6. MEASURES FOR PROTECTION OF RABIES-FREE COUNTRIES

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6. MEASURES FOR PROTECTION OF RABIES-FREE COUNTRIES

6.1 Introduction

In Section 1.4 the present policies of the prevention of the spread of rabies within a country as well as between countries are discussed. Model legislation, control of dog movements, emergency and contingency plans and quarantine and observation are discussed in Sections 4.2, 5.2.3, 5.2.7 and 5.3.3.

The evaluation of presently applied regulations shows a wide divergency of measures, partly determined by local conditions, historical developments and regionally influenced rules (Section 1.4). Efforts are therefore made in the following to propose - on the basis of recommendations of international organizations - uniform import procedures for those countries which prepare and implement comprehensive national plans of rabies elimination (Section 6.6). The preparation and adoption of new plans offer governments the opportunity to review their requirements and to modernize them by taking into consideration immunological conditions and tests. The requirements described in the following apply both to animals involved by tourists and visitors and to animals introduced for commercial purposes.

6.2 Responsibility of owners or handlers of an animal

It cannot be expected that the owner or handler of an animal knows from experience all the requirements for the transfer of the animal to a foreign country or for its return to its own country. Requirements differ from country to country depending on the epidemiological status, the availability of facilities (e.g., for quarantine) and the applicability of measures. Requirements are subject to changes as these conditions change. Moreover, they may not be restricted to dogs and cats but concern all species able to carry the disease.

It is therefore one of the most frequent and important questions: how to obtain correct and complete information? WHO issues every two years a list of import requirements. However, this is mainly used to compare measures and to analyze the trend of rabies prevention on the various continents (see also Section 1.4). Up-to-date information is generally available from travel agencies and in particular from the consulates or airlines of the country of destination. IATA members issue monthly the "Travel Information Manual" (TIM) which provides details for each listed country under the section "Pets".

Owners and handlers of an animal should observe the following obligations and recommendations:

(a) Obtain complete information on requirements.

(b) Avoid taking an animal to a country or area (e.g., an infected one) if this prohibits or hampers the transfer to another country (e.g., a rabies-free country).

(c) Have the animal vaccinated against rabies before entering another country: note that most countries require vaccination between 30 days and 12 months before entry, but some countries insist on a longer interval between the time of vaccination and entry into the country. Make sure that a vaccine type is applied which is recognized by the authorities of the country of destination (some countries specify the vaccine to be used). A vaccination certificate must be issued by the authorities. For further details on vaccination see Section 5.2.2 and on certification and validity for international transfer see Section 6.3.
(d) If required, obtain a health certificate from veterinary authorities prior to departure. The country of destination may also need confirmation of the epidemiological situation in the country of origin and the other countries visited by the animal within a certain period prior to entry (see International Zoosanitary Code, item 6.3.2).

6.3 Responsibility of authorities of the countries of origin and destination

The veterinary authorities of the country of origin certify vaccination, the health status of the animals, and the epidemiological status of the country or area of origin, as required by the country of destination, which may also ask for further details.

Pertinent recommendations have been made by the WHO Expert Committee on Rabies at its 7th meeting in 1983. The International Zoosanitary Code of OIE specifies principles and minimum requirements for certification of the rabies status of the country of origin, the countries visited by the animal prior to export, and its health and vaccination status. International recommendations are supplemented by the format of the "International Certificate of Vaccination Against Rabies" (see Annex 6.2).

In view of the significance of these international codes and recommendations for national programme development, they are given here in their entirety.

6.3.1 Recommendations of the WHO Expert Committee on Rabies (1983)

An area can be considered rabies-infected when an indigenously acquired rabies infection has been confirmed in man or animals at any time during a previous 2-year period. Conversely a rabies free area may be defined as one in which no case of indigenously acquired rabies has occurred in man or animals for 2 years.

The following measures should be taken when animals are imported from countries where rabies is known to exist.

Dogs and cats

(1) Countries now free from rabies should either totally prohibit the importation of dogs and cats or only permit their entry under the authority of a licence granted previously. Such animals on entry should be subjected to a prolonged period of quarantine, preferably 4 months or more, at quarantine premises approved by the Government veterinary service. If the quarantine period is only 4 months, leashing of dogs and surveillance for an additional 2 months are recommended. The use of an inactivated vaccine on entry into quarantine is recommended for both dogs and cats.

(2) Where strict quarantine measures are impracticable, as for instance in countries with extensive land borders and with rabies already present in domestic or wild animals, the following measures are recommended:
4.3

(a) Dogs and cats should be vaccinated not less than 30 days and not more than 1 year prior to entry, and be accompanied by an international certificate of vaccination signed by the veterinary authorities in the country of origin (see (d) below).

(b) Where doubt exists as to the potency of the vaccine used in the animals' country of origin, the animal should be considered to be unvaccinated.

(c) Unvaccinated animals should be vaccinated on arrival and either quarantined for at least 21 days combined with surveillance and movement control for an additional 90 days, or surveillance and movement restrictions should be imposed for 170 days following vaccination on arrival.

