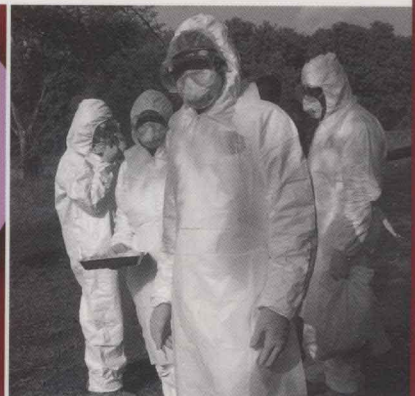
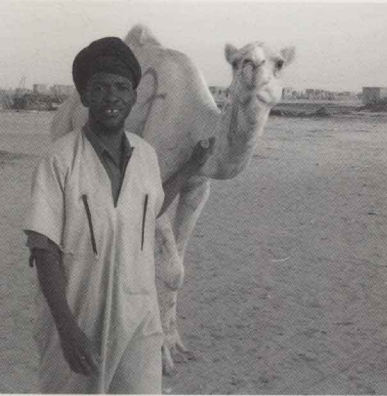


FAO ANIMAL PRODUCTION AND HEALTH



# manual

## GOOD EMERGENCY MANAGEMENT PRACTICE: THE ESSENTIALS

A guide to preparing for animal health emergencies



# GOOD EMERGENCY MANAGEMENT PRACTICE: THE ESSENTIALS

A guide to preparing for animal health emergencies

Nick Honhold, Ian Douglas, William Geering,  
Arnon Shlimshoni, Juan Lubroth



*This is the second (2011) edition of Good Emergency Management Practices. The previous version was first published in electronic form in 2001 and is available at <http://www.fao.org/ag/againfo/programmes/en/empres/GEMPL/index.html> and <http://www.fao.org/DOCREP/004/X2096E/X2096E00.HTM>*

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# Foreword

An animal disease emergency, such as an outbreak of a transboundary animal disease (TAD), can have serious socio-economic consequences which, at their extreme, may affect the national economy. If a new disease can be recognized quickly while it is still localized, and if prompt action is taken to contain and then progressively eliminate it, the chances of eradication of the disease are markedly enhanced. Conversely, eradication may be extremely difficult and costly, or even impossible, if the disease is not recognized and appropriate control action is not taken until the disease is widespread or has become established in domestic animals or wildlife.

Planning for emergency disease eradication or control programmes cannot be left until a disease outbreak has occurred. At that point, there will be intense pressure from politicians and livestock farmer groups for immediate action. In such a climate, mistakes will be made, resources will be misused, deficiencies will be rapidly amplified and highlighted. Delays will result in further spread of the disease and higher costs. If there is inadequate advance planning, national animal health services will face a disease emergency with poor training and little or no previous experience. These severe problems can be avoided if there is adequate advance planning and preparation.

Preparedness programmes for animal disease emergencies provide the key to mounting early effective action in the face of an emergency. In fact, these programmes should be recognized as one of the important core functions of national animal health services. A strong linkage between animal and human health sectors may be critical to support surveillance and response.

Preparedness planning, including the development and approval of contingency plans for identified high-threat diseases, enables animal health services to be far better technically equipped to cope with a disease emergency. There are other benefits. Prior approval of plans will allow decisions to be made by politicians and senior civil servants more rapidly. This should enable government funds for the control campaign to be released more quickly and for necessary assistance to be made available more easily from other government agencies. Pre-established relationships with other agencies, especially public health agencies, will facilitate better responses through improved communication channels. Farming communities are also more likely to cooperate in an emergency disease-control programme if they see that quick, decisive action is being taken that ultimately will benefit them and that their contributions and inputs were considered during planning and review.

Contingency plans are often prepared against specific diseases that are considered to represent the greatest threat. However, contingency plans also enable animal health services to respond quickly to entirely unanticipated disease occurrences because the same general epidemiological and disease-control principles and systems that were developed for specific diseases can also be applied in any new situation.

It is hoped that this document and other materials that will be provided as part of the GEMP package will assist and facilitate preparedness. A GEMP checklist is also provided. This may serve as a brief overview for managers.

