre".

23. These Collaborating Centres are vital for WHO's Department for Communicable Disease Surveillance and Response (CSR) to investigate, confirm and control outbreaks of communicable disease, to carry out laboratory diagnosis, to develop and improve diagnostic tests, to produce and distribute diagnostic reagents and standards, to organise and provide specialized training and transfer of technology, and also to prepare, conduct and evaluate research.

24. CSR actively works with its partners to contain known risks, respond to the unexpected and improve preparedness. To this end it works with Member States at their request to improve their capacity to detect, verify rapidly and respond appropriately to epidemic-prone and emerging disease threats when they arise, in order to minimize their impact on the health and economy of the world's population.

25. Since January 1995 WHO has been committed to reviewing and enhancing its capability to provide technical cooperation on new, emerging and re-emerging infectious diseases. A major development in this field has been the development and implementation of the Global Outbreak Alert and Response Operations. This function relies on a systematic follow up of information on suspected outbreaks through providing support to outbreak response activities. Epidemic Disease Intelligence, according to WHO, is the collection of unverified information on possible outbreaks from all available sources (for example news wires and web sites); "outbreak verification" implies the act of verifying the existence of an outbreak and is generally done through official counterparts in ministries of health or United Nations Agencies; and "outbreak response", which implies providing technical assistance to contain the national and international public health consequences of outbreaks and is offered immediately by WHO, but conducted only upon request or acceptance of Member States. This process should be codified in the International Health Regulations which are being revised.

26. In April 2000, WHO formally launched the Global Outbreak Alert and Response Network (GOARN) as an operational mechanism for coordinating international response and assistance to keep the evolving infectious disease threat under close surveillance and for facilitating the rapid containment of outbreaks. GOARN is comprised of 110 networks that are electronically linked to provide real-time alerts of outbreaks and to support response activities that assist Member States.

27. GOARN strengthens the capabilities of national, regional and disease-specific networks such as: the Global Public Health Intelligence Network (GPHIN), which continuously scans electronic sources; WHO's influenza surveillance network (FluNet); the Pacific Public Health Surveillance Network (PACNET), which links Pacific health ministries and allied institutions to harmonise surveillance data; the Centers for Disease Prevention and Control Alert Systems, which includes domestic and international networks looking at food-borne outbreaks; WHO's Alert and Response Operations, which is in place to assist Member States on request to verify disease outbreaks that are then shared through the weekly WHO Outbreak Verification List (OVL) and distributed through the WHO/CSR website and the Weekly Epidemiological Record.

28. The response to communicable disease events consists of intervention activities to control the outbreak. These intervention activities can be preceded by an investigation and research phase if little or nothing is known about the aetiology and the impact of the event.

29. Currently, WHO's role in an outbreak response is to:

- Provide authoritative technical advice and support to affected States;
- Provide immediate expertise from WHO staff and experts of the GOARN partners; mobilise and facilitate an international response, including fund raising and risk communication;
- Coordinate the scientific efforts for etiological investigation and disease characterization.

30. WHO is also the source for accurate and timely information for the press and the general public. Response mechanisms are co-ordinated either bilaterally, multilaterally or through UN co-ordination. The advantage of a WHO co-ordinated response is that WHO provides an element of neutrality and has international network. This issue would require more consideration in the event that WHO is called on to investigate a suspected covert or overt deliberate disease outbreak.

31. During emergencies, outbreak alert and response can be delayed by constraints such as the breakdown of health services, lack of governance, limited access, multiple agencies, and logistic difficulties. Moreover, outbreaks that occur in emergencies where there is no internationally recognized government also pose a problem for reporting under the IHR (see below).

32. To co-ordinate an efficient response to an outbreak in an emergency challenges ought to be addressed beforehand in national emergency preparedness and response plans. These include the need for: rapid assessment of epidemic threats, putting early warning systems in place, establishing emergency laboratory support, training international and local staff, and co-ordinating international teams of experts. Thus, to improve response there needs to be adequate focus on preparedness at the local, national, regional and international levels. Although disease emergencies are specific disasters, standard operating procedures like those generated by the WHO Department of Emergency and Humanitarian Action (EHA), Health Action in Crises (HAC) provide models for Member States.

33. In 2001, the World Health Assembly recognized the security threats to public health posed by epidemic prone and emerging infections. It adopted the resolution "global health security - epidemic alert and response" (WHA54.14), which made specific recommendations to WHO and its Member States (text included in Annex II).

34. In accordance with this resolution, an operational mechanism has been established in CSR for the rapid verification of information on disease outbreaks and, when requested by Member States, the rapid coordination of international assistance for outbreak response. This response mechanism proved its capabilities in the case of the 2003 SARS outbreak and would likely play a role in supporting the public health response to a deliberately caused outbreak. In the future, it would operate within the framework of the revised International Health Regulations.

35. In 2002 the World Health Assembly adopted resolution WHA55.16 that requested the WHO's Director-General to strengthen activities on global public health preparedness and response to deliberate use of biological and chemical agents or radio-nuclear material that affect health (see Annex III).

International Health Regulations (IHR)

36. In 1951, shortly after the establishment of a UN specialized agency for human health, the Member States of the WHO adopted what are known as the International Sanitary Regulations (ISR). The aim of the ISR was to provide a set of rules to protect against 'quarantinable

diseases'. These rules were updated in 1969 and were renamed the International Health Regulations (IHR). Diseases requiring reporting in the 1960s-70s were reduced from six to three due to the success of active WHO disease eradication programmes. In 1981 the three diseases that necessitated reporting under the IHR included cholera, plague and yellow fever. The guiding principle of the IHR is to 'prevent international disease spread by early detection of events that threaten public health' and to do this in real time.

37. In 1995 consideration of the IHR's scope led to a revision process that is seeking to create 'a framework within which WHO and others can actively assist States in responding to international public health risks by directly linking the revised Regulations to WHO's alert and response activities'. In May 2003, Resolution WHA56.28 Revision of the IHR decided 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."

38. The draft proposal for revision of the IHR¹ was circulated to Member States in January 2004. States views on these proposals are now being ascertained through a series of regional consultations. A new draft of the proposals, based on the results of these consultations, will be subject to negotiation at the intergovernmental working group meeting in November 2004. The revised Regulations will then serve as the legal framework for WHO's global health security and epidemic alert and response strategy (Annex V). Implementation of the IHR is the responsibility of Member States, WHO and other partners (e.g. conveyance operators). Each Member State should designate a National Focal Point for the IHR to act as the contact for WHO in all matters relating to the application of the regulations. Together with WHO, the National Focal Point will participate in the notification of potential public health emergencies of international concern. In the event of the need for specific temporary recommendations, WHO can communicate to national health administrations through the National Focal Point.

Surveillance, Notification and Information

39. The proposed revision of the IHR indicates a set of minimum core surveillance and response capacities required at the national level. Specific capacities are also identified for airports, ports and other points of entry. Under the IHR, conveyances, containers, cargo, goods or persons constitute the range of potentially 'quarantinable' assets subject to the jurisdiction of the health authority and administration in a particular territory.

40. It is proposed that each health administration should 'develop and maintain the capacity to detect and report', using a standardized 'decision instrument,' those events and public health risks that could potentially constitute public health emergencies of international concern.

41. Health administrations are to notify WHO by the most rapid means of communication available through the National IHR Focal Point. The proposed WHO decision instrument asks

¹ International Health Regulations – Working paper for regional consultations. Intergovernmental Working Group on the Revision of the International Health Regulations. World Health Organization, Geneva. Document IGWG/IHR/Working paper/12.2003, 12 January 2003, accessible in all WHO official languages at the following Web address: http://www.who.int/csr/ihr/revisionprocess/working_paper/en/

the following questions as a vetting mechanism:

- Is the public health impact of the event serious?
- Is the event unusual or unexpected?
- Is there a significant risk of international spread?
- Is there a risk of international restriction to travel and trade?

42. Indicators are provided by WHO to assist National Focal Points in determining the severity of the potential or existing public health impact caused by a disease outbreak.

43. According to the current draft of the revised IHR, Member States will report to WHO all events and public health risks that are potentially public health emergencies of international concern, including those that are naturally occurring and those that are accidentally or deliberately caused by biological, chemical or radionuclear agents. In addition to being a reporting mechanism, the revised IHR would also include provisions for WHO and Member States to cooperate in responding to such health events.

44. Whilst the IHT requires notification of events potentially constituting public health emergencies of international concern, there does not appear to be a clear operational response strategy, chain of custody or chain of command in place.