(d) Proof of vaccination should be provided by the use of the International Certificate of Vaccination against Rabies (see Annex 6.2).

(3) In countries free from rabies but where prolonged quarantine measures cannot be invoked, measures 2(a), 2(b), and 2(c) above may be applied. This recommendation should not be construed, however, as discouraging the application of the more stringent measures recommended under (1) above.

Bats and certain other mammals

Countries free from rabies should either prohibit the importation of certain species of mammals, in particular carnivores and chiropterans, or permit their entry under licence subject to quarantine in premises and under conditions approved by the government veterinary service, for periods as for cats and dogs, or, in the case of vampire bats (hapalopsidace), for life.

In view of the increase in the number of reported rabies cases in wild animals acquired as pets, national authorities should control the trade in such animals because of this potential source of human exposure. The keeping of such animals as pets should be discouraged. Adequate quarantine measures combined with vaccination should be adopted which should also apply in instances when wild mammals from endemic areas are required for zoos, exhibitions, medical research, or commercial breeding."


The International Zoonoses Code of the OIE describes the responsibilities of authorities of the exporting country. It stipulates certification of the health status of the animal and rabies-free status of the exporting country (if rabies-free) or health status and vaccination status of the animal (if from an infected country). It also requires confirmation of the history of domestic animals prior to export (at least six months or since birth in the exporting country). Moreover, it defines a rabies-free area or country in accordance with the WHO Expert Committee (see Section 6.3.1).

*In special cases, e.g., guide dogs for the blind ("seeing-eye dogs"), special arrangements for exporting and re-entering other than quarantine may be made for humane reasons. Such special arrangements may even be adaptable to conditions in rabies-free areas.*
The International Zoosanitary Code also provides the pattern of a health certificate for domestic or wildlife carnivores. In some countries vaccination and health certificates are combined into one document although this often does not include information on the epidemiological status of the exporting country required by some countries according to the International Zoosanitary Code. In fact it is often the importing country which defines whether the country of origin of an animal can be considered free of the disease (see Section 1.4.2). An extract of the Code showing the relevant Article is given in Annex 6.1.

6.4. Education and training

Training of professional groups which could first detect or come into contact with animals brought into a country or area without permission is an indispensable task in rabies defence (e.g. police, customs officers, port officers, shipping experts, airline/railway/sea-lines personnel, animal handlers, veterinarians, livestock and wildlife officers). Special training is required for those who may suspect a first case of rabies (index case) in a previously rabies-free area (e.g. physician treating bitten person, veterinarian treating animals, hunters, wildlife officers noting animals with abnormal behaviour). Competence of laboratory staff and international technical cooperation in rabies diagnosis are other important objectives in a comprehensive programme of rabies prevention.

All these professional activities must be supplemented by programmes and campaigns of public information which ensure high awareness and sensitivity of the population with respect to the risk of rabies and preventive measures in the absence of the disease, but avoid hysteria in the event of an actual outbreak. An awareness campaign has, for example, been successfully maintained over the past three decades in Malaysia by the Ministry of Agriculture in close collaboration with the Ministry of Health. Similarly the Ministry of Agriculture, Fisheries and Food, United Kingdom, has developed useful information material and programmes for the country's purposes.

6.5 Vaccination of indigenous dog population

Some rabies-free countries continue to vaccinate their dog populations as a well established and accepted measure increasing safety, e.g. Spain, Portugal, Japan, Guam, Hong Kong. The recent outbreak of rabies in Spain shows, however, that such measures in the absence of an epidemic can lead to a false impression of security. To maintain an appropriate coverage of immunity requires the permanent support through a public awareness programme (see Section 6.4). In general, such compulsory vaccination schemes must provide services free to be generally accepted and observed by the public. Active implementation by authorities in regular campaigns, similar to that in programmes of dog rabies elimination (see Section 5.2), seems to be essential in most countries.

6.6 Import requirements

6.6.1 Requirements currently in force

The veterinary authorities of the country of origin of an animal (exporting country) have to certify vaccination and certain conditions according to the requirements established by the country of destination (importing country).
In order to harmonize the requirements and to ensure mutually understandable and acceptable administrative procedures between countries, international recommendations have been made by WHO, OIE and FAO, and codes adopted by OIE (see Sections 6.3.1 to 6.3.3).

However, it remains the prerogative of the governments to take preventive measures according to the prevailing conditions and possibilities.

The principles and presently applied combinations of the various preventive measures are described in Section 1.4. Countries which are rabies-free or in advanced stages of a programme of human and dog rabies elimination tend to rely on their own technological abilities to control the import of animals able to introduce rabies. The major measures of quarantine and vaccination can today be supplemented by the verification of the animal's immune status since more and more national institutions are able to carry out reliable serological tests.

Import requirements must be seen in the context of epidemiological factors and the abilities of a country to enforce measures. Often this implies a reasonable combination of internal and external measures of prevention and control. These taken in Hong Kong (communication: February 1982) provide an example.