**Dr Juan Lubroth,**  
Chief Veterinary Officer  
Animal Health Service  
FAO May 2011

# Acronyms and abbreviations

<b>BSE</b>	Bovine spongiform encephalopathy
<b>CBPP</b>	Contagious bovine pleuropneumonia
<b>CCEAD</b>	Consultative Committee on Emergency Animal Diseases
<b>CVO</b>	Chief veterinary officer
<b>DIVA</b>	Differentiation of infected from vaccinated animals
<b>EDR</b>	Estimated dissemination rate
<b>EMPRES</b>	Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases
<b>EMPRES-i</b>	EMPRES Global Animal Disease Information System
<b>FAO</b>	Food and Agriculture Organization of the United Nations
<b>FMD</b>	Foot-and-mouth disease
<b>GPS</b>	Global positioning system
<b>HPAI</b>	Highly pathogenic avian influenza
<b>HRP</b>	High-risk period
<b>IATA</b>	International Air Transport Association
<b>ICS</b>	Incident Command System
<b>LDCC</b>	Local (animal) disease control centre
<b>LRP</b>	Low-risk period
<b>NADEPC</b>	National animal disease emergency planning committee
<b>NDCC</b>	National (animal) disease control centre
<b>NEC</b>	National emergency committee
<b>NGO</b>	Non-governmental organization
<b>OIE</b>	World Organisation for Animal Health
<b>PCR</b>	Polymerase chain reaction
<b>PPE</b>	Personal protective equipment
<b>PZ</b>	Protection zones
<b>RA/IA</b>	Restricted/infected area
<b>RRP</b>	Raised-risk period
<b>SOP</b>	Standard operating procedure
<b>SZ</b>	Surveillance zone
<b>TAD</b>	Transboundary animal disease
<b>TADinfo</b>	Transboundary animal disease information system
<b>TAHC</b>	Terrestrial Animal Health Code
<b>WAHID</b>	World Animal Health Information Database
<b>WHO</b>	World Health Organization
<b>WTO</b>	World Trade Organization

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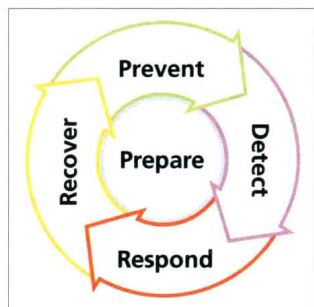
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# Introduction and basic issues



## PURPOSE OF THE MANUAL

A disease emergency is one of the most challenging situations that a veterinary service can confront (Annex A discusses many of the aspects of disease emergencies). Recent experience in various countries has shown that veterinary services must be well-prepared to deal with such an emergency in order to achieve rapid, cost-efficient control. To do this, the veterinary services must have a well-developed plan, the capacity to implement it, and it must practise implementing its plan.

The aim of this manual is to set out in a systematic way the elements required to achieve that level of preparedness for any emergency disease in animals. In particular, but not exclusively, this manual focuses on the control of transboundary animal diseases (TADs). Some of these principles may also be helpful in preparing for food safety, zoonotic and even non-infectious disease emergencies.

Emergency management preparedness programmes should provide the key to identifying and prioritizing disease incursion threats. The basic components of these programmes to be considered are preventing the entry of TADs and other disease threats, rapidly detecting disease and taking early effective action in the face of an emergency. Learning from outbreaks and reviewing the response sequence are critical to better performance in future emergencies.

Preparedness planning, including the development and approval of contingency plans for identified high-threat diseases, enables animal health services to be better equipped technically to cope with a disease emergency. There are other benefits. Prior negotiation and approval of plans will allow decisions to be made by politicians and senior civil servants more rapidly. This should allow the government to release required funds more quickly for the control campaign and facilitate the provision of any necessary assistance from other government agencies and the private sector. Farming communities are more likely to cooperate in an emergency disease-control programme if they see that quick, decisive action is being taken that will ultimately benefit them and if they are actively involved in preparing emergency plans. They will then share “ownership” of some of the plans.

This document includes a simple assessment tool that may assist managers in gauging their state of preparedness. This tool, however, is not intended to be a full evaluation. Conducting more rigorous evaluations of preparations also will be extremely valuable.

## PREPARE/PREVENT/RESPOND/RECOVER CYCLE

Figure 1 illustrates the cycle of good emergency management planning and disease control. It is meant to indicate that good emergency preparedness is an ongoing process. Prevention

FIGURE 1  
Cycle of good emergency management planning and disease control



and detection ideally take place concurrently, and both take place during the absence of emergency diseases (sometimes referred to as “peacetime”). For an endemic disease, these phases will be carried out when disease is already present.

When a disease is detected, rapid response is essential to minimize the spread of the disease. Delays at this point are critical and can lead to a disease becoming widespread and endemic. After the disease has been controlled or eliminated, the response winds down

and a recovery period is required to return the affected livestock sector(s) to either the previous state, or more likely to a situation in which future risks have been reduced as a result of changes to legislation and/or practices.

Planning and practising takes place at all stages of the cycle. It is particularly important that response plans (also known as contingency plans) are regularly and thoroughly tested as part of the preparation phase. This will ensure that the plans are practical, feasible and well-understood and that the people who will be faced with the problem in the field are fully trained in implementing their role in the response.