45. Of special consideration is the noted challenge faced by WHO with respect to ensuring that “only public health risks (usually those caused by an infectious agent) that are of urgent international importance are reported, while devising a system sensitive enough to pick up new or re-emerging public health risks”. WHO must consider how control measures (including risk communication) might adversely impact sanitary and phytosanitary measures covered by the WTO SPS Agreement. Most outbreaks likely to be addressed by the IHR will involve person-to-person transmission rather than transmission through traded goods such as foodstuffs. Thus, WHO, OIE and FAO Member States, who are also WTO Member States and are contracting parties to the SPS Agreement, will require dedicated human resources to work on risk communication as a vital component of national contingency plans.

46. Confidential consultation on an event gives States the opportunity to discuss the situation on a technical basis with WHO and to work closely with WHO to verify the event. Confidentiality is key throughout this verification procedure. It appears that WHO would not bring in any other agencies without consulting the State in question. In cases where the verification process identifies no risk or a very limited risk of international spread, WHO would be in a position to issue a statement to that effect, thus avoiding other States putting in place unnecessary trade or travel restrictions. Confidentiality would only end if there was a substantial risk or evidence of international disease spread. At that time WHO, in consultation with the affected State, would release the information necessary for the protection of other countries. WHO’s extensive information gathering network also means that WHO is likely to learn quickly if there are any similar outbreaks elsewhere in the world.

47. The issue of confidentiality raises questions with respect to the alleged deliberate release of disease. There is no clear and concise operational strategy on how to proceed in the event of a suspicious disease outbreak. The political ramifications of such an instance warrants the consideration of what would happen to epidemiologists, who are not forensic experts and who

are working as neutral representatives of WHO, OIE or FAO, invited into a country to determine the origin of a disease and how best to control it from spreading. Issues such as policy decisions relating to working in areas contaminated by chemical, biological, radiological or nuclear weapons, liability and insurance must also be taken into account.

THE FOOD AND AGRICULTURAL ORGANIZATION (FAO)

48. The Food and Agricultural Organization is a United Nations specialized agency with 179 Member States (and the European Commission) that aims to raise levels of nutrition, improve agricultural productivity, better the lives of rural populations and contribute to the growth of the world economy. Transboundary animal and plant pest diseases fall under the rubric of the FAO's mandate and are covered by the Emergency Prevention System (EMPRES-Livestock component) and the International Plant Protection Convention (IPPC), respectively. Both EMPRES and IPPC rely on risk analyses to prevent, respond and communicate the occurrence, and/or outbreak of infectious animal and plant diseases as well as to assist in the verification of freedom of disease.

49. FAO is the largest specialised agency of the United Nations, dealing with all aspects of agriculture and food, including crops, livestock, fisheries and forestry. It has become the global centre for international normative policy and databases. FAO headquarters in Rome is the centre of a global network with increasingly decentralized operations and strategic policy support to member countries.

50. FAO focuses on technical assistance and information exchange among its 175 Member States to improve national and regional capacities to detect, analyse, report and respond to disease emergencies affecting plants, plant products and livestock.

51. Some of the commissions are semi-autonomous, such as the European Commission for the Control of Foot-and-Mouth Disease (EUFMD), which has its secretariat in the Animal Health Service in Rome and the Animal Production and Health Commission for Asia and the Pacific (APHCA), which has its secretariat in the FAO regional office in Bangkok. The Near East and African regions do not have semi-autonomous commissions for coordinating policies and activities related to transboundary animal diseases.

Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES)

52. The Emergency Prevention System for epidemic animal diseases (EMPRES) was established as a priority programme within FAO by the Director General in 1994, and focuses on the control and elimination of transboundary animal diseases as well as detecting and responding to emerging pathogens. The plant component of EMPRES focuses on early warning and reaction to avert the devastation caused by the desert locust. The mission of the animal health component of EMPRES, and the activities of FAO that preceded its creation, were to promote the effective containment and control of the most serious livestock diseases by progressive elimination on a regional and global basis through international co-operation. Specifically, EMPRES precepts focus on Early Warning, Early/Rapid Reaction, Enabling Research and Co-

ordination of activities among countries and regions or among the private and private sectors involved in animal health and production.

53. Early warning and early reaction combined with FAO's Good Emergency Management Practice (GEMP) is an attempt to manage transboundary animal diseases to promote safe and healthy animal production around the world.

Good Emergency Management Practice (GEMP)

54. Good Emergency Management Practice, in animal health, is the sum total of organised procedures, structures and resource management that lead to early detection of disease or infection in an animal population. It also includes prediction of the likely spread, prompt limitation, targeted control and elimination, with subsequent re-establishment of verifiable freedom from infection in accordance with the (OIE) International Animal Health Code; recently renamed as the *Terrestrial Animal Health Code*.

55. The GEMP programme is organised according to a theory such that the end result should be a measurable contribution made by the program to define and implement "Good Emergency Management Practice". The GEMP programme is organised using the following modules: "Planning", "Recognising", "Responding" and "Recovering".

56. The model for this goal parallels that of the international success of Good Clinical Practice (GCP) over the past three decades. Since its introduction, GCP has come to regulate the conduct of clinical research worldwide. GCP works through protocols and procedures, and has an interest in "adverse events" and "serious adverse events", both of which have many affinities with GEMP and the emergency situations in case of animal disease epidemics with or without public health implications.

57. The GEMP program, for transboundary animal and plant pests and diseases, offers standard control measures to be implemented during an emergency from the first suspicion of the case, to the investigation, identification, control, and eradication of the disease. It has been published as a multimedia and internet-based resource (http://www.fao.org/ag/AGA/AGAH/EMPRES/e_gemp.htm). It provides two types of services: (1) Operational assistance in setting up emergency prevention and response capabilities; and (2) comprehensive, authoritative, peer-reviewed documentation written by experts in the field with extensive senior management experience in the field of Emergency and Contingency planning.

58. The GEMP programme contains:

- Comprehensive descriptions of best policies and practices;
- Authoritative manuals, written or adapted for GEMP;
- Standard Operating Procedures with interactive checklists for emergency preparedness planning and response;
- Example overview programs on important transboundary animal diseases (i.e. African swine fever, foot-and-mouth disease, Rinderpest);
- It provides information on laboratory techniques for agent detection and identification;

- Includes hundreds of diagnostic photographic aids, training materials, video clips, diagrams and maps;
- Links to laboratories worldwide as well as organizations involved in emergency management.

59. FAO recommends that it be compulsory to notify all transboundary and other emergency animal diseases within a country, and offers expert assistance to countries where investigative work, sample collection, and dispatch are difficult.

Early Warning Systems

60. Early warning is identified as all disease initiatives, based predominantly on epidemiological surveillance, that would lead to improved awareness and knowledge of the distribution of disease or infection and that might permit forecasting further evolution of an outbreak. Early warning systems encompass:

- Disease surveillance;
- Training;
- Awareness/Education programmes;
- Specialist diagnostic teams; and
- Laboratory diagnostic capabilities.

Early Reaction Systems

61. The concept of early reaction incorporates all actions that would rapidly and effectively contain, or lead to the elimination of, a disease outbreak, including contingency planning and emergency preparedness. It is designed to prevent an outbreak from becoming an epidemic. EMPRES publishes a number of manuals on emergency preparedness and contingency planning and conducts workshops on national animal disease surveillance and emergency planning in Africa, Central Europe, the Americas and Asia. Early reaction systems encompass:

- Contingency planning;
- Specific disease plans;
- Standard operating procedures;
- Enterprise manual;
- Support plans; and
- Testing the plans and training.

International Plant Protection Convention (IPPC)

62. The 1997 International Plant Protection Convention (IPPC) (http://www.ippc.int/IPP/En/model_letters.jsp) is an international treaty within the framework of FAO with the purpose of securing common and effective action to prevent the spread and introduction of pests in plants and plant products and to promote appropriate measures for their

control. The IPPC Secretariat's key activities include: standard setting, information exchange and technical assistance.

63. Contracting parties undertake to adopt the legislative, technical and administrative measures found in the Convention and in supplementary agreements (e.g. region specific, pest specific, plant specific, etc.) mainly in application to quarantine pests involved with international trade.

64. Each contracting party to the IPPC shall make the provision to establish an 'official plant protection organization'. The main functions of National Plant Protection Organizations (NPPOs) are to collect and report on pest information (controlled or otherwise). To do this NPPOs are to engage in ongoing and timely surveillance activities. Standards exist for data collection, reporting and certification.

65. Guidelines for surveillance established by the IPPC are in conformity with international standards for phytosanitary measures (ISPMs) as part of the FAO's global programme of policy and technical assistance in plant quarantine. Current guidelines date from 1997; although they were due to be updated in 2002, they may not be available until 2005. According to FAO, this is due to a backlog of work and also to a recognized need to harmonise guidelines with the Convention on Biological Diversity (CBD).