(a) Dogs and cats may be imported into Hong Kong only under permit and subject to quarantine restrictions. The permit must be applied for and issued in advance. The period of quarantine is 6 months or until re-exam, whichever is the sooner. There are certain exceptions for dogs and cats coming direct by air from the United Kingdom, Republic of Ireland, Australia or New Zealand with specified documentation and controls.

(b) issue of permit in advance, with conditions attached, is required for mammals, birds and reptiles coming from most countries. These are inspected on arrival.

(c) Licensing of dogs, with inoculation against rabies, is a legal requirement. Currently the inoculation and licence is free of charge. Primary inoculation is done at the age of 3 months and revaccination is required thereafter at intervals not exceeding 1 year. The rabies vaccine in current use is human, an INR-Américys product. One dose of 1 ml is used for each inoculation. The ear of the dog is clipped to indicate the month and year of inoculation.

Editorial note: these animals are not important in rabies transmission, this regulation concerns also the prevention of other zoonoses.
6.6

(d) Cat owners are advised to have their cats inoculated against rabies, and this is currently provided free of charge.

(e) Dog and cat bite incidents must be reported to the authority with a view to detaining the responsible animals for observation for signs of rabies. The observation period is currently seven days.

(f) Elimination of stray and unwanted dogs by regular dog catching operations throughout the territory.

6.6.2 Requirements proposed

The analysis of all possible combinations of measures and epidemiological situations of the countries of origin and destination leads to some principle and simplified measures. These could be accepted by the majority of countries and in particular by those countries which implement national programmes in line with the suggestions of this manual. The present lack of uniformity of measures in the world could thus gradually be replaced by harmonized regulations. For the purpose of this manual, the multiplicity of procedures has been reduced to 3 principle policies and one exceptional regulation respecting the status of some specified rabies-free countries.

Table 6.1 states these principles in relation to the epidemiological status of the countries of origin and destination.

Animals other than dogs and cats, particularly carnivores and bats, should be considered in national regulations for the prevention of rabies. Each government should adapt the rules for dogs and cats to other species according to needs and possibilities. The import of other carnivores, particularly wild animals, and of bats, should be subject to licensing. Inactivated vaccines are recommended (live virus vaccine may lead to vaccine-induced rabies - see Section 5.5).

Explanation of policies in Table 6.1

Policy No.1.

An individual import license is required specifying details of trans-shipment requirements. Vaccination 30 days prior to embarkation may substitute for some of the trans-shipment requirements, e.g., the need of direct air transport by specified air line without stop and no contact with other animals during shipment.

Policy No.2.

Valid International Certificate of Vaccination against Rabies. Also required by many countries are certificates of the animal's health and of the rabies-free status of the country of origin (according to the International Zoosanitary Code for Rabies, see Section 6.3.2).

Policy No.3.

Valid International Certificate of Vaccination against Rabies, the certificate being affixed to the immigration documents of the owner. The animal must remain under house and leash confinement for a minimum of 120 days and under veterinary surveillance. The animal will be presented at least twice monthly to the local veterinary, health or law enforcement authorities nearest the place of residence of the owner (see Section 1.4).
Policy No.6.

Valid International Certificate of Vaccination against Rabies, the certificate being affixed to the immigration documents of the owner. Vaccination for a period of at least 4 months and inoculation of a booster dose of inoculated rabies vaccine at entry into quarantine, irrespective of the number of previous inoculations. Some countries may not require rabies inoculations prior to entry by all pets entering or which travel in the event that local authorities require inoculation in addition under a supervising rabies vaccination programme.

Upon demonstration of complete vaccination and/or at least 6 months of post-inoculation immunity against rabies virus in blood samples taken at least 2 months after inoculation, the animal may be released and placed in application of quarantine regulations. For entry into territories where no such requirement has been introduced, the animal may be released 6 months from the date of import. In case of any medical necessity of the owner for tests, further blood samples can be taken and these results of rabies vaccination can be supplied with the subsequent results of a seroconversion in due course. In the event of a positive result, the animal may be released. A serological examination must be carried out in a laboratory specified by the importing country. WHO collaborating centres for Rabies may be used if adequate laboratory services are not available. (Note: This policy can only be applied if treated with rabies in the country of export.)

References

TABLE 6.1

Proposed policies for transfer of dogs between countries and territories of different epidemiological status

<table>
<thead>
<tr>
<th>Exporting countries or territories</th>
<th>Specified rabies-free</th>
<th>Rabies-free</th>
<th>Widely rabies-free or elimination programme in progress</th>
<th>Widely rabies-infected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specified rabies-free</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rabies-free</td>
<td>4&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Rabies-infected</td>
<td>4&lt;sup&gt;b&lt;/sup&gt;</td>
<td>4 or 3</td>
<td>3 or 4</td>
<td>2</td>
</tr>
</tbody>
</table>

<sup>a</sup> countries that specify other countries or are specified by other countries for acceptance of animals under Policy No. 1

<sup>b</sup> with no alternative to at least 4 months' quarantine. Some countries may not require vaccination prior to, but on entry into quarantine.

Policies

No. 1: individual licence of import, trans-shipment or vaccination at 30 days prior to embarkation.

No. 2: valid International Certificate of Vaccination against Rabies and certificate of health and origin.