## **FACTORS AFFECTING THE FREQUENCY, SIZE AND LENGTH OF DISEASE EMERGENCIES**

Much of this section comes from thinking about disease incursions in terms of risk periods. This concept was originally developed to analyse disease outbreak response, but it has been expanded to cover the whole cycle of disease management. Annex B contains a more thorough description of this.

Preparedness planning and practice should be recognized as one of the important core functions of national animal health services. Preparation is required for all the subsequent steps in the disease management cycle to be effective. It is necessary to:

- establish a national disease emergency planning committee;
- determine the command structure and responsibilities;
- ensure that the required legal powers are in place;
- ensure that sources of financing have been identified;
- establish compensation policy;

- establish sourcing for any required vaccines and other critical supplies;
- undertake risk analysis to identify and prioritize potential disease risks;
- prepare, practise and refine contingency plans and operations manuals.

Disease management starts with prevention. Having a well thought out set of preventive measures will decrease the frequency and possibly the impact of disease incursions. It is necessary to:

- prevent entry of the disease agent in legal imports;
- prevent entry of the disease agent in illegal imports;
- maintain intelligence gathering for early warning of changes in distribution, virulence or epidemiology in affected countries and trading partners;
- establish, strengthen and maintain cross-border contacts with neighbouring administrations; and
- promote and strengthen routine biosecurity measures.

Early detection of any incursion is vital. The delay between incursion and detection is one of the most important factors in determining the severity of the outbreak. The components of an effective detection system include:

maintaining disease awareness among key staff and stakeholders;

- maintaining routine disease intelligence activities and targeted surveillance as required;
- reporting suspicions (by owners, veterinarians etc.);
- establishing and following a protocol for investigating suspect cases;
- establishing and following a protocol for initial mobilization of contingency plans;
- maintaining laboratory facilities to confirm a clinical suspicion.

Once a disease has been detected and confirmed, it is essential to:

- activate contingency plans;
- assess the initial outbreak (e.g. size, geographical spread, epidemiology) to judge what control measures may be required;
- implement the control measures as quickly and completely as possible;
- monitor progress and adjust policies accordingly;
- continue to exchange information and data with neighbouring administrations; and
- communicate with the public and all stakeholders, including the World Organization for Animal Health (OIE).

The other major determining factor in the overall severity of any outbreak is the amount of time taken between detection and full implementation of the required control measures over the whole area of the outbreak.

The presence of a disease in the country of a trading partner or neighbouring territory may increase the risk of introduction of a disease outbreak. Certain times of year may be accompanied by higher risks of the introduction or spread of disease, for example, where cultural or religious festivals may involve large-scale movements of animals. In these cases, it is prudent to take the following measures that will decrease the amount of time needed to implement control measures if an infection is detected:

## **Prevent**

- Prevent entry of the disease agent through additional, targeted restrictions on imports in accordance with accepted international standards.

- Set import restrictions to allow low-risk trade to maximize effectiveness of the quarantine barrier.
- Prevent entry of the disease through tightened and targeted inspections for legal and illegal imports.
- Implement increased biosecurity measures, including quarantine facilities for live animals (e.g. livestock, wildlife and mascots), particularly at locations identified as high risk (e.g. border areas, markets, livestock trading businesses).
- Consider establishing pre-embarkation and post-entry testing for diseases of concern.

## Detect

- Raise disease awareness among staff, stakeholders and the general public.
- Intensify surveillance to ensure early detection of any incursion.
- Cooperate closely with neighbouring administrations, exchanging information on any suspected or confirmed outbreaks, and fulfil international reporting obligations.

## Respond

- Review contingency plans and make staff aware of their roles should the disease occur.
- Start to put initial structures in place for contingency plans.

Once a disease has been controlled or eliminated, the recovery process should begin.

This includes:

- undertaking planned surveillance activities to demonstrate freedom;
- sentinel restocking;
- full restocking;
- fully implementing compensation policies, if appropriate;
- standing down the resources mobilized during the control/elimination phase;
- conducting post-outbreak analysis to assess the pre-outbreak practices and issues that led to the outbreak and any problems encountered in detecting and responding to it; and
- reviewing and revising legislation and plans to correct deficiencies, make risky practices safer and introduce new practices as required.

## THE VALUE OF PLANNING FOR EMERGENCIES

Emergency responses present unique challenges for those who must respond. During an emergency it is often desirable to use normal systems with which people are already familiar, however emergencies usually cannot be addressed effectively in the same manner as daily work.

In particular, it is essential to have a clear understanding of who will be responsible for what activities and a single chain of command and line of communication so that all those involved understand what they have to do and from whom they will receive direction.