66. ISPMs are determined by the Interim Commission on Phytosanitary Measures (ICPM), whose standards, guidelines and recommendations are recognized as the basis for phytosanitary measures applied by the Members of the World Trade Organization (WTO) under the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). The ICPM governs the implementation of the Convention and convened its latest annual session in April 2004. ISPMs are distributed by the Secretariat of the IPPC to all FAO Members, plus the Executive/Technical Secretariats of the Regional Plant Protection Organizations (RPPOs). The SPS Agreement was negotiated to establish a multilateral framework of rules and disciplines to guide the development, adoption and enforcement of sanitary and phytosanitary measures in order to minimize their negative effects on trade. The SPS Agreement recognizes that it may be necessary to restrict trade in order to protect human, animal or plant life or health. Consequently, work undertaken by the Codex (food safety), OIE (zoonoses) and the IPPC (plant health) that is specifically linked to pathogenic microorganisms and toxins are of interest to the Convention and could have direct relevance to the WTO's SPS Agreement.

Surveillance Guidelines Standard

67. The Guidelines for Surveillance standard includes the following components:

- Pest detection;
- Supply of information for use in pest risk analyses;
- Establishment of pest free areas; and
- Preparation of pest lists.

68. Surveillance systems most likely to be employed will take the form of either general surveillance, a "process whereby information on particular pests which are of concern for an

area is gathered from many sources, wherever it is available and provided for use by the NPPO” or specific surveys, “procedures by which NPPOs obtain information on pests of concern on specific sites in an area over a defined period of time”. The information gathered from using either general surveillance or specific surveys is then verified and used to make a determination on the presence and absence of pests in an area, or on a host or commodity, or their absence from an area.

General Surveillance

69. A general surveillance system includes activities such as data gathering, information compiling and clearing, and information dissemination for prevention, response and verification purposes (see Table 1).

Table 1: General Surveillance Requirements

Sources of Pest Information	Collection, storage and retrieval of information	Use of Information
NPPOs, other national and local government agencies, research institutions, universities, scientific societies (including amateur specialists), producers, consultants, museums, the general public, scientific and trade journals, unpublished data and contemporary observations, and FAO and Regional Plant Protection Organizations (RPPOs).	-establish national repository; -create record keeping and retrieval system; -develop data verification procedures; -establish communication channels to transfer information.	-to support NPPO declarations of pest freedom; -to aid early detection of new pests; -for reporting to other organizations such as RPPOs and FAO; -in the compilation of host and commodity pest lists and distribution records.

Specific Surveys

70. Specific surveys are official procedures by which NPPOs obtain information on pests of concern on specific sites in an area over a defined period of time. These surveys might focus on detection, delimiting or monitoring; however, whatever their specific scope, they should include core methodological components set out by the Secretariat of the IPPC (see Table 2).

Good Surveillance Practice (GSP)

71. Surveillance best practices aim to ensure that personnel involved in data collection activities and in data analysis are adequately trained. Where appropriate, the personnel for general surveillance should be audited in the ‘appropriate fields of plant protection and data management’, trained in ‘sampling methods, preservation and transportation of samples, including identification and record keeping. Moreover, relevant equipment and supplies ‘should

be used and maintained adequately'. Currently, there is no mention of a specific code of conduct with respect to access to, handling, transport and research of samples or equipment and their potential for misuse.

Technical Requirements for Diagnostic Services

72. General surveillance and specific survey activities are to be supplemented by appropriate diagnostic services. In the event of an outbreak of plant pests, diagnostic services are essential for outbreak verification. Before appropriate authorities can perform response and control measures (disinfestations and/or disinfections), it is crucial that they obtain confirmation/verification of which particular pest is responsible for infesting or infecting plants, plant products and their containers (including packing material or matter of any kind accompanying plant products), storage spaces or transportation facilities.

Table 2: Specific Survey Overview

	Definition of the purpose and the specification of the phytosanitary requirements to be met	Identification of the target pest(s)	Identification of scope (e.g. geographical area, production system, season)	Identification of timing (dates, frequency, duration)	Target commodity	Indication of Statistical basis	Description of survey methodology and quality management including an explanation of: -Sampling procedures; -diagnostic procedures; -reporting procedures
Pest	-Support NPPO declarations of pest freedom; -Aid early detection of new pests; -Report to other Organizations such as RPPOs and FAO ^a	-life cycle of the pest; -the phenology of the pest and its host;	-survey sites may be determined by previously reported presence and distribution of the pest, biology of the pest, distribution of host plants of the pest and especially of their areas of commercial production, and climactic suitability of sites for the pest; -the timing of pest management programmes; -whether the pest is best detected on crops in active growth or in the harvested crop	-if pest is recently introduced, identify points of possible entry, pathways of spread, sites where imported commodities are marketed and/or used as planting material		-level of confidence; -number of samples, selection and number of sites; -frequency of sampling; -assumptions	-determine case definition by which the pest can be recognized; -determine sensitivity and specificity of sampling and diagnostic procedures
Commodity or Host	-provide useful information for pest lists of commodities produced under specific cultural practices; -to be used for the preparation of host pest lists where data from general surveillance is lacking	-geographical distribution of production area and/or their size; -pest management programmes (commercial and non-commercial sites); -cultivars ^b present; -points of consolidation of the harvested commodity		-timed in relation to crop harvesting	-identify commodity pest lists		-dependent on the selection of a sampling technique appropriate to the type of harvested commodity
Targeted or Random Sampling	-designed to favour detection of specific pests but can include some random sampling to detect unexpected events						-if a quantitative indication of the prevalence of a pest in an area is required, the results from targeted surveys will be biased

^a RPPOs are Regional Plant Protection Organizations. RPPOs include: Asia and Pacific Plant Protection Commission; Caribbean Plant Protection Commission; Comité Regional de Sanidad Vegetal para el Cono Sur; Comunidad Andina; European and Mediterranean Plant Protection Organization; Organismo Internacional Regional de Sanidad Agropecuaria; and the Pacific Plant Protection Organization. FAO stands for the Food and Agriculture Organization of the United Nations.

^b Cultivars are organisms originating and persistent under cultivation.

73. The IPPC is currently involved in 21 capacity building programmes that cover national evaluations, training, addressing legislative frameworks and institution building. Technology transfers are currently minimal and mostly take place bilaterally. Additionally, the IPPC does not currently contain a mechanism for it to identify reference laboratories; however, this might become a possibility within the next five years.

74. The NPPO should facilitate providing access to such services if needed, and verification of diagnoses by other recognised authorities can provide increased confidence in NPPO driven survey results.

Reporting Mechanisms and the International Phytosanitary Portal (IPP)

75. The IPP is a service provided to IPPC Contracting Parties to facilitate meeting their national and international phytosanitary information exchange obligations and responsibilities. The exchange of official information is the primary obligation of NPPOs. Currently, there are no mandatory reporting requirements regarding specific pests. However, in the spirit of transparency, the IPPC is actively engaging in a campaign to encourage contracting parties' NPPOs to routinely use this reporting mechanism. Lists of notifiable pests do not currently exist and pose a challenge as new introductions (controlled or uncontrolled) and shifts in pest populations take place with high frequency and are dependent on climatic variation and other ecological factors. The concept of pests under the IPPC includes weeds. In relation to the scope of the Convention there are no requirements for reporting toxins. The issue of toxins is addressed by the Codex and by WHO.

76. Reporting of pests covers those that are considered to be an immediate or potential danger (based upon pest risk analyses) that could lead to phytosanitary or emergency action in that country. Since the occurrence, outbreak and spread of pests is of immediate or potential danger to the reporting country and may be of immediate or potential danger to other countries, the reporting country is obliged under the IPPC to report the incident to other countries.

77. Pest reports which are obligations under the IPPC should be made by NPPOs using at least one of the following three systems:

- Direct communication to official contact points (mail, facsimile, or e-mail)–countries are encouraged to use electronic means of pest reporting to facilitate wide and prompt distribution of information;
- Publication on an openly available, official national website (such a website may be designated as part of an official contact point)–precise information on the website access address to the pest reports should be made available to other countries, or at least to the Secretariat;
- The International Phytosanitary Portal (IPP).

78. In addition, for pests of known and immediate danger to other countries, direct communication to those countries, by mail or e-mail, is recommended in any case. Countries may also address pest reports to RPPOs, to privately contracted reporting systems, through bilaterally agreed reporting systems, or in any other manner

acceptable to the countries involved. Whatever reporting system is used, the NPPO should retain responsibility for the reports. Publication of pest reports in a scientific journal, or in an official journal or gazette that typically has limited distribution, does not meet the requirements of this standard.

79. Currently, the IPPC does not contain a mechanism for vetting rumours of suspicious outbreaks or pest introductions. Moreover, the IPPC Secretariat is not responsible for confirming disease outbreaks or pest introductions.