No. 3: valid International Certificate of Vaccination against Rabies, house and leash confinement and veterinary/health surveillance for at least 4 months.

No. 4: valid International Certificate of Vaccination against Rabies, quarantine of at least 4 months. Upon demonstration of seroconversion the animal can be released subject to application of measures specified for Policy No. 3. Blood sample is taken at entry into quarantine when also an obligatory dose of vaccine is given. Further booster doses can be given if indicated by lack of seroconversion.
Annex 4

EXTRACT FROM THE INTERNATIONAL
ZOO-SANITARY CODE (OIE)
1982

CHAPTER 2.6.1

RABIES

Article 2.6.1.1

For the purposes of this Code, the maximum incubation period for Rabies shall be six months.

Article 2.6.1.2

In the case of importation from countries considered as being free from Rabies for at least the past two years, Veterinary Administrations of importing countries should require:

- for domestic carnivores, domestic ruminants, domestic equine animals and domestic swine which were in that country for an uninterrupted period of the previous six months or since their birth,
- the presentation of an international zoo-sanitary Certificate attesting that:
  1) the animals show no signs of Rabies; and
  2) have been for the past six months or since their birth in the exporting country where no case of Rabies has been found during the last two years.

Article 2.6.1.3

In the case of importation from countries considered as being free from Rabies for at least the past two years, Veterinary Administrations of importing countries should require:

- for wild carnivores, wild ruminants, wild equine animals and wild porcine animals,
- the presentation of an international zoo-sanitary Certificate attesting that:
  1) the animals show no signs of Rabies;
  2) the animals come from a country where no case of Rabies has been found for the past two years.

Article 2.6.1.4

In the case of importation from countries considered as being infected with Rabies, Veterinary Administrations of importing countries should require:
for dogs and cats,

the presentation of an international zoo-sanitary Certificate attesting that:

1) the animals showed no signs of Rabies on the day of their departure;
2) the animals had not been vaccinated against Rabies; or
3) the animals had been vaccinated against Rabies not less than one month and not more than one year before exportation;

In such a case, the above-mentioned Certificate will precisely state the date of the vaccination, the nature of the vaccine used (inactivated vaccine or modified "live" virus vaccine), the batch number of the vaccine and the control number of the official Services, the dose of the vaccine and the route of administration.

Only Rabies vaccines prepared and produced according to the innocuity and potency norms established by the W.H.O. Expert Committee on Rabies, recommended by the O.I.E. and officially approved by the exporting country shall be recognized as valid by all the Veterinary Administrations.

4) the animals had been in premises for the six months preceding their exportation where no case of Rabies had officially been declared during that period.

These conditions may however be replaced by subjecting the animals to a period of quarantine in accordance with the regulations of the importing country.

Article 2.6.1.5

In the case of importation from countries considered as being infected with Rabies, Veterinary Administrations of importing countries should require:

for domestic ruminants, equine animals and porcine animals,

the presentation of an international zoo-sanitary Certificate attesting that:

1) the animals showed no signs of Rabies on the day of their departure;
2) the animals spent the six months preceding their exportation in an establishment where no case of Rabies was reported for at least the past six months;
3) the animals had not been vaccinated against Rabies; or
4) the animals had been vaccinated against Rabies, with an inactivated vaccine at least 15 days and not more than twelve months before exportation; or
5) the animals had been vaccinated with a modified "live" virus vaccine.

Only Rabies vaccines prepared and produced according to the innocuity and potency norms established by the W.H.O. Expert Committee on Biological Standardization, recommended by the O.I.E. and officially approved by the exporting country, shall be recognized as valid by all Veterinary Administrations.
Article 2.6.1.6

In the case of importation from countries considered as being infected with Rabies, Veterinary Administrations of importing countries should require:

- the presentation of an international zoosanitary Certificate attesting that:
  1) the animals show no signs of Rabies;
  2) the animals were kept under observation in a quarantine establishment after their capture.
Annex 3

CERTIFICAT INTERNATIONAL DE VACCINATION ANTIRABIQUE
INTERNATIONAL CERTIFICATE OF VACCINATION AGAINST RABIES

pour CHIENS et CHATS for DOGS and CATS

Note

Le présent certificat ne fait pas obstacle aux dispositions en vigueur pour l'entrée dans certains pays. Prière de lire la Section V.

This certificate may not be sufficient to meet all the entry requirements of the countries of destination. Please read Section V.
Pour être valable, le présent certificat doit porter un numéro d'ordre perforé à chaque page.

To be valid, this certificate must bear a number perforated on each page.

* Indicates the competent national authority.
I. Propriétaire/Owner

Nom et adresse
Name and address

II. Signalement/Description

Espèce
Species of animal

Age ou date de naissance (si possible)
Age or date of birth (where known)

Sexe
Sex

Race
Breed

Couleur
Colour

Espèce et dessin du pelage/Signes particuliers
Coat type and marking/Distinguishing marks

N° de tatouage (si possible)
Tattoo no. (where present)
### III. Vaccinations

The undersigned declares herewith that he has vaccinated the animal described on page 3, against rabies, as shown below. The animal was found to be healthy.