The best chain of command may not be the one which normally operates in a country. Therefore, plans need to be documented and agreed in advance so that everyone understands what will be happening and how the response will be implemented.

A well-prepared plan details the critical arrangements and approaches in advance. It provides a reference guide during the emergency to help avoid key actions being overlooked.

A key benefit of planning is that it prompts a wide range of people who are likely to become involved to think carefully about what may be the challenges. It will probably reveal issues that have otherwise not been considered. This enables some gaps or deficiencies to be addressed ahead of an outbreak.

The plan is a very useful document, but the planning process is also of tremendous benefit. Working through the planning process involves key players. They will be encouraged to think through the issues before a crisis situation exists, so that they might prepare and build skills. Planning may also be essential to sustaining human and animal health, food security and food safety, and may be essential to the country's ability to participate in the international trade of animals and animal products.

## THE REQUIRED ELEMENTS OF PREPAREDNESS PLANNING

Preparedness planning and practice should be recognized as one of the important core functions of national animal health services. Four kinds of plans or documents are required in any comprehensive risk mitigation and response system. These are:

- an emergency preparedness plan (often shortened to "preparedness plan");
- a response or "contingency plan";
- an operations manual or manuals; and
- a recovery plan.

## Comparing the required plans and documents

There is often confusion between the terms "emergency preparedness plan" and "contingency plan". The definitions of "preparedness" and "contingency" help to clarify the difference between these two types of plans:

**Preparedness:** A state of readiness, preparation for an event

**Contingency:** An unusual and unpredictable event; something liable, but not certain, to occur

From these definitions, it is possible to describe the different, but complimentary, purposes of the four kinds of plans:

- An emergency preparedness plan outlines what a government needs to do before an outbreak of a disease in order to be prepared (i.e. getting ready). This includes things that all of the stakeholders need to do.
- A contingency plan details what a government will do in the event of an incursion of a disease, beginning from the point when a suspect case is reported (i.e. responding). This includes things that all of the stakeholders need to do.
- An operations manual is a comprehensive set of instructions (also called standard operating procedures [SOPs]) produced by the government that instructs field staff and others how to undertake specific tasks required by the contingency plan (i.e. implementing the response).
- A recovery plan is the plan for the safe recovery or restoration of normal activities, although possibly with procedures and practices modified in light of the experience gained during the outbreak (i.e. recovery).

An emergency preparedness plan involves many activities, including preparing a contingency plan. This makes the contingency plan a “daughter” document of the emergency preparedness plan. The operations manual can be seen as a separate document under the emergency preparedness plan, but is more commonly and perhaps correctly seen as a “daughter” document of the contingency plan (or “granddaughter” of the emergency preparedness plan) because it determines what procedures are required. The exact relationships do not matter, as long as the purposes are understood.

Of course, there are many aspects of emergency preparedness plans, contingency plans and operations manuals that are common for different diseases. This has led to a system of creating a generic, overall emergency preparedness plan and contingency plan, with a chapter for each disease of interest. Operations manuals may be similar or identical for more than one disease.

### Reviewing and updating the plans and documents

It is important to emphasize that these plans and instructions are living documents. Circumstances and policies change, knowledge increases and new techniques are introduced. It is essential that these plans and instructions be reviewed at regular, planned intervals and be updated to reflect changes since the last revision. This cannot be emphasized strongly enough. An out-of-date plan often hinders more than it helps.

These plans and instructions must be comprehensively reviewed and updated at least every five years, and it is important to mark and control the number of the version that is produced. Each page could include a footer with the version number and date. One visual option to ensure that the latest version is being used is to use different page colours for each version.

### A NATIONAL DISASTER PLAN

Most countries have well-developed national disaster plans which allow essential government and non-government services and resources to be rapidly mobilized in response to a disaster. Such plans also may allow these essential services to be given special powers to act in the emergency. The national disaster plan is usually aimed at specific natural disasters of an emergency nature, such as major fires, floods, hurricanes, earthquakes, radiation incidents and volcanic eruptions.

A strong case can be made for the official recognition of a disease emergency as a defined natural disaster situation which can be incorporated into the national disaster plan. An epidemic of a TAD, for example, has the same characteristics as other natural disasters. It is often a sudden and unexpected event, may cause major socio-economic consequences that impact across the nation (and may even threaten food security), may endanger human life and requires a rapid national response.

There are certain essential government services that are included in responding to national disasters. These services also have important roles in animal health emergencies and their participation can greatly assist the veterinary services in situations regarded as natural disasters. These services include, among others:

- defence forces (notably the army and air force), can provide support for transporting personnel and equipment to disease outbreak sites, particularly when these sites