Phytosanitary Certificates

80. Pest reporting standards are considered necessary to establish national occurrence or outbreaks of pests; reporting mechanisms and surveillance are necessary for establishing Pest Free Areas.

81. The Convention extends to the protection of natural flora and plant products. It also includes both direct and indirect damage by pests. The provisions extend to cover transport, containers, storage places, soil and other objects or material capable of harbouring plant pests. (<http://www.ippc.int/IPP/En/default.htm>)

Plant Quarantine Regulations

82. In 1995 the IPPC Secretariat formulated principles to facilitate the process of developing international standards for plant quarantine. It was envisaged that implementation of these principles by the relevant phytosanitary authorities would minimise the risk of phytosanitary measures for purposes other than those for which they were created. Today, the IPPC is still working on building a mechanism for plant quarantine.

WORLD ORGANIZATION FOR ANIMAL HEALTH / OFFICE INTERNATIONAL DES EPIZOOTIES (OIE)

83. With 167 Member States, 14 Collaborating Centres and 153 Reference Laboratories for diagnosis, control, research and training, OIE's role as the 'worldwide observatory for animal health' place it in a key position to identify priority areas of animal health management. OIE's commitment to the prevention and control of the spread of animal and zoonotic diseases extends to its five regional bodies in Africa, the Americas, Asia-Pacific, Eastern Europe, and the Middle East. The goal of these regional representations is to provide regionally adapted services to member countries so that they may strengthen the surveillance and control of animal diseases in the region.

84. OIE's principal missions are to: promote transparency and understanding of the global animal disease situation; collect, analyse and disseminate veterinary information; strengthen international coordination and cooperation in the control of animal diseases and zoonoses; and to promote the safety of world trade in animal and animal products. OIE does not engage in direct surveillance activities; rather its Central Bureau acts as a

clearinghouse for animal infectious disease outbreak information significant to animal and public health. OIE's Early Warning System, situated in its Central Bureau, receives disease outbreak information from national veterinary authorities, submitted by Chief Veterinary Officers (CVOs).

85. Increasingly, veterinary scientists are being challenged by the transmission of infectious diseases between wildlife and domestic animals. Zoonotic and trade-related implications resulting from the lack of substantial wildlife surveillance places this issue as a high priority within the animal health sector. In so far as wildlife populations serve as useful sentinels for the identification of new, emerging or re-emerging infectious diseases, enhanced surveillance of these populations are considered a priority. The Wildlife Diseases Working Group is actively working on procedures to enhance development of national wildlife disease networks; however, wildlife disease management poses difficulties beyond livestock and domestic animal populations.

86. The use of a GIS is considered indispensable in the design and maintenance of wildlife disease networks. Regular wildlife monitoring programmes are also becoming increasingly necessary for countries to demonstrate 'national freedom from disease'. Demonstrating such freedom from disease is vital to resuming essential services in trade and travel.

Standard Setting

87. OIE has standards for designating national and regional reference laboratories and currently acknowledges 153 reference laboratories and 14 Collaborating Centres. The role of an OIE Reference Laboratory is to function as a centre of expertise and standardisation of diagnostic techniques for its designated disease. These standards can be found in the *Manual of Diagnostics Tests and Vaccines for Terrestrial Animals* (the Manual). The main part of the *Manual* covers standards for diagnostic tests and vaccines for the diseases listed in the *OIE Terrestrial Animal Health Code* (the Code). Diseases and pathogens that are included in the OIE information system are divided into categories. For terrestrial animal diseases, these are Lists A and B, as follows:

- **List A** comprises 15 communicable diseases that have the potential for very rapid spread irrespective of national borders (e.g. foot and mouth disease or rinderpest), that are of serious socio-economic or public health consequence, and that are of major importance in the international trade of animals and animal products.
- **List B** currently comprises 93 communicable diseases that are considered to be of socio-economic and/or public health importance, but which have a less dramatic impact on the international trade of animals and animal products.

88. Each disease chapter includes a summary intended to provide information for veterinary officials and other readers who need a general overview of the tests and vaccines available for the disease. This is followed by a text giving greater detail for laboratory workers. The *Manual* is continuously reviewed and the list of OIE Reference Laboratories are updated by the International Committee of the OIE. The revised list is published on the OIE Web site.

89. Fourteen OIE Collaborating Centres are centres of expertise in a specific designated sphere of competence relating to the management of general questions on animal health issues, for example risk analysis (Annex IV). In its designated field of competence, each Collaborating Centre must provide its expertise internationally.

Reporting

90. Resolutions passed by the International Committee (IC) and recommendations issued by the Regional Commissions have instructed the OIE Central Bureau to establish a single OIE list of notifiable terrestrial animal diseases to replace the current Lists A and B. The aim in drawing up a single list is designed to conform to the details of the Sanitary and Phytosanitary Agreement (SPS) of the World Trade Organization (WTO). This agreement classifies diseases as specific hazards and designates all listed diseases as having the same degree of importance for international trade.

91. The overriding criterion for a disease to be listed is its potential for international spread. Other criteria include a capacity for significant spread within naïve populations and the zoonotic potential. Each criterion is linked to measurable parameters: if a disease fulfils at least one of these parameters, then it becomes notifiable.

92. Under the future OIE notification system, not only the disease but other related events will require urgent notification. All events of epidemiological significance must be notified immediately to the OIE, as laid down in Article 1.1.3.3. of Chapter 1.1.3. on 'notification and epidemiological information' of the Terrestrial Animal Health Code (Annex VII). These changes will improve the efficiency of the OIE early warning system for the benefit of the international community. The events of epidemiological significance that should be notified immediately are as follows:

- The first occurrence of a listed disease or infection in a country or compartment¹;
- The re-occurrence of a listed disease or infection in a country or compartment following a report by the delegate of the Member Country declaring the outbreak closed;
- The first occurrence of a new strain of a pathogen of a listed disease in a country or compartment;
- A sudden and unexpected increase in morbidity or mortality caused by an existing listed disease;
- Emerging diseases with significant morbidity/mortality or zoonotic potential;
- Evidence of a change in the epidemiology of a listed disease (including host range, pathogenicity, strain of causative pathogen), in particular if there is a zoonotic impact.

93. Proposals have also been made to adapt the OIE's information system to the single list, changing the frequency with which Member Countries should submit regular reports to the OIE, namely bi-annual and annual. However, in this context there will be a significant increase in the number of emergency and follow-up reports submitted.

94. Implementing these changes will mean completely redesigning the existing

animal health information system, which will need to take full advantage of all the possibilities offered by the latest information and communication technology, including mapping software.

95. The timetable for implementing the new system is as follows:

- May 2004, discussion and adoption by the IC of the new criteria for categorising diseases, the current list (combination of Lists A and B) being kept without any changes;
- January 2005, effective suppression of Lists A and B and implementation of the new notification system;
- May 2005, discussion and adoption by the IC of the new OIE list of diseases, resulting from the application of the criteria adopted in May 2004.

96. OIE Lists of notifiable diseases are included in Annex VI

Rumour Notification

97. To improve transparency, the OIE has set up a verification procedure for non-official information from various sources on the existence of outbreaks of diseases that have not yet been notified to the OIE. Currently, rumour notification is addressed through a mandate which states that OIE can question the national OIE veterinary authority about a rumoured outbreak, however, if the country in question denies the rumour (e.g. avian flu outbreak), OIE central bureau has no mandate to publish this rumour. There is nothing within the OIE to manage rumours of deliberate disease allegations/suspicions.

98. At this year's May International Committee meeting OIE approved a resolution which permits OIE Reference Laboratories to report directly to the OIE all confirmed positive test result from samples received from OIE Member Countries. Additionally, OIE would still refrain from not reporting something unless the country of the sample's origin would consent to the issue being openly reported to all OIE member states.

99. The Early Warning System, which operates continuously to provide warnings within 24 hours of an event/incident, works as follows:

- A report is submitted by the CVO of the infected country through the National Veterinary Authority to the OIE Central Bureau;
- Confirmation of disease presence or absence is then sent back to OIE's Central Bureau where it is electronically disseminated to OIE e-lists as well as being displayed on the OIE website (for those countries who request it, reports and alerts can be sent via fax).

100. Details of events of exceptional epidemiological significance are published upon receipt in the three official working languages (English, French and Spanish) of OIE, under the heading *Emergency Reports*. They are grouped each week under the heading *Weekly Disease Information*.

101. Emergency Reports record the following information:

- Information received and by whom;
- End of previous reporting period;
- End of this reporting period;
- New outbreaks;
- Description of affected population in the new outbreaks;
- Total number affected in the new outbreaks;
- Diagnosis
 - lab where the diagnosis was made
 - - diagnostic tests used
 - identification of the causal agent;
- Epidemiology
 - source of agent
 - origin of infection
 - mode of spread; and
- Control measures during reporting period.