<table>
<thead>
<tr>
<th>(1) Date</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Name of vaccine</td>
<td>Manufacturing laboratory</td>
<td>Signature and stamp of veterinary surgeon</td>
<td>Authentication officielle*</td>
</tr>
<tr>
<td></td>
<td>Live or inactivated</td>
<td>1. N° du lot</td>
<td>2. Batch no.</td>
<td>Government authentication*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1. Laboratoire producteur</td>
<td></td>
<td></td>
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</tbody>
</table>

* See Section V: Frontier crossing - 3rd paragraph.
### Autres vaccinations

<table>
<thead>
<tr>
<th>Date</th>
<th>Vaccin utilisé</th>
<th>N° du lot</th>
<th>Signature et cachet du vétérinaire</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vaccine used</td>
<td>Batch no.</td>
<td>Signature and stamp of veterinary surgeon</td>
</tr>
</tbody>
</table>

#### Other vaccinations
IV. Informations complémentaires/Additional information

Pays d'origine
Country of origin

Pays dans lesquels l'animal a séjourné, selon les déclarations du propriétaire (indiquer les dates)

Countries visited by the animal as declared by the owner (give dates)
V. Passage de frontière/Frontier crossing

1. Le propriétaire de l'animal doit, avant de se rendre à l'étranger avec celui-ci, s'assurer des conditions sanitaires imposées par les autorités du pays de destination, le présent certificat ne faisant pas obstacle aux dispositions en vigueur dans certains pays.

The owner of the animal must, before going abroad with it, make sure of the veterinary requirements laid down by the authorities of the destination country, as this certificate may not be sufficient to meet all the requirements of the country of destination.

2. Le présent certificat est valable à partir du trentième jour jusqu'à la fin du douzième mois après la date de la première vaccination, dans le cas d'une revaccination au cours de la période de validité, pendant douze mois après la date de la revaccination.

This certificate is valid from the 30th day until the end of the twelfth month after the date of the first vaccination, in the case of revaccination within the validity period, for 12 months from the date of revaccination.

3. Si le vétérinaire dont la signature et le cachet figurent dans la colonne (4), page 4, n'est pas un vétérinaire ayant un mandat officiel, la contresignature et le cachet d'un vétérinaire de l'autorité vétérinaire responsable doivent être apposés dans la colonne (5).

If the veterinarian signing and stamping column (4) on page 4 is not an authorized veterinarian, his signature must be authenticated in column (5) by the signature and stamp of a veterinarian of the competent national authority.

4. Le présent certificat doit être imprimé et rempli en français et en anglais, et éventuellement dans la langue du pays d'origine.

This certificate must be printed and completed in French and English and, if necessary, the language of the country of origin.
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</table>
7 INTERNATIONAL COOPERATION

7.1 Principles, history and outlook

Rabies prevention and control has a relatively long history in national services and international cooperation. Every case of rabies in a domestic animal, particularly in a previously non-infected environment, and every case of human exposure, whether in an endemic or newly infected area, is an emergency. Contraction of this fatal disease with all its horrific sequelae and the anxiety engendered by its possibly long incubation period distinguishes rabies from almost all other infections. Rabies exposure thus becomes a personal or even social disaster.

It is, therefore, understandable that in the prevention and control of this disease, primary health care services and technical cooperation between national sectors and countries were established many years before the recent policies of primary health care, comprehensive national health planning, and international technical cooperation were introduced.

Advances in rabies prevention and control entail, however, the risk of inflexibility by tradition, of out-of-date concepts and of a slow pace of development in comparison with new technologies being promoted for the control of other communicable diseases.

International cooperation in rabies research and prevention dates back to the beginning of this century when the network of Pasteur Institutes and similar national centres for vaccine production, post-exposure treatment and research was created. The Health Organization of the League of Nations had a rabies programme, which was continued after the second World War in the World Health Organization. The International Office of Epizootics and the Pan American Sanitary Bureau have also been active in dealing with this disease.

Today we can identify four major areas of international activity which are closely inter-related:

a) surveillance for immediate post-exposure treatment in man and disease control in animals (Section 7.2)

b) technical cooperation in comprehensive national programme planning and implementation (Section 7.3)

c) coordination of control programmes of neighbouring countries in their border areas (Section 7.4)

d) prevention of the spread of the disease by national enforcement of regulations concerning the international transfer of animals (Section 7.5).

In all countries national programmes depend on activity areas (a), (c), and (d). Developing countries and most of the developed countries depend also on international technical cooperation as specified under (b), since there are only a few countries which have all the necessary resources for a national programme. Diagnosis, vaccine supply, training or research on technical, operational or managerial aspects often call for an exchange of experts or materials.
7.2 Surveillance

Data on the occurrence of rabies in man and animals should be sufficient in quantity and quality to ensure efficient, immediate initiation of post-exposure treatment in man and control measures in animals. Both often have international implications.

Due to the emergency character of human exposure to rabies, travellers and national services need to know about the epidemiological status of an area in which a dog bite or other incidence of possible transmission of rabies had occurred. Surveillance data from national programmes should therefore be available for international enquiries. A national reference address for epidemiological information should be identified. In many cases this may be the Chief Veterinary Officer.