Relationship to FAO and WHO

102. An agreement with FAO on the exchange of relevant information was made in 1952/53, which has grown stronger over the last 50 years. FAO's work on Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES) uses the standards put forth by OIE. Despite the complementarity of their work, there appears to be some overlap between OIE and FAO with respect to official recognition of Reference Laboratories and reporting. The OIE, together with the FAO, is actively engaged in improving the capacity of national Veterinary Services' surveillance and information systems. The OIE has adopted new standards for the quality of national Veterinary Services and their disease notification systems and has improved its own information system in order to provide early and accurate epidemiological information on a world-wide basis, in particular through its Early Warning System.

103. An agreement between OIE and WHO dates back to the 1960s and was recently updated in May 2003. Co-operation between WHO and OIE has strengthened in the past due to an increase of emerging infectious diseases. OIE has requested that it become part of the Steering Committee on the Global Outbreak Alert and Response Network (GOARN) whose main task is to gather epidemic intelligence from informal sources. It uses a multilingual application called Global Public Health Intelligence Network (GPHIN). OIE, FAO and WHO are part of the GLEWS.

104. With regard to international animal health, FAO collaborates with its sister organization WHO and has a special agreement with OIE, recently updated and endorsed in May 2004. The three organizations participate in relevant working groups and commission expert consultations and panels at secretariat level. At the strategic level, the senior animal health officials of the three organizations and the FAO/IAEA Joint Division meet annually in Rome to review their animal health programmes. FAO enhances its international coordinating role through special programmes such as EMPRES, expert and technical consultations, expert panels, the Committee on

Agriculture and various commissions.

Zoonoses: The relationship between human and animal public health

105. A recent meeting of international experts from WHO, FAO and OIE in collaboration with the Dutch Health Council convened in consultation on zoonoses. Recommendations for public health and animal authorities include:

- New mechanisms of surveillance and response are required, using new tools (in particular satellite remote sensing data and analytical molecular epidemiology) and bringing together different disciplines (such as medicine, veterinary science, population biology, information technology, and the diagnostic sciences).
- Integrating the early warning and alert systems of international organizations (WHO, FAO and OIE) to facilitate early detection of potentially linked animal and public health events.
- Exchanging animal and human health data at national, regional and international levels.

106. For WHO, FAO and OIE, the next step forward is to mobilize political awareness and support for the implementation of a public and animal health infrastructure. WHO will also begin coordinating an international network to support countries in analysing their particular emerging zoonotic disease situation, as well as to establish guidelines for the core capacities needed to assess the risk for emerging zoonoses.

SECTION D: SURVEILLANCE BY NGOs

INTRODUCTION

107. This section focuses on the NGO Program for Monitoring Emerging Diseases (ProMED Mail) because it has made a significant contribution to mechanisms being implemented for disease surveillance.

ProMED MAIL

108. ProMED Mail is an Internet-based reporting system that provides global dissemination of information on outbreaks of infectious diseases and acute exposures to toxins that affect human health, including those in animals and plants grown for food or animal feed. Electronic communications enable ProMED Mail (<http://www.promedmail.org>) to provide news about threats to human, animal, and food plant health around the world. It reports that it has more than 32,000 subscribers in over 150 States.

109. ProMED Mail is run by the International Society for Infectious Diseases (ISID). ISID was created in 1986 by a merger between the International Congress in Infectious Diseases (ICID) and the International Federation on Infectious and Parasitic Diseases

(IFIPD). ISID is comprised of individuals from over 155 States, who elect a governing Council. The Council is involved with the composition of the Executive Committee which is charged with overall responsibility for ISID's activities. The Executive Committee appoints an Executive Director, who is charged with day-to-day responsibility for ISID's business.

110. ISID (<http://www.isid.org>) focuses on improving the care of patients with infectious diseases, the training of clinicians and researchers in infectious diseases and microbiology, and the control of infectious diseases around the world. The Society recognizes that infectious diseases cross all national and regional boundaries and that international scientific exchange and cooperation is required.

111. ISID adopted ProMED Mail as one of its programmes in October 1999. ProMED was founded in 1994 by the Federation of American Scientists and SatelLife. At inception it had only 40 subscribers. It was envisioned as a means of utilising the internet for detecting naturally occurring or deliberately instigated infectious disease or toxin-mediated events.

112. Other disease surveillance systems exist. In a paper entitled *ProMED-mail: An Early Warning System for Emerging Diseases*, the editor states that the existence of multiple disease surveillance systems is beneficial:

113. "First, the complementary flow of information based on the reporting interests and biases of each network makes it more likely that a given outbreak or emergence will be discovered and reported in a timely way. Moreover, each system serves as an important validation tool for the others. Outbreaks that are uncovered by one, but not by another, lead to recognition of gaps in the detection of disease. Partial redundancy helps to insure that the overall goal of disease detection is accomplished."

114. ProMED Mail offers services in a number of languages. Its activities are primarily conducted in English, though Spanish and Portuguese. ProMED-PORT and ProMED-ESP lists cover disease news and topics relevant to Portuguese and Spanish speaking South and Central American countries, respectively. A Russian language service, oriented towards the newly independent States of the former Soviet Union, is planned.

DISEASE SURVEILLANCE

Human Infectious Disease

115. The primary interest of ProMED Mail appears to be emerging infectious and toxin-mediated disease events involving humans. It does not cover the subjects of tuberculosis, HIV or vaccine-preventable diseases as it considers that these are amply covered in other fora. ProMED Mail subscribes to the 'one-medicine' concept and recognizes the necessity of addressing diseases which affect plants and animals of agricultural importance, as well as zoonoses. To this extent, animal and plant disease surveillance is conducted to better quantify the status of diseases affecting humans.

Animal Infectious Disease

116. The overlap between human and animal diseases necessitated the inclusion of four veterinarians among ProMED Mail staff in response to the estimated 70% of emerging diseases which are zoonotic. ProMED Mail includes animal diseases which do not pose a direct risk of infection to humans amongst its surveillance activities. For example, ProMED mail is currently reporting on the ongoing Avian Influenza outbreaks. It also produced extensive coverage of the 2001 epidemic of Foot-and-Mouth Disease in the UK, as well as other less sensational but important disease events.

Plant Infectious Disease

117. In addition to its human and animal disease surveillance activities, ProMED Mail reports on plant disease events affecting plants grown as food for humans or animals. There may, therefore, be disease events relevant to the Convention which fall outside of ProMED Mail's activities.

ProMED MAIL INFORMATION

118. Information flow at ProMED Mail progresses through a three stage process: receipt of information; review and verification; and dissemination.

Receipt of Information

119. On a daily basis, ProMED receives e-mails from its subscribers and other interested individuals containing new information about outbreaks of disease. ProMED Mail staff search both traditional media and the internet for relevant official and unofficial publications, such as Ministries of Health, Federal, State and local health departments, and Intergovernmental and International Organizations. To this end, ProMED Mail's staff of some 20 individuals in nine countries collaborate electronically through e-mail and web-based systems.

Review and Verification

120. All of the information received is first reviewed by a Top Moderator who rejects reports that are irrelevant, not credible, outdated or duplications of existing reports. Reports are then sent to one or more of the Subject Moderators. The Subject Moderators assess the reliability and accuracy of the information contained within the report, sometimes verifying the report with additional sources. The Subject Moderator then edits the report for content, adds relevant references and a limited commentary. These edited reports are then returned to a Top Moderator. The Top Moderator, in collaboration with a Copy Editor, performs a final round of editing which may include additional verification or commentary.

121. During this process, reports are colour coded according to their priority. Normal priority reports are coded 'green' and are reviewed as above and are expected to

progress through the system within 24 hours. Reports of greater importance (such as the report of an outbreak of a potentially epidemic disease in a new location) are coded 'yellow' and receive an expedited review process to be posted as soon as possible. Extremely urgent reports are coded 'red' and may bypass parts of the process described above in order to facilitate immediate posting.

Dissemination of Information

122. All finalized reports are posted on the ProMED Mail website and distributed via plain text e-mails to the lists maintained by ProMED Mail.

123. In addition to sending out e-mail reports on outbreaks and disease emergence, since its inception in 1994, ProMED Mail maintains extensive archives of all of its reports on its website. This database is searchable using a number of variables, including text, dates and geographical locations. Entries into the database are also internally cross-referenced. The archive is also accessible via e-mail.

124. ProMED Mail's website also provides a list of recent disease reports, a contact list of ProMED Mail's staff, instructions on how to submit information to ProMED Mail, free subscription to the various lists and links to additional sources of information on emerging infectious diseases.

FUTURE INITIATIVES BY ProMED MAIL

125. In a paper entitled *ProMED-mail: An Early Warning System for Emerging Diseases*, the Editor of ProMED outlined a number of initiatives which the organization has either begun to develop or intended to implement in the future. These included enhanced integration of the existing system with regional surveillance networks and the development of novel ways in which to present data.

Enhanced Integration with Regional Surveillance Networks

126. ProMED Mail is planning to form new alliances with regional disease surveillance networks. For example, ProMED Mail and the Mekong Basin Disease Surveillance Group, a consortium of States in Southeast Asia "seeks to improve detection of outbreaks in this region while facilitating interaction within the group, using ProMED's experience in building and running moderated networks."

Presentation of Data

127. In collaboration with the Centre for Applied Microbiology Research (CAMR) in the United Kingdom, ProMED Mail is attempting to develop a 'geographic information system representation'. This would represent the locations of reported disease events graphically and allow the querying of the archives through a similar geographic interface.

Annex I

CONFIDENCE BUILDING MEASURE FORM B

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins

1. At the Third Review Conference it was agreed that States Parties continue to implement the following:
2. Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins, and on all such events that seem to deviate from the normal pattern as regards type, development, place, or time of occurrence. The information provided on events that deviate from the norm will include, as soon as it is available, data on the type of disease, approximate area affected, and number of cases.

Modalities

3. The Third Review Conference agreed the following definition:
4. An outbreak or epidemic is the occurrence of an unusually large or unexpected number of cases of an illness or health-related event in a given place at a given time. The number of cases considered as unusual will vary according to the illness or event and the community concerned.
5. Furthermore, reference was made to the following definitions:

“An epidemic of infectious disease is defined as the occurrence of an unusually large or unexpected number of cases of a disease known or suspected to be of infectious origin, for a given place and time. It is usually a rapidly evolving situation, requiring a rapid response.” (WHO internal document CDS/Mtg/82.1).

“The occurrence in a community or region of cases of an illness, specific health-related behaviour, or other health-related events clearly in excess of normal expectancy. The community or region, and the time period in which the cases occur, are specified precisely. The number of cases indicating the presence of an epidemic will vary according to the agent, size and type of population exposed, previous experience or lack of exposure to the disease, and time and place of occurrence: epidemicity is thus relative to usual frequency of the disease in the same area, among the specified population, at the same season of the year. A single case of a communicable disease long absent from a population or first invasion by a disease not previously recognized in that area requires immediate reporting and full field investigation: two cases of such a disease associated in time and place may be sufficient evidence to be considered an epidemic.” (J.M. Last, A Dictionary of Epidemiology, Oxford University Press, New York, Oxford, Toronto, 1983.)

6. The Third Review Conference agreed on the following:
- i. In determining what constitutes an outbreak States Parties are recommended to take guidance from the above.
 - ii. Since no universal standards exist for what might constitute a deviation from the normal pattern, States Parties agreed to utilize fully existing national reporting systems on human diseases as well as animal and plant diseases, where possible, and systems within the WHO to provide annual update of background information on diseases caused by organisms which meet the criteria for risk groups II, III and IV according to the classification in the 1983 WHO Laboratory Biosafety Manual, the occurrence of which, in their respective areas, does not necessarily constitute a deviation from normal patterns.¹
 - iii. Exchange of data on outbreaks that seem to deviate from the normal pattern is considered particularly important in the following cases:
 - when the cause of the outbreak cannot be readily determined or the causative agent² is difficult to diagnose,
 - when the disease may be caused by organisms which meet the criteria for risk groups III or IV, according to the classification in the 1983 WHO Laboratory Biosafety Manual,
 - when the causative agent is exotic to a given region,
 - when the disease follows an unusual pattern of development,
 - when the disease occurs in the vicinity of research centres and laboratories subject to exchange of data under item A,
 - when suspicions arise of the possible occurrence of a new disease.
 - iv. In order to enhance confidence, an initial report of an outbreak of an infectious disease or a similar occurrence that deviate from the normal pattern should be given promptly after cognizance of the outbreak and should be followed up by annual reports. To enable States Parties to follow a standardized procedure, the Conference has agreed that Form B (ii) should be used, to the extent information is known and/or applicable, for the exchange of initial as well as annual information.
 - v. In order to improve international cooperation in the field of peaceful bacteriological (biological) activities and in order to prevent or reduce the occurrence of ambiguities, doubts and suspicions, States Parties are encouraged to invite experts from other States Parties to assist in the handling of an outbreak,

¹ This information should be provided in accordance with Form B (I).

² It is understood that this may include organisms made pathogenic by molecular biology techniques, such as genetic engineering.

and to respond favourably to such invitations.

Form B (i)

Background information on outbreaks of reportable infectious diseases

Disease	Number of cases per year				
	1988	1989	1990	1991	1992

Form B (ii)

Information on outbreaks of infectious diseases and similar occurrences, that seem to deviate from the normal pattern

1. Time of cognizance of the outbreak
2. Location and approximate area affected
3. Type of disease/intoxication
4. Suspected source of disease/intoxication
5. Possible causative agent(s)
6. Main characteristics of systems
7. Detailed symptoms, when applicable
 - respiratory
 - circulatory
 - neurological/behavioural
 - intestinal
 - dermatological
 - nephrological
 - other

8. Deviation(s) from the normal pattern as regards

- type
- development
- place of occurrence
- time of occurrence
- symptoms
- virulence pattern
- drug resistance pattern
- agent(s) difficult to diagnose
- presence of unusual vectors
- other

9. Approximate number of primary cases

10. Approximate number of total cases

11. Number of deaths

12. Development of the outbreak

13. Measures taken

Annex II

**EXTRACT FROM THE FIFTY-FOURTH WORLD HEALTH ASSEMBLY
(WHA54.14)**

Agenda item 13.3 21 May 2001

Global health security: epidemic alert and response

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;

Recalling that public health is a priority for development and that combating communicable diseases, which are a major burden in terms of human mortality and morbidity, provides important and immediate opportunities for progress;

Mindful of the globalization of trade and of the movement of people, animals, goods and food products, as well as the speed with which these take place;

Recognizing that, as a result, any upsurge in cases of infectious disease in a given country is potentially of concern for the international community,

EXPRESSES its support for:

- (1) ongoing work on the revision of the International Health Regulations, including criteria to define what constitutes a health emergency of international concern;
- (2) development of a global strategy for containment and, where possible, prevention 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, intergovernmental organizations, nongovernmental organizations and the private sector;

URGES Member States:

- (1) to participate actively in the verification and validation of surveillance data and information concerning health emergencies of international concern, together with WHO and other technical partners;
- (2) to develop and update national preparation and response plans;
- (3) to develop training for the staff involved and the exchange of good practice between specialists in response to alerts;

(4) to update regularly information on the resources available for the surveillance and control of infectious diseases;

(5) to designate a focal point for the International Health Regulations;

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 technical support to Member States for developing intervention programmes that prevent epidemics and respond to communicable disease threats and emergencies, particularly with regard to epidemiological investigations, laboratory diagnoses and community and clinical management of cases;

(3) to make appropriate arrangements for the development of regional preparedness and response plans;

(4) to provide support to Member States for strengthening their capacity to detect and respond rapidly to communicable disease threats and emergencies, especially by developing the laboratory skills needed for diagnosis and providing training in epidemiological methods for use in the field, particularly in the most exposed countries;

(5) to make available relevant information on public health risks to Member States, relevant intergovernmental organizations and technical partners;

(6) to provide technical support to Member States in the implementation of national efforts to contain and prevent resistance to antimicrobials.