It is also important to know the epidemiological status of an area for the application of regulations restricting the international traffic of animals. Chapter 6 on the prevention of the spread of rabies into rabies-free areas or special control zones shows the need for rapid exchange of information or accessibility of such information at the international level. This does not only concern knowledge of rabies outbreaks but also information substantiating the rabies-free status of a country or of parts of it.

It should be one of the functions of comprehensive national programmes to contribute to international surveillance not only for post-exposure treatment and the control of the international transfer of animals but specifically for the coordination of canine rabies control programmes along the borders of neighbouring countries. In this case it may be advisable to establish cooperation and data exchange directly between the local veterinary and medical services of the countries concerned. Without such special administrative arrangements it may be most difficult to ensure the essential harmonization of action.

Besides the International Office of Epizootics (OIE) services, special international rabies surveillance systems have been established in the Americas and in Europe which accumulate data on the prevalence of the disease, the quality and intensity of surveillance and the effect of control programmes (see Annex 7-1). The aim is to perfect a worldwide surveillance system for the prompt and speedy exchange of information.

In planning their national programme, authorities may consider action enabling them to respond particularly to the following questions:

- Does rabies surveillance suffice properly to record and vaccinate exposed persons?
- Does rabies surveillance suffice efficiently to control the disease in animals within the country as well as along the borders with neighbouring countries?
- Does rabies surveillance suffice efficiently to apply measures preventing the spread of the disease in non-infected areas within a country as well as from other countries?
7.3 Programme planning and implementation

In national programme planning it is of paramount importance to describe, at least as an initial programme phase, a limited project of "self reliance". All countries may have the limited resources for such a project leading to the complete elimination of canine and human rabies in a circumscribed area. The project document will include expansion of activities to cover eventually the whole country (Section 3.5.6) and for this purpose developing countries often need an international technical contribution including expertise, technical staff and materials.

Experience shows that input is required in management, and particularly in programme planning and formulation (Section 3.5). Following the government's endorsement, the programme development reaches a critical phase since the component of international assistance (bi-lateral and/or a multilateral input) must be secured as specified in the budget tables of the Project Document (PRODOC). Negotiations may take months or years. The examination of possible sources of support and the annual or biannual deadline dates for submissions to donor agencies should be considered.

It may be useful to obtain initial or bridging assistance in the form of field experts and vaccines so that this period of negotiation can be used to train people and to expand the programme gradually from the initial local phase to the next phase of natural coverage, vaccine production and stray dog control. WHO offers its advisory services in all these management aspects of programme development.

Addresses of regional and global services and centres are listed in Annexes 7-1 and 7-2. It should be noted that the volume and efficiency of international cooperation depend largely on the efforts made by a government to mobilize and utilize its own resources. Comprehensive national planning (Section 3.2) and continuing evaluation of programme development are therefore vital for continuing and appropriate international technical cooperation. Technical details need not be repeated in these evaluations; the reader should, however, bear in mind that ample resources are often available locally as well as internationally but not mobilized due to lack of systematic approaches. The WHO Programme of Human and Canine Rabies Elimination and resolutions committing governments to zoonoses control in general, and specifically to rabies control, can only be considered as a formal and supporting basis for technical and administrative efforts expected from responsible national services and institutions. The collaborative programmes discussed in the next two sections require particularly firm commitments and efforts.
7.4 Harmonization of rabies control across national borders

Many countries have established close cooperation in rabies surveillance and control in their border areas. Firstly, it is essential that the central governments decide on harmonized projects and policies on both sides of a border, and secondly that they formally agree on direct communication across the border between local authorities (e.g., district health and veterinary offices). The "emergency situation" of human exposure and dog bite investigation calls for such cooperation. Comprehensive nationwide programmes of human and canine rabies elimination depend on joint activities from the strategic point of view, whether this concerns dog registration, stray dog control, or campaigns of mass vaccination with all these aspects of community participation. Border committees may be created with representatives of local services of both countries concerned. Also, data exchange services may be instituted, especially for border areas and technical cooperation may be offered by exchange of expertise, materials and availability of facilities. Such mechanisms for harmonization have, for example, been successfully put into effect along the US-Mexican border and the frontiers of European countries.

Plans of action ensuring the harmonization of activities in border areas should also be laid down in national project documents of neighbouring countries, and thus become part of overall national commitments.

7.5 Import control of dogs and other animals

Programmes of human and canine rabies elimination are concerned mainly with the prevention of spread of infection by dogs and cats. This should not exclude the possibility of countries establishing regulations for the import of other animal species able to carry or develop rabies.

International cooperation is, however, needed in order to facilitate traffic and tourism by due recognition in the country of origin of the import requirements of the countries of transit and destination. Guidance for travellers and authorities, and for the future harmonization and simplification of regulations, are given in Section 6.6. Governments may in particular examine existing practices regarding their own needs, the progress of national programmes and, in joint frontier projects, the special conditions and wishes of neighbouring countries.