Annex III

**EXTRACT FROM THE FIFTY-FIFTH WORLD HEALTH ASSEMBLY
(WHA55.16)**

Agenda item 13.15 18 May 2002

Global public health response to natural occurrence, accidental release or deliberate use of biological and chemical agents or radionuclear material that affect health

The Fifty-fifth World Health Assembly,

Underlining that the World Health Organization focuses on the possible public health consequences of an incident involving biological and chemical agents and radionuclear material, regardless of whether it is characterized as a natural occurrence, accidental release or a deliberate act;

Having reviewed the report on the deliberate use of biological and chemical agents to cause harm: public health response (Document A55/20);

Seriously concerned about threats against civilian populations, including those caused by natural occurrence or accidental release of biological or chemical agents or radionuclear material as well as their deliberate use to cause illness and death in target populations;

Noting that such agents can be disseminated through a range of mechanisms, including the food- and water-supply chains, thereby threatening the integrity of public health systems;

Acknowledging that natural occurrence or accidental release of biological, chemical agents and radionuclear material could have serious global public health implications and jeopardise the public health achievements of the past decades;

Acknowledging also that the local release of biological, chemical and radionuclear material designed to cause harm could have serious global public health implications and jeopardize the public health achievements of the past decades;

Recalling resolution WHA54.14 on global health security: epidemic alert and response, which stresses the need for all Member States to work together, with WHO and with other technical partners, in addressing health emergencies of international concern, and resolution WHA45.32 on the International Programme on Chemical Safety, which emphasized the need to establish or strengthen national and local capacities to respond to chemical incidents;

Recognizing that one of the most effective methods of preparing for deliberately caused disease is to strengthen public health surveillance and response activities for naturally or accidentally occurring diseases,

URGES Member States:

- (1) to ensure they have in place national disease-surveillance plans which are complementary to regional and global disease-surveillance mechanisms, and to collaborate in the rapid analysis and sharing of surveillance data of international humanitarian concern;
- (2) to collaborate and provide mutual support in order to enhance national capacity in field epidemiology, laboratory diagnoses, toxicology and case management;
- (3) to treat any deliberate use, including local, of biological and chemical agents and radionuclear attack to cause harm also as a global public health threat, and to respond to such a threat in other countries by sharing expertise, supplies and resources in order rapidly to contain the event and mitigate its effects;

REQUESTS the Director-General:

- (1) to continue, in consultation with relevant intergovernmental agencies and other international organizations, to strengthen global surveillance of infectious diseases, water quality, and food safety, and related activities such as revision of the International Health Regulations and development of WHO's food safety strategy, by coordinating information gathering on potential health risks and disease outbreaks, data verification, analysis and dissemination, by providing support to laboratory networks, and by making a strong contribution to any international humanitarian response, as required;
- (2) to provide tools and support for Member States, particularly developing countries, in strengthening their national health systems, notably with regard to emergency preparedness and response plans, including disease surveillance and toxicology, risk communication, and psychosocial consequences of emergencies;
- (3) to continue to issue international guidance and technical information on recommended public health measures to deal with the deliberate use of biological and chemical agents to cause harm, and to make this information available on WHO's web site;
- (4) to examine the possible development of new tools, within the mandate of WHO, including modelling of possible scenarios of natural occurrence, accidental release or deliberate use of biological, chemical agents and radionuclear material that affect health, and collective mechanisms concerning the global public health response to contain or mitigate the effects of natural occurrence, accidental release or deliberate use of biological, chemical agents and radionuclear material that affect health.

Annex IV

THE OFFICE INTERNATIONAL DES EPIZOOTIES AND RISK ANALYSIS

Risk Analysis – a Decision Support Tool for the Control and Prevention of Animal Diseases

CONSIDERING THAT

The Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) of the World Trade Organization (WTO) designates the OIE as the international Organization responsible for drafting standards and guidelines on risk analysis in animal health and zoonoses

Most countries consider risk analysis to be a very useful tool in decision-making, but still require training in risk analysis methodologies

The OIE has designated a Collaborating Centre for animal disease surveillance systems and risk analysis, as well as other Collaborating Centres for the surveillance, diagnosis, control and epidemiology of animal diseases

Member Countries have indicated that the OIE should help to make risk analyses carried out by other Member Countries available as examples of the application of the process

Until now, risk analysis has been used primarily for import/export decisions; however, it is also a powerful tool for decision-making in disease surveillance and control programmes

Valid risk analyses require consideration of all steps of the process

**THE COMMITTEE
RECOMMENDS THAT**

1. The OIE enhance its role in providing technical assistance to Member Countries by continuing the development of international standards and guidelines on risk analysis and by facilitating the external peer review of risk analyses by suggesting experts to Member Countries seeking reviewers.

2. The OIE Collaborating Centres develop training material and continue to provide training in risk analysis methodologies and foster communication and co-operation between regional risk analysis working groups, such as the Working Group created by the OIE Regional Commission for the Americas.

3. The OIE encourage Member Countries to increase transparency and improve risk communication by sharing risk analyses with other Member Countries to demonstrate approaches and methods in the application of the risk analysis process.

4. The OIE develop and promote applications of the risk analysis process to enhance disease surveillance, control and eradication programmes.
5. The OIE encourage Member Countries to ensure the validity of their import risk analyses by addressing all steps of the process, thus ensuring that they can withstand international scrutiny.

Annex V

**EXTRACTS FROM THE WORLD HEALTH ORGANIZATION'S
DRAFT INTERNATIONAL HEALTH REGULATIONS**

ARTICLE 5 NOTIFICATION

1. Health administrators shall notify WHO by the most rapid means of communication available, through the Nation IHR Focal Point, of all events potentially contributing a public health emergency of international concern within their territories according to the decision instrument contained in Annex 2, as well as any public health measure implemented in response to those events.

2. WHO shall retain notifications under this article and other information provided to it under Article 6 for its use in verification and other purposes under these Regulations and not make it publicly available, until such time as:

- a) the event is determined to be a public health emergency of international concern in accordance with Article 9;
- b) the notifying or consulting health administration agrees to the public availability of the information;
- c) information evidencing the international spread of the infection or contamination has been confirmed by WHO in accordance with established epidemiological principles;
- d) there is evidence that:
 - i. control measures against the international spread are unlikely to succeed because of the nature of the contamination, disease agent or vector; or
 - ii. the health administration lacks the operational capacity to carry out necessary measures to prevent further spread of disease; or
- e) the nature and scope of the international movement of travellers, conveyances, containers, cargo or goods that may be affected by the infection or contamination requires the immediate application of international control measures.

3. Following a notification, the health administration shall continue to communicate to WHO timely, accurate and sufficiently detailed epidemiological information, including: case definitions, laboratory results, sources and type of the risk, number of cases and deaths, conditions affecting the spread of disease and the health measures employed.

ARTICLE 8 VERIFICATION

1. WHO, in consultation with the health administration of the State concerned, shall verify rumours of public health risks which may involve or result in international spread of disease and/or possible interference with international traffic, subject to these Regulations.

2. Each health administration, when requested by WHO, shall verify as rapidly as possible, and provide information on, the status of public health risks occurring in its territory. Each health administration shall continue to communicate to WHO such information, including relevant information as described in paragraph 3 of Article 5.

3. When WHO, through its surveillance activities, detects evidence of a possible public health emergency of international concern:

- a) WHO shall contact the health administration in whose territory the alleged event occurred or is occurring and request information thereon, which the health administration shall promptly provide;
- b) the health administration in whose territory the alleged event occurred or is occurring shall collaborate with WHO in assessing the potential for international disease spread and possible interference with international traffic and the adequacy of control measures and, when necessary, in conducting on-the-spot studies by a team sent by WHO, with the purpose of ensuring that appropriate control measures are being employed.

ARTICLE 10 RESPONSE

1. Health administrations shall develop and maintain the capacity to respond promptly and effectively to public health risks and public health emergencies of international concern as set out in Annex I.

2. At the request of the health administration of a State experiencing a public health emergency of international concern, WHO shall collaborate in the response by providing technical guidance and assistance and by verifying the effectiveness of the control and containment measures in place, including the mobilization of on-site experts, if appropriate.

3. In the absence of such a request, WHO may offer assistance to the health administration of a State in responding to the public health emergency of international concern, and the health administration shall collaborate with WHO in assessing the severity of the threat and the adequacy of control measures and, when necessary, in conducting on-the-spot studies by a team sent by WHO, with the purpose of ensuring the appropriate control measures are being employed.

4. WHO shall provide appropriate guidance and assistance to other States impacted by the public health emergency of international concern.

ARTICLE 41 INFORMATION SHARING DURING A SUSPECTED INTENTIONAL RELEASE

In the context of a suspected intentional release of a biological, chemical or radionuclear agent, States shall immediately provide WHO all relevant public health information, materials and samples, for verification and response purposes.

Annex VI

**LISTS OF NOTIFIABLE DISEASES FOR THE OFFICE INTERNATIONAL
DES EPIZOOTIES**

LIST A

Transmissible diseases that have the potential for very serious and rapid spread, irrespective of national borders, that are of serious socio-economic or public health consequence and that are of major importance in the international trade of animals and animal products. Reports are submitted to the OIE as often as necessary to comply with Articles 1.1.3.2 and 1.1.3.3 of the *International Animal Health Code*.

- Foot and mouth disease
- Swine vesicular disease
- Peste des petits ruminants
- Lumpy skin disease
- Bluetongue
- African horse sickness
- Classical swine fever
- Newcastle disease
- Vesicular stomatitis
- Rinderpest
- Contagious bovine pleuropneumonia
- Rift Valley fever
- Sheep pox and goat pox
- African swine fever
- Highly pathogenic avian influenza

LIST B

Transmissible diseases that are considered to be of socio-economic and/or public health importance within countries and that are significant in the international trade of animals and animal products. Reports are normally submitted once a year, although more frequent reporting may in some cases be necessary to comply with Articles 1.1.3.2 and 1.1.3.3 of the *International Animal Health Code*.