7.6 WHO programme for the control of human and canine rabies

In order to initiate and facilitate the technical cooperation of countries in the elimination of rabies from its canine reservoirs and thus reduce the risk of human exposure on a global scale, WHO has launched a specific international programme. This programme includes four major approaches:

a) the planning and initiation of complete national programmes in collaboration with a few interested countries

b) development of regional and sub-regional strategies for the cooperation of an increasing number of countries

c) preparation and improvement of technical and managerial guidelines (this document) and the continuing evaluation of research projects and of the experience gained in national programmes

d) establishment of an international fund, pool of vaccines and group of experts.
Annex 7-1

International Surveillance Centres involved with Rabies

National authorities should be aware of all the major regular surveillance activities carried out by international organizations and institutions concerning the occurrence and control of zoonoses. The following list may not be complete, but includes some purely statistical reports as well as information exchange services dealing with particular scientific developments and epidemiological events.

WORLD HEALTH ORGANIZATION (WHO)

1211 Geneva 27
Switzerland
Tel.: (022)91 21 11
Telex: 27821
Cable: UNISANTE GENEVA

Weekly Epidemiological Record (WER) (weekly)
World Health Statistics Report (annual)
World Survey of Rabies (bi-annual)
WHO Food Virology Data Bank (on request)

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO)

Via delle Terme
di Caracalla
00100 Rome
Italy
Tel: 57971
Telex: 610181
Cable: FOODAGRI ROME

Animal Health Yearbook, FAO/WHO/OIE (annual)

PAN AMERICAN HEALTH ORGANIZATION

WHO REGIONAL OFFICE FOR THE AMERICAS (PAHO/WHO)

525, 23rd Street, N.W.
Washington, DC, 20037
USA
Tel: (202) 861-3200
Telex: 248338
Fax: (202) 223-5971
Cable: OFSANPAN WASHINGTON

Epidemiological Bulletin (bi-monthly)

PAN AMERICAN ZOONOSES CENTER (PAHO/WHO)

Casilla 3092
Correo Central
1000 Buenos Aires
Argentina
Tel: 658-0216
Telex: 122 689
Cable: CEPANZO
(ARGENTINA)

Epidemiological Surveillance of Rabies for the Americas
(monthly)

CARIBBEAN EPIDEMIOLOGY CENTRE (CAREC-PAHO/WHO)

P.O. Box 164
Port-of-Spain
Trinidad
Tel: 62-24745, 62-23277
Telex: 398
Cable: CAREC PORT OF SPAIN (TRINIDAD)

Carec Surveillance Report (monthly)
Review of Communicable Diseases in the Caribbean (annual)
OFFICE INTERNATIONAL DES EPIZOOTIES (OIE)

12, rue de Prony
75017 Paris
France

Statistiques O.I.E. (annual)
Monthly Epizootic Circular (monthly)

WHO COLLABORATING CENTRE FOR REFERENCE AND RESEARCH ON RABIES

Centers for Disease Control
Public Health Service
United States Department of Health and Human Services
Box 363
Lawrenceville, GA, 30246
USA

Rabies Information Exchange (6-monthly)

WHO COLLABORATING CENTRE FOR RABIES SURVEILLANCE AND RESEARCH

Rabies Laboratory
Federal Research Institute for Animal Virus Diseases
Postfach 1149
D-7400 Tübingen
Federal Republic of Germany

Rabies Bulletin Europe (quarterly)

MEDITERRANEAN ZOONOSES CONTROL CENTRE

P.O. Box 3904
Central Post Office
10210 Athens
Greece

Information Circular (quarterly)

WHO COLLABORATING CENTRE FOR COLLECTION AND EVALUATION OF DATA ON COMPARATIVE VIROLOGY

Institute of Medical Microbiology, Infections and Epidemic Diseases
Veterinary Faculty
University of Munich
Veterinärstrasse 13
D-8000 Munich 22
Federal Republic of Germany

Information from Animal Virus Data Bank (on request)
The following WHO services, centres and other international organizations and institutions are prepared to collaborate with national services on request:

**Zoonoses Centres, Collaborating Centres**

(1) **Zoonoses centres**

The Director
Mediterranean Zoonoses Control Centre
P.O. Box 3904
Central Post Office
10210 Athens
Greece

The Director
Pan American Zoonoses Centre
Casilla 3092
Correo Central
1000 Buenos Aires
Argentina

(ii) **International centres for biological standards, reference preparations and reference reagents**

International Laboratory for Biological Standards
Statens Serum Institut
80 Amager Boulevard
Copenhagen
Denmark

(iii) **WHO Collaborating and related reference centres**

(a) Rabies

The Director
WHO Collaborating Centre for Rabies Surveillance and Research
Rabies Laboratory
Federal Research Institute for Virus Diseases of Animals
Postfach 1149
D-7400 Tübingen
Federal Republic of Germany

The Director
WHO Collaborating Centre for Reference and Research on Rabies
Institut Pasteur
25, rue du Docteur Roux
75724 Paris Cédex 15
France
The Director
WHO Collaborating Centre for Reference and Research on Rabies
Rabies Department (Research and Production)
Pasteur Institute
Pasteur Avenue
Teheran
Islamic Republic of Iran