Multiple species diseases

- Anthrax
- Aujeszky's disease
- Echinococcosis/hydatidosis
- Heartwater
- Leptospirosis
- New world screwworm (*Cochliomyia hominivorax*)

- Old world screwworm (*Chrysomya bezziana*)
- Paratuberculosis
- Q fever
- Rabies
- Trichinellosis

Cattle diseases

- Bovine anaplasmosis
- Bovine babesiosis
- Bovine brucellosis
- Bovine cysticercosis
- Bovine genital campylobacteriosis
- Bovine spongiform encephalopathy
- Bovine tuberculosis
- Dermatophilosis
- Enzootic bovine leukosis
- Haemorrhagic septicaemia
- Infectious bovine rhinotracheitis/infectious pustular vulvovaginitis
- Malignant catarrhal fever
- Theileriosis
- Trichomonosis
- Trypanosomosis (tsetse-transmitted)

Sheep and goat diseases

- Caprine and ovine brucellosis (excluding *B. ovis*)
- Caprine arthritis/encephalitis
- Contagious agalactia
- Contagious caprine pleuropneumonia
- Enzootic abortion of ewes (ovine chlamydiosis)
- Maedi-visna
- Nairobi sheep disease
- Ovine epididymitis (*Brucella ovis*)
- Ovine pulmonary adenomatosis
- Salmonellosis (*S. abortusovis*)
- Scrapie

Equine diseases

- Contagious equine metritis
- Dourine
- Epizootic lymphangitis
- Equine encephalomyelitis (Eastern and Western)
- Equine infectious anaemia
- Equine influenza
- Equine piroplasmosis

- Equine rhinopneumonitis
- Equine viral arteritis
- Glanders
- Horse mange
- Horse pox
- Japanese encephalitis
- Surra (*Trypanosoma evansi*)
- Venezuelan equine encephalomyelitis

Swine diseases

- Atrophic rhinitis of swine
- Enterovirus encephalomyelitis
- Porcine brucellosis
- Porcine cysticercosis
- Porcine reproductive and respiratory syndrome
- Transmissible gastroenteritis

Avian diseases

- Avian chlamydiosis
- Avian infectious bronchitis
- Avian infectious laryngotracheitis
- Avian mycoplasmosis (*M. gallisepticum*)
- Avian tuberculosis
- Duck virus enteritis
- Duck virus hepatitis
- Fowl cholera
- Fowl pox
- Fowl typhoid
- Infectious bursal disease (Gumboro disease)
- Marek's disease
- Pullorum disease

Lagomorph diseases

- Myxomatosis
- Rabbit haemorrhagic disease
- Tularemia

Bee diseases

- Acariosis of bees
- American foulbrood
- European foulbrood
- Nosemosis of bees
- Varroosis

Fish diseases

- Epizootic haematopoietic necrosis
- Infectious haematopoietic necrosis
- *Oncorhynchus masou* virus disease
- Spring viraemia of carp
- Viral haemorrhagic septicaemia

Mollusc diseases

- Bonamiosis (*Bonamia exitiosus*, *B. ostreae*, *Mikrocytos roughleyi*)
- Marteilirosis (*Marteilia refringens*, *M. sydneyi*)
- Mikrocytosis (*Mikrocytos mackini*)
- MSX disease (*Haplosporidium nelsoni*)
- Perkinsosis (*Perkinsus marinus*, *P. olseni/atlanticus*)

Crustacean diseases

- Taura syndrome
- White spot disease
- Yellowhead disease

Other List B diseases

- Leishmaniosis

Annex VII

**CHAPTER 1.1.3. OF THE OFFICE INTERNATIONAL DES EPIZOOTIES
TERRESTRIAL ANIMAL HEALTH CODE**

CHAPTER 1.1.3. - NOTIFICATION AND EPIDEMIOLOGICAL INFORMATION

Article 1.1.3.1.

For the purposes of the *Terrestrial Code* and in terms of Articles 5, 9 and 10 of the Statutes, every Member Country of the OIE shall recognise the right of the *Central Bureau* to communicate directly with the *Veterinary Administration* of its territory or territories.

All *notifications* and all information sent by the OIE to the *Veterinary Administration* shall be regarded as having been sent to the country concerned and all *notifications* and all information sent to the OIE by the *Veterinary Administration* shall be regarded as having been sent by the country concerned.

Article 1.1.3.2.

1. Countries shall make available to other countries, through the OIE, whatever information is necessary to minimise the spread of important animal diseases and to assist in achieving better worldwide control of these diseases.
2. To achieve this, countries shall comply with the *notification* requirements specified in Article 1.1.3.3.
3. To assist in the clear and concise exchange of information, reports shall conform as closely as possible to the official OIE disease reporting format.
4. Recognising that scientific knowledge concerning the relationship between disease agents and diseases is constantly developing and that the presence of an infectious agent does not necessarily imply the presence of a disease, countries shall ensure through their reports that they comply with the spirit and intention of paragraph 1 above.
5. In addition to notifying new findings in accordance with Article 1.1.3.3., countries shall also provide information on the measures taken to prevent the spread of diseases; including quarantine measures and restrictions on the movement of *animals*, animal products and biological products and other miscellaneous objects which could by their nature be responsible for transmission of disease. In the case of diseases transmitted by vectors, the measures taken against such vectors shall also be specified.

Article 1.1.3.3.

Veterinary Administrations shall send to the *Central Bureau*:

1. *notification* by telegram, fax or e-mail, within 24 hours, of any of the following events:

for diseases listed by the OIE, the suspected or (under study) confirmed first occurrence or re-occurrence of a disease, if the country or zone of the country was previously considered to be free from that particular disease;

for diseases listed by the OIE, evidence of changes in the epidemiology of a disease (including host range, pathogenicity, strain) if this represents important new information of epidemiological significance to other countries, in particular if a disease may have a zoonotic impact;

c) for diseases not listed by the OIE, if there is information of exceptional epidemiological significance to other countries, for example if a disease may be a zoonosis;

in deciding whether findings justify immediate *notification*, countries must ensure that they comply with the obligations of Section 1.2. (especially Article 1.2.1.3.) of the *Terrestrial Code*, to report developments which may have implications for *international trade*;

2. weekly reports by telegram, fax or e-mail subsequent to a *notification* under point 1 above, to provide further information on the evolution of an incident which justified urgent *notification*; these reports should continue until the disease has been eradicated or the situation has become sufficiently stable that monthly reporting under point 3 will satisfy the obligation of the country to the OIE;

3. monthly reports on the absence or presence, and evolution of diseases listed by the OIE and information of epidemiological significance to other countries;

4. annual reports on all diseases listed by the OIE and any other information of epidemiological significance to other countries.

Article 1.1.3.4.

1. The *Veterinary Administration* of a territory in which an *infected zone* was located shall inform the *Central Bureau* when this zone is free from the disease.

2. An *infected zone* for a particular disease shall be considered as such until a period exceeding the *infective period* specified in the *Terrestrial Code* has elapsed after the last reported *case*, and when full prophylactic and appropriate animal health measures have been applied to prevent possible reappearance or spread of the disease. These measures will be found in detail in the various chapters of Section 2.1. of the *Terrestrial Code*.

3. A country may be considered to regain freedom from a specific disease when all conditions given in the relevant chapters of the *Terrestrial Code* have been fulfilled.

4. The *Veterinary Administration* of a country which sets up one or several *free zones* shall inform the OIE giving the necessary details, including the criteria on which the free status is based, the requirements for maintaining the status and indicating clearly the location of the zones on a map of the country.

Article 1.1.3.5.

1. The *Central Bureau* shall send by telegram, fax, e-mail or *Disease Information* to the *Veterinary Administrations* concerned, all *notifications* received as provided in Articles 1.1.3.2. to 1.1.3.4.

2. The *Central Bureau* shall dispatch to the Delegates information on new *outbreaks* of listed diseases.

3. The *Central Bureau*, on the basis of information received and of any official communication, shall prepare an annual report concerning the application of the *Terrestrial Code* and its effects on *international trade*.

Article 1.1.3.6.

All telegrams or faxes sent by *Veterinary Administrations* in pursuance of Articles 1.1.3.3. and 1.1.3.5. shall receive priority in accordance with the circumstances. Communications by telephone, telegram or fax, sent in the case of exceptional urgency when there is danger of spread of a notifiable epizootic disease, shall be given the highest priority accorded to these communications by the International Arrangements of Telecommunications.