The Director
WHO Collaborating Centre for Reference and Research on Rabies
Division of Viral Diseases, Viral & Rickettsial Zoonoses Branch
Rabies Laboratory
Centers for Disease Control
United States Department of Health and Human Services
Lawrenceville, GA 30246
USA

The Director
WHO Collaborating Centre for Reference and Research on Rabies
The Wistar Institute (of Anatomy and Biology)
36th Street at Spruce
Philadelphia, PA 19104
USA

The Director
WHO Collaborating Centre for Reference and Research on Rabies
Institute of Poliomyelitis and Viral Encephalitides
Academy of Medical Sciences of the USSR
Kievskoe Sosse 27 km
Moscow 142782
USSR

(b) Zoonoses

The Director
WHO Collaborating Centre for Reference and Research on
Neurological zoonoses
University of Essen
Hufelandstrasse 55
D-4300 Essen 1
Federal Republic of Germany

The Director
WHO Collaborating Centre for Research and Management
in Zoonoses Control
Centre National d'Études sur la Rage et la pathologie
des animaux sauvages
Domaine de Pixérécourt
B.P. 9
F-54220 Malzéville
France

The Director
WHO Collaborating Centre for Reference and Research on
Viral Zoonoses
Virology Department
Institute of Veterinary Microbiology
University of Bern
CH-3000 Bern
Switzerland
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The Director
WHO Collaborating Centre for Zoonoses, Central Research
Institute of Epidemiology of the USSR
Ministry of Public Health
Novogireevskaya 3-a
Moscow 111123
USSR

(c) Evaluation of data on comparative virology

The Director
WHO Collaborating Centre for Collection and Evaluation of Data
on Comparative Virology
Institute of Medical Microbiology, Infectious and Epidemic
Diseases
Veterinary Faculty
University of Munich
Veterinarstrasse 13
D-8000 Munich 22
Federal Republic of Germany

(d) Veterinary public health

The Director
WHO Collaborating Centre for Research and Training in
Veterinary Public Health
Veterinary Research Institute
Hudcova 71
62132 Brno 21
Czechoslovakia

The Director
WHO Collaborating Centre for Research and Training in
Veterinary Public Health
School of Veterinary Medicine
Bischofsholer Damm 15
3000 Hannover 1
Federal Republic of Germany

The Director
FAO/WHO Collaborating Centre for
Research and Training in Veterinary Public
Health
Indian Veterinary Research Institute
Modular Laboratory Building
Izatnagar 243122
Bareilly, U.P.
India

The Director
WHO Collaborating Centre for Research &
Training in Veterinary Health
Istituto Superiore di Sanita
Viale Regina Elena 299
00161 Rome
Italy
International organizations and services

W.H.O.

The Chief, Veterinary Public Health Division of Communicable Diseases
World Health Organization
1211 Geneva 27
Switzerland

The Regional Director
WHO Regional Office for Africa
P.O. Box No. 6
Brazzaville
Congo

The Regional Director
WHO Regional Office for the Americas/Pan American Sanitary Bureau
525, 23rd Street N.W.
Washington, DC 20037
USA

The Regional Director
WHO Regional Office for South-East Asia
World Health House
Indraprastha Estate,
Mahatma Gandhi Road
New Delhi - 110002
India

The Regional Director
World Health Organization
Regional Office for Europe
8 Scherfigsvej
DK-2100 Copenhagen Ø
Denmark

The Regional Director
WHO Regional Office for the Eastern Mediterranean
P.O. Box 1517
Alexandria - 21511
Egypt

The Regional Director
WHO Regional Office for the Western Pacific
P.O. Box 2932
Manila 2801
Philippines

F.A.O.

The Director
Animal Production and Health Division
Food and Agriculture Organization of the United Nations (FAO)
Via delle Terme di Caracalla
00100 Rome
Italy
O.I.E.

Directeur-Général
Office International des Epizooties (OIE)
12, rue de Prony
F-75017 Paris
France

O.A.U.

The Director
Interafrican Bureau for Animal Resources
Organization of African Unity (OAU)
I.B.A.R.
P.O. Box 30786
Nairobi
Kenya

The Director General
Arab Organization for Agricultural Development
Sharif El Gamaa
Khartoum
Sudan

The President
Commission of the European Communities (CEC)
2000, rue de la Loi
1049 Bruxelles
Belgium

(v) Nongovernmental organizations

World Society for the Protection of Animals
(London/Zurich/Boston)

European Office

Dreikönigstrasse 37
8002 Zurich
Switzerland

Headquarters Office

106 Jermyn Street
London SW1Y 6EE
United Kingdom

The Secretary-General
International Council for Laboratory Animal Science (ICLAS)
University Laboratory of Physiology
Parks Road
Oxford OX1 3PT
England
World Wildlife Fund
Avenue du Mont-Blanc
1196 Gland
Switzerland

International Union for the Conservation of Nature and Natural Resources
Avenue du Mont-Blanc
1196 Gland
Switzerland
